

# MOTORTECH Service Tools

Tools, Test Equipment & Accessories



**GAS ENGINE TECHNOLOGY**



reliable



efficient



worldwide

# SparkView 50 kV

## MOTORTECH High Voltage Indicator

With the portable indicator SparkView from MOTORTECH, the high voltage demand of spark plugs can be easily and conveniently measured and visualized while the engine is running. In combination with the SparkScan1 high voltage clamp connected to the SparkView or a special measuring cable and the display up to 50 kV, the condition of the ignition system and especially of the spark plugs can be easily determined and the changeover time can be optimally specified. Regular measurements thus contribute to maximum utilization of the spark plugs as well as reducing maintenance costs and high system availability.

During operation quick and easy check

- of spark plug wear and determination of the optimum time for changing
- of the ignition system (defective ignition coil, ignition cable, failure of one ignition channel, etc.)

# SparkView

MOTORTECH HIGH VOLTAGE INDICATOR



### Features

- Suitable for industrial gas engines operated with negative ignition voltages
- Adjustable measuring range
  - 0 to 25 kV, resolution 0.625 kV
  - 0 to 50 kV, resolution 1.25 kV
- Measurement of the high voltage with
  - the capacitive SparkScan1 high voltage clamp
  - a measuring cable directly at a MOTORTECH ignition coil with diagnostic interface
- Maximum pulse frequency 60 Hz (corresponds to 7,200 rpm for a four-stroke engine)
- 3-color LED scale with adjustable color ranges
- 2 brightness levels for working outdoors or in closed rooms
- Display of maximum value
- Battery level indication
- Automatic switch-off when not in use
- Operation with 3 Mignon batteries, type AA
- High quality plastic housing, shock protected
- Available as a set in a practical plastic case in 2 versions



## Overview

- 1 BNC connector for connection of measuring clamp or cable
- 2 LED scale with adjustable color ranges
  - RED
  - YELLOW
  - GREEN
- 3 Adjustment keys for lower value of the red range
- 4 Adjustment keys for lower value of the yellow range
- 5 Key for
  - displaying the maximum value
  - adjusting the brightness
  - setting the measuring ranges



## SparkScan1

MOTORTECH HIGH VOLTAGE CLAMP

### SparkScan1 High Voltage Clamp

With the capacitive measuring clamp SparkScan1, the high voltage is measured on unshielded spark plug leads and visualized via the SparkView.



## Ordering Information

P/N	Figure	Description
06.90.099-150	1	SparkView high voltage indicator, incl. SparkScan1 high voltage clamp P/N 06.90.100, for use with spark plug leads
06.90.099-155	2	SparkView high voltage indicator, incl. BNC cable P/N 06.90.105, for use with flange ignition coils or externally mounted ignition coils with diagnostic interface



# ScopeLite

## MOTORTECH Timing Light

The self-powered ScopeLite is designed to work with fully shielded ignition systems. A special clamp picks up the small trigger signal through the braid of conventional or MOT-Blues shielded spark plug leads. The signal is processed by the

timing light and via LED technology a sequence of flashes is generated. On applications where MOTORTECH ignition coils with diagnostic interface are used, the ScopeLite can be attached directly to the BNC connector of the ignition coil.

Even on applications with integral or standard flange ignition coils, the clamp can be attached to the shielded primary lead.

When timing is checked on engines with non-shielded spark plug leads, a selector switch needs to be pushed which then steps down sensitivity. The automatic time based shut-off function saves the 2 built in 9 V batteries in case the operator forgets to turn off power.

Makes it easy and safe for the operator!

**ScopeLite**   
MOTORTECH TIMING LIGHT



### Features

- Very easy screening of the ignition pulse
- Modern LED technology
- Robust aluminum case
- Specially designed high voltage clamp
- Optimized for fully shielded systems
- Built in batteries
- Comes in a protective carrying case

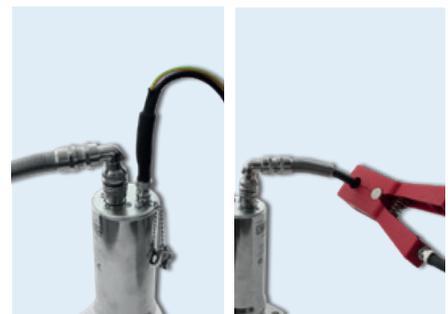
*No need to open wiring outlet or junction boxes to get access to the ignition pulse!*



*Use with MOT-Blues shielded spark plug leads.*



*Use with conventional shielded spark plug leads.*



*Use with MOTORTECH ignition coils with diagnostic interface or with shielded primary lead.*

## Ordering Information

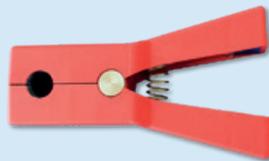
P/N	Description
06.98.100-200	ScopeLite LED timing light set

## Ordering Information – Subcomponents

P/N	Description
06.98.055	ScopeLite LED timing light
06.98.080	High voltage clamp
06.90.104-200	Connecting lead, 200 in / 5.0 m length



ScopeLite LED timing light



High voltage clamp



Connecting Lead

## Ordering Information – Optional Accessories

P/N	Description	Length
06.90.104-100	Connecting lead	100 in / 2.5 m
06.90.104-200	Connecting lead (standard)	200 in / 5.0 m
06.90.104-300	Connecting lead	300 in / 7.5 m
06.90.104-400	Connecting lead	400 in / 10.0 m
06.90.104-600	Connecting lead	600 in / 15.0 m

# Ignition Tools & Test Equipment

## Timing Light – Conventional Style

P/N	Description	Lead Length
06.98.043-10	Timing light	3.0 m/10.0 ft
06.98.043-30	Timing light	9.0 m/30.0 ft



## Repair Kit for Timing Light – Conventional Style

P/N	Description
06.98.044	Repair kit for timing light

## Digital Protractor

The Digital Protractor is a compact rotational angle measuring tool. The unit is equipped with magnets for easy and flexible installation on flywheel, camshaft, pulley or any other rotating gear.

P/N	Description
06.98.096	Digital protractor



## Spark Plug Lead Removal Tool for MAN® Gas Engines

P/N	Description
44.99.918	Spark plug lead removal tool for MAN® gas engines

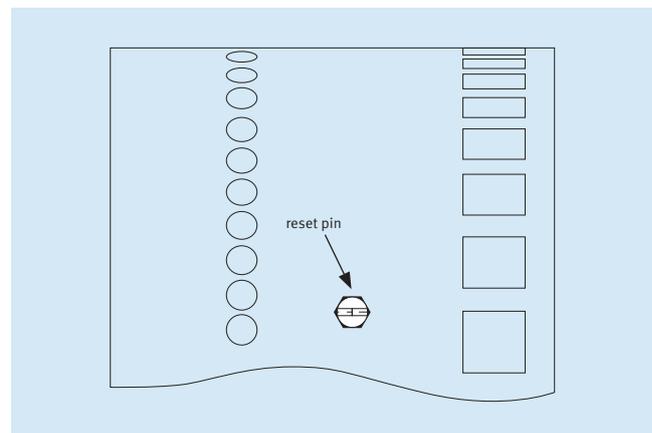


### To perfectly install the trigger pins it requires a special tool!

MOTORTECH offers prefabricated reluctor pins which can be used as reset or trigger pins. No need to file your own on site when doing the installation.

To ensure they are installed correctly without damaging the sharp edged top surface area, there is a special tool available.

- Drill a 0.25 in (6.3 mm) hole into the flywheel or trigger disc
- Place the reluctor pin in between the "fork style" end of the tool
- Orientate the tool correctly
- Punch in the pin



Flywheel

## Installation Tool for Reluctor Pin

P/N	Description
44.99.011	Installation tool for reluctor pin



## Trigger Reluctor Pin

P/N	Description	Diameter	Length
06.80.104	Trigger reluctor pin	0.25 in (6.3 mm)	0.75 in (19.0 mm)



## Harness Connector Assembly Tools

P/N	Figure	Description
06.98.011	5	Crimping tool for studs
06.98.046	2	Installation tool for MIL style connector pins
06.98.051	7	Removal tool for MIL style connector pins

## Spark Plug Lead Assembly Tools

P/N	Figure	Description
06.98.011	5	Crimping tool for studs
06.98.013	6	Crimping tool for P/N 06.80.116
06.98.019	1	Assembly tool for P/N 06.98.109
06.98.047	3	Crimping tool for P/N 06.80.126 (already includes crimping tool insert P/N 06.98.048)
06.98.048	4	Crimping tool insert for P/N 06.98.047 to crimp terminal P/N 06.80.126
06.98.050	8	Crimping tool insert for P/N 06.98.047 to crimp terminal P/N 22.85.802 and P/N 22.85.803



## Silicone Seal Rings for PolyMot™ Spark Plug Leads <sup>1)</sup>

P/N	Description	Fits Spark Plug <sup>2)</sup>	Dimensions			Quantity	Equivalent to
			OD	ID	Height		
06.84.033-100	Silicone seal ring	GK3-5, RC78PYP, B4321	19.0 mm	10.0 mm	12.0 mm	100 pcs	
06.84.034-100	Silicone seal ring	GI3-1, FB77WPCC, B8324	20.0 mm	12.0 mm	15.0 mm	100 pcs	
06.84.038-100	Silicone seal ring	RW80N	20.0 mm	14.4 mm	15.0 mm	100 pcs	
06.84.040-100	Silicone seal ring	GI3-1, FB77WPCC, B8324	20.0 mm	14.0 mm	15.0 mm	100 pcs	
06.84.044-100	Silicone seal ring	GK3-5, RC78PYP, B4321	20.0 mm	10.0 mm	15.0 mm	100 pcs	
06.84.059-100	Silicone seal ring	GE3-5, RN79G	20.0 mm	11.2 mm	15.0 mm	100 pcs	
06.84.077-100	Silicone seal ring	D14, D14N	20.0 mm	13.5 mm	15.0 mm	100 pcs	
06.84.121-100	Silicone seal ring	GK3-5, RC78PYP, B4321	16.0 mm	10.0 mm	11.0 mm	100 pcs	



<sup>1)</sup> Silicone seal rings require replacement every 3000 running hours. See MOTORTECH homepage for appropriate instruction for replacing silicone seal rings.

<sup>2)</sup> Information provided only for comparison purposes.

# PolyMot™ Spark Plug Leads & Extensions

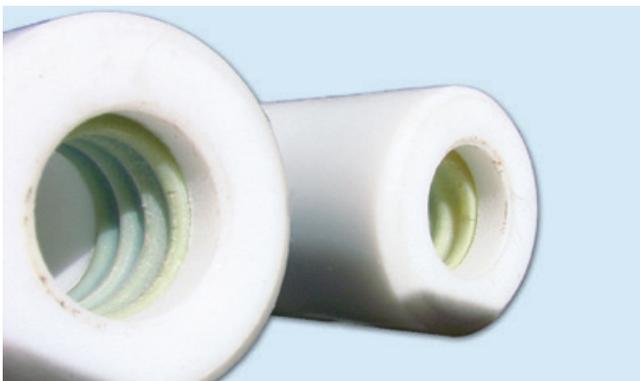
## Replacement of Silicone Seal Rings

PolyMot™ spark plug leads and extensions from MOTORTECH are equipped with high-quality silicone seal rings to ensure the best possible insulation between Teflon sleeve and ceramic insulator of the spark plug.

However, high engine temperatures, operation with aggressive gases or the formation of ozone cause the seal ring to age.

In order to achieve optimum sealing and protection against arcing and the highest possible service life at all times, we recommend:

- Check the condition of the seal rings regularly, e.g. when changing or servicing spark plugs
- Replace seal rings as soon as they become discolored
- Replace the seal rings after 3,000 operating hours at the latest, or earlier for applications with higher loads
- Integrate the preventive replacement of the seal rings into your regular service intervals



*The aged and formerly blue seal rings are porous and show a distinct discoloration.*



*Proper insulation is no longer provided and replacement is necessary for further operation.*

## Test Adaptor for MOTORTECH Ignition Controllers

To enable operators and service personnel to check input signals to the ignition controller in a simple way, MOTORTECH offers a Test Adaptor that links between the 35 pole input connector and the appropriate harness.

Terminals located around the test box allow easy access to each input signal entering the ignition controller. By use of a commonly used Digital Scope Meter, the following signals can be checked:

- Input voltage
- Analog input signal (4-20mA)
- Pickup signals
- Start/Stop signal
- Go/NoGo signal
- Timing schedule selection switch (A/B)



### Test Adaptor for MIC3/3+, MIC4, MIC5 and MIC6 Series Ignition Controllers

P/N	Supersedes	Description	For use with MOTORTECH Ignition Controllers
06.98.130		Test adaptor	MIC3/3+ series (P/N 66.00.310-6/-12, 66.00.350-6/-12) MIC4 series (P/N 66.00.424-8/-16) MIC5 series (P/N 66.00.541-20) MIC6 series (P/N 66.00.645-24)



# Spark Plug Tools

## MOTORTECH Spark Plug Cleaning Kit

Regular maintenance is required to achieve the maximum service life in particular with high price spark plugs with precious metal alloys.

Apart from readjusting the electrode gap, the spark plug should also be freed from deposits and residues that have formed during operation. By using the MOTORTECH spark plug cleaning kit these impurities can be removed easily and gently in the electrode area and on the thread within a regular maintenance interval. This will increase spark plug service life and cut maintenance costs.



### Features

- Professional cleaning of spark plugs without pre-chamber
- Different nozzle sizes matching M14, M18, M22, and 7/8 spark plugs
- Oil residues and deposits in the electrode area are removed without residues by high pressure
- Special blasting grit for gentle cleaning of the electrode and thread area
- Blasting grit is captured and can be reused
- No dust development

### Scope of Delivery

The spark plug cleaning kit is supplied with the following parts:

- Spark plug cleaning device with compressed air quick release coupling, blasting grit container and dust collector bag
- Cleaning nozzles for M14, M18, M22 and 7/8 spark plugs
- Blasting grit is captured and can be reused
- Operating manual
- Hard shell carrying case with foam insert



P/N	Supersedes	Description
44.01.023	44.01.000	Spark plug cleaning kit

### Subcomponents

P/N	Supersedes	Description
44.01.009		Blasting grit, 1 kg
44.01.024	44.01.005	Cleaning nozzles, kit for M14, M18, M22 and 7/8 spark plugs
44.01.025	44.01.006	Dust collector bag for spark plug cleaning device

## MOTORTECH Spark Plug Gap Setting Tool

The gap between the center and ground electrodes is of fundamental importance for clean combustion as well as the optimal functioning of any spark plug. During the operation of a gas engine, however, the gap between the electrodes can increase, e.g. because of spark erosion, which can lead to increased voltage requirements or even misfiring.

The electrode gap should be re-adjusted at regular maintenance intervals in order to maximize the service life of spark plugs, especially for high-priced industrial spark plugs. MOTORTECH's innovative spark plug gap setting tool provides every gas engine operator or employee of a service company with a smart tool to professionally adjust the electrode gap on-site in a material-conserving manner.



### Features

- Simple-to-use tool for setting the electrode gap on different spark plug types
- The quick-release lock of the thread adaptor ensures that spark plugs can be changed quickly
- The tool is hand-operated and does not need to be additionally mounted on a workbench
- The spark plug gap setting tool can be custom-configured with optionally available accessory components
- The tool and all accessories can be stowed in the included carrying case
- Transportable, which makes it ideal for service companies



## Basic Kits & Accessories

### Basic Kits

The Basic Kits consist of the spark plug gap setting tool, screws and hex key for mounting an included thread adaptor of your choice for M14, M18 or 7/8 in spark plugs. The tool and all accessories can be stowed in the included carrying case.



### Accessory Kits

Each Basic Kit is complemented by one or several special accessory kits. The individually tailored kits for a wide range of electrode configurations contain the needed inserts and feeler gauges and make it possible to professionally set the electrode gap.



### Thread Adaptors

A Basic Kit can be equipped with additional thread adaptors. These are optionally available for M14, M18 or 7/8 in spark plugs.



(Example J-Type Spark Plug)



**1** The tool is first fitted with the base insert that fits the corresponding spark plug.



**2** Thread adaptors are available in various sizes for the spark plugs that need to be set (M14, M18 or 7/8 in).  
The adaptors can be mounted or exchanged easily with the included screws and the hex key.



**3** The integrated quick-release lock guarantees rapid changes and secure holding of the spark plugs while they are being set.



**4** Light pressure on the lever is enough to set the electrode gap to the desired distance with the help of a feeler gauge.

## A Basic Kits

P/N	Description
07.98.120-14	Spark plug gap setting tool – basic kit incl. thread adaptor for spark plugs with M14x1.25 thread
07.98.120-18	Spark plug gap setting tool – basic kit incl. thread adaptor for spark plugs with M18x1.5 thread
07.98.120-78	Spark plug gap setting tool – basic kit incl. thread adaptor for spark plugs with 7/8-18 thread

## B Accessory Kits (must be ordered separately with the Basic Kit)

P/N	Description
07.98.122-A	Accessory kit for J-type spark plugs incl. base insert, feeler gauge, instructions for use
07.98.122-B	Accessory kit for CHAMPION® N-type spark plugs incl. base insert, expanding pin, compressing pins, (0.30 mm/0.012 in, 0.38 mm/0.015 in and 0.51 mm/0.020 in), instructions for use
07.98.122-C	Accessory kit for BERU® spark plugs 18GZ44 (Z283) and Super Blue Ignition (Z351) incl. base insert, expanding pin, compressing pin, (0.35 mm/0.014 in), instructions for use
07.98.122-D	Accessory kit for BERU® spark plug 18GZ46 (Z377) incl. base insert, expanding pin, compressing pin, (0.35 mm/0.014 in), instructions for use
07.98.122-E	Accessory kit for BERU® spark plug 18GZ47 incl. base insert, expanding pin, compressing pin, (0.35 mm/0.014 in), instructions for use

## C Thread Adaptors (optional – can be ordered separately with the Basic Kit)

P/N	Description
07.98.121-14	Thread adaptor for spark plugs with M14x1.25 thread
07.98.121-18	Thread adaptor for spark plugs with M18x1.5 thread
07.98.121-78	Thread adaptor for spark plugs with 7/8-18 thread



## Spark Plugs & Accessories

### Optional Accessories for setting J-Type Spark Plugs

P/N	Figure	Description	Electrode gap
07.98.131	1	Feeler gauge, 8 blades	0.05 to 0.50 mm/0.002 to 0.020 in
07.98.059	2	Feeler gauge shim roll, 12.7 mm x 5.0 m	0.20 mm/0.008 in
07.98.034	2	Feeler gauge shim roll, 12.7 mm x 5.0 m	0.25 mm/0.010 in
07.98.035	2	Feeler gauge shim roll, 12.7 mm x 5.0 m	0.30 mm/0.012 in
07.98.036	2	Feeler gauge shim roll, 12.7 mm x 5.0 m	0.35 mm/0.014 in
07.98.037	3	Feeler gauge clamp tool	



1



2



3

**i** You will find additional tools and accessories for spark plugs in the current Product Guide



#### Spark Plug Cleaning Kit

Deposits and residue form on the spark plug during operation. The MOTORTECH spark plug cleaning kit allows these to be easily and carefully removed in the electrode area and the thread during regular maintenance intervals.

*For further information please have a look at page 10.*



#### Extended Barrel Spark Plug Sockets

Installing spark plugs can be a pain. The extended barrel spark plug socket (available up to 36 in length) has strong magnets incorporated that hold the spark plug when being installed in a deep spark plug well.

*For further information please have a look at page 15.*



#### Spark Plug Gaskets

Spark plug gaskets just once provide an optimal seal between spark plug and seat. Spark plugs must be installed with a new gasket after every service in order to ensure the best possible seal in future operation.

*For further information please have a look at page 18.*

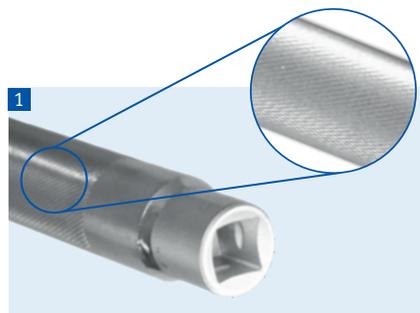
## MOTORTECH Extended Barrel Magnetic Spark Plug Sockets

When it comes to service of a gas engine, the exchange of a spark plug is one of the easier tasks. However there are a few things you need to consider. Especially with modern high-end spark plugs it is essential to carry out a service with a tool for professionals and to avoid damage when the spark plug is screwed in or out.

MOTORTECH offers a complete range of extended barrel magnetic spark plug sockets in various lengths for all types of HEX. Integrated strong magnets hold the spark plug securely in any position, which guarantees an easy assembly and disassembly work especially on large engines with deep spark plug wells.

### Features

- Strong magnets for firm connection of the spark plug
- Use of magnets ensures largest possible clearance spark plug ceramic insulator
- Equipped with a cross knurl, the sockets are extremely handy and non-slip
- Different lengths for use with various engine applications
- 1/2 in drive



1/2 in drive and cross knurled surface



Standard lengths 6, 12, 16, 18 and 20 in



Integrated magnets

Basic Kits & Accessories | Extended Barrel Magnetic Spark Plug Sockets

### Extended Barrel Magnetic Spark Plug Sockets – Standard Versions

P/N <sup>1)</sup>	Description	HEX	Outer Dimensions max.	Drive	Typical used Spark Plugs
07.99.022-5-L	Magnetic spark plug socket	5/8 in (16.0 mm)	0.82 in (20.8 mm)	1/2 in	14FR-4DIU, B4321, GK3-1, GK3-5, RC78PYP, FC86WWCC
07.99.022-4-L	Magnetic spark plug socket	13/16 in (20.8 mm)	1.09 in (27.8 mm)	1/2 in	14R-4DIU, FN8xWWCC, 14GZ-LL, 18GZ5-77-2, B8124, B8324, GE2-3, GE3-1, GE3-5, GL3-3, GL3-5, RB75WPCC, RN79G
07.99.022-3-L	Magnetic spark plug socket	7/8 in (22.2 mm)	1.14 in (29.0 mm)	1/2 in	18GZ6-77-2, FB77WPCC, GI3-1, GI3-3, GI3-5, RHL79G, RM77N, RTB77WPCC, RTM77N
07.99.022-2-L	Magnetic spark plug socket	15/16 in (23.8 mm)	1.24 in (31.5 mm)	1/2 in	7/8GZ9, 7/8GZ11, ICPB432, ICPB812, ICPB832, RTL85G, RTN79G, RW80PP, W80N
07.99.022-1-L	Magnetic spark plug socket	1 in (25.4 mm)	1.34 in (34.0 mm)	1/2 in	18GZ34, K97F, W77N

<sup>1)</sup> Standard barrel lengths (-L) = 6 in, 12 in, 16 in, 18 in Other lengths available on request

## Spark Plugs & Accessories

### Extended Barrel Magnetic Spark Plug Sockets – Special Versions

P/N	Supersedes	Description	HEX	Drive
07.99.022-3-36		Magnetic spark plug socket – NORDBERG®	7/8 in (22.2 mm)	1/2 in
07.99.022-4-6	07.99.022-6-6	Magnetic spark plug socket – MAN® E0836LE/E28 series	13/16 in (20.8 mm)	1/2 in
07.99.022-4-10	07.99.022-6-10	Magnetic spark plug socket – MAN® E32 series	13/16 in (20.8 mm)	1/2 in

### Spark Plug Socket for MOTORTECH XTL-Plugs (unshielded Applications)

P/N	Supersedes	Description	HEX	Drive
07.99.022-6-2		Spark plug socket	7/8 in (22.2 mm)	1/2 in

### Torque Wrench

P/N	Supersedes	Description	Torque	Drive
07.98.065	07.98.063	Torque wrench	7.4 to 74 lb-ft (10 to 100 Nm)	1/2 in

### Seat & Thread Reconditioners

Use seat & thread reconditioner to clean cylinder head threads and seal seats in one operation.

P/N	Supersedes	Description	Thread Size	Thread Reach
07.98.114-12	07.98.022	Seat & thread reconditioner	M14x1.25	1/2 in
07.98.114-34	07.98.023	Seat & thread reconditioner	M14x1.25	3/4 in
07.98.118-12	07.98.024	Seat & thread reconditioner	M18x1.5	1/2 in
07.98.118-34	07.98.025	Seat & thread reconditioner	M18x1.5	3/4 in
07.98.178-58	07.98.026	Seat & thread reconditioner	7/8-18 UNS	5/8 in
07.98.178-78	07.98.026-1	Seat & thread reconditioner	7/8-18 UNS	7/8 in

### Extended Barrel Seat & Thread Reconditioners – 1/2 Inch Drive

P/N	Supersedes	Description	Thread Size	Thread Reach
07.98.114-12-BEX6		Seat & thread reconditioner, 6 in length	M14x1.25	1/2 in
07.98.114-12-BEX12		Seat & thread reconditioner, 12 in length	M14x1.25	1/2 in
07.98.114-34-BEX6		Seat & thread reconditioner, 6 in length	M14x1.25	3/4 in
07.98.114-34-BEX12		Seat & thread reconditioner, 12 in length	M14x1.25	3/4 in
07.98.118-12-BEX6		Seat & thread reconditioner, 6 in length	M18x1.5	1/2 in
07.98.118-12-BEX12		Seat & thread reconditioner, 12 in length	M18x1.5	1/2 in
07.98.118-34-BEX6		Seat & thread reconditioner, 6 in length	M18x1.5	3/4 in
07.98.118-34-BEX12		Seat & thread reconditioner, 12 in length	M18x1.5	3/4 in
07.98.178-58-BEX6		Seat & thread reconditioner, 6 in length	7/8-18 UNS	5/8 in
07.98.178-58-BEX12		Seat & thread reconditioner, 12 in length	7/8-18 UNS	5/8 in
07.98.178-78-BEX6		Seat & thread reconditioner, 6 in length	7/8-18 UNS	7/8 in
07.98.178-78-BEX12		Seat & thread reconditioner, 12 in length	7/8-18 UNS	7/8 in

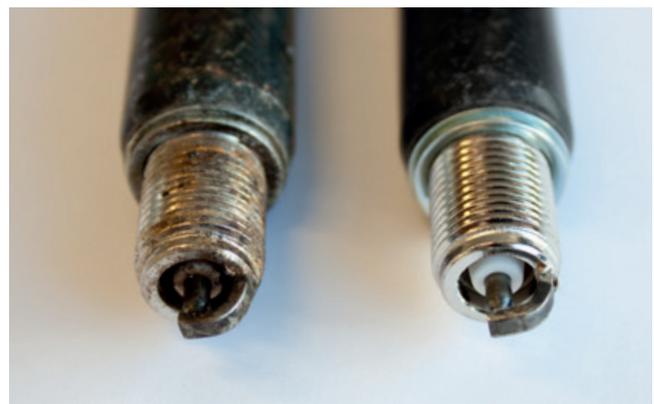
# Installation & Service Kit

## For MOTORTECH XTL Spark Plugs with Integrated Ignition Cable and M14 Thread

Spark plugs play a crucial role in an ignition system. Maintenance and, in particular, the correct handling of spark plugs is vital to ensure flawless functioning and long service life. MOTORTECH provides an Installation and service kit that is specifically designed for XTL spark plugs with integrated ignition cable and M14 thread.

### Consisting of:

- Torque socket wrench with 1/2 in drive, 10 Nm to 100 Nm
- Special socket wrench for MOTORTECH XTL spark plugs
- Feeler gauge rolls to adjust the electrode gap, 0.25 mm (0.010 in) and 0.20 mm (0.008 in)
- Feeler gauge clamp
- MOTORTECH spark plug cleaning kit
- Spark plug gaskets for M14 threads (100 pack)
- Seat and thread cleaner M14x1.25, 3/4 in thread reach



Spark plug after use and after cleaning

P/N	Supersedes	Description	For Spark plugs with	
			Thread Size	Thread Reach
07.98.214-34		Installation & service kit for MOTORTECH XTL-Plugs	M14x1.25	3/4 in

# Spark Plug Accessories

### 1 Torque Wrench and Special Socket

When installing spark plugs, always ensure that you comply with the specifications defined by the spark plug or engine manufacturer. For example, excessive torque may over-extend the threaded insert and lead to leaks in the housing seal, reduced heat transfer and the premature failure of the spark plug.

The torque socket wrench included in the Installation and Service Kit ensures a “stress-free” installation for the spark plug in compliance with the manufacturer’s torque specifications.

The special socket wrench, made from hardened steel and suitable for all XTL spark plugs, has a slit on the side which allows the integrated 7 mm ignition cable to be pulled through during installation.



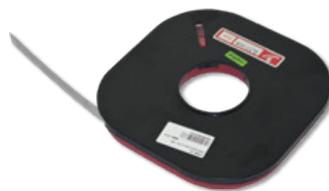
### 2 MOTORTECH Spark Plug Cleaning Kit

Deposits and residue form on the spark plug during operation. The MOTORTECH spark plug cleaning kit allows these to be easily and carefully removed in the electrode area and the thread during regular maintenance intervals.



### 3 Feeler Gauge Rolls and Clamp

The distance between the center electrode and the ground electrode increase when operating the spark plug (e.g. as a result of wear). The included feeler gauge rolls (including clamp) allow the gap between the electrodes to be easily checked and adjusted, where necessary, as part of a regular spark plug service to ensure a smooth engine operation.



### 4 Spark Plug Gaskets

Spark plug gaskets just once provide an optimal seal between spark plug and seat. Spark plugs must be installed with a new gasket after every service in order to ensure the best possible seal in future operation.



### 5 Seat and Thread Reconditioner

The seat and thread reconditioner included in the kit has a welded extension and a 1/2 inch drive. This allows the seat and thread of engines with extremely narrow spark plug wells to be cleaned in a single operation.



## Gaskets for Spark Plugs

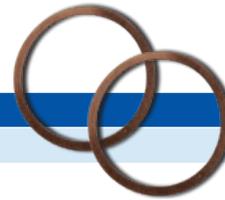
P/N	Description	For Thread Size	Quantity
02.85.015-100	Spark plug gasket	M14x1.25	100 pcs
02.85.016-100	Spark plug gasket	M18x1.5	100 pcs
02.85.017-100	Spark plug gasket	M22x1.5, 7/8-18 UNS	100 pcs



Spark plug gaskets just once provide an optimal seal between spark plug and seat. Spark plugs must be installed with a new gasket after every service in order to ensure the best possible seal in future operation.

## Gaskets for MOTORTECH ICP-Plugs

P/N	Description	Quantity
75.90.295-100	Spark plug gasket, copper	100 pcs



## Thread Lubricant

This lubricant is non-metallic and non-conductive. Guarantees easy spark plug removal and prevents thread damage. Also for use with seat & thread reconditioner.

P/N	Description	Equivalent to
07.98.718	Thread lubricant, 4 oz (115 g)	A718



# Spark Plug Reconditioning

## Professional Service for Industrial Spark Plugs

In general there is no need to replace used spark plugs with new ones. Many of these spark plugs may be reusable for many more hours after a professional reconditioning.

Based on years of technical experience MOTORTECH offers a competitive reconditioning process for almost all popular industrial precious metal spark plugs. The comprehensive reconditioning process covers around 20 steps for a perfect result, including intensive inspection, analyzing, cleaning, leakage test, performance test, etc.

Reduce your operation cost and save our environment!



Professional plug analysis



Intensive cleaning



Pressure and performance test



# Tools for Air/Fuel Ratio Control Systems

## Test Kit for Commissioning

P/N	Figure	Description	VariFuel2/VariFuel2+ (D= digital / M= manual)					
			100-60D/M	140-80D/M	200-120D/M	250-150D/M	300-190D/M	350-225D/M
01.56.001	1	Test Kit for commissioning, flow bodies for air/gas mixers	x	x	x	x	x	x

## Test and Calibration Box for VariStep Stepper Motor Cards and Stepper Motors

P/N	Figure	Description	VariFuel2/VariFuel2+ Series (D= digital)					
			100-60D	140-80D	200-120D	250-150D	300-190D	350-225D
31.01.965	2	Test and calibration box for VariStep stepper motor cards and stepper motors	x	x	x	x	x	x

## Tools for Repair and Maintenance

P/N	Figure	Description	VariFuel2/VariFuel2+ (D= digital / M= manual)								
			100-50	100-60	140-65	140-80	200-100	200-120	200-150	300-190	350-225
31.01.948-100	3	VariFuel2 adjustment tool for belt tension	x(D/M)	x(D/M)							
31.01.948-140	3	VariFuel2 adjustment tool for belt tension			x(D/M)	x(D/M)					
31.01.948-200	3	VariFuel2 adjustment tool for belt tension					x(D/M)	x(D/M)			
31.01.948-250	3	VariFuel2 adjustment tool for belt tension							x(D/M)		
31.01.948-300	3	VariFuel2 adjustment tool for belt tension								x(D/M)	
31.01.948-350	3	VariFuel2 adjustment tool for belt tension									x(D/M)
31.01.943	4	VariFuel2 locking tool for toothed pulley	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)
31.01.949	5	VariFuel2 tool for inspection window	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)	x(D/M)
31.01.959	6	VariFuel2 tool for maintenance cap, for series 100-50 up to S/N 05014433	x(D/M)								



# VariFuel2 Adjustment Tool

## For Belt Tensioning

The VariFuel2 series air/fuel ratio mixers react quickly and reliably to fluctuating fuel properties and flexibly adjust to fuel changes. This maximizes the efficiency of the engine operation and simultaneously ensures compliance with the emission limit values.

To ensure the best possible air/fuel ratio, the belt tension must be adjusted every time the drive belt is replaced or after any changes that may impact the tension of the drive belt. MOTORTECH has designed a tool specifically for your VariFuel2 type, which lets you conveniently set the optimal belt tension.

# VariFuel2

MOTORTECH AIR/GAS MIXER



### Functional principle



The adjustment tool is fastened to the previously opened gas inlet using the bolts provided.



The mandrel installed on the adjustment tool presses on the toothed belt and diverts it by a defined amount.



The drive belt is tensioned by pulling the stepper motor up as high as possible and fixing it in place. After removing the adjustment tool, the belt has the optimal tension.

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## GAS ENGINE TECHNOLOGY

Ignition Systems	Red
Spark Plugs & Accessories	Orange
Gas Engine Control Systems	Light Blue
Sensor Systems	Yellow
Air/Fuel Ration Control Systems	Green
Exhaust Gas Aftertreatment	Green
Gas Engine Accessories	Grey

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