

# STITT EXTENSIONS SIGNIFICANTLY REDUCE THE COSTS OF OPERATING CATERPILLAR & WAUKESHA GAS ENGINES



One of the mysteries of the last fifteen years has been why some gas engine manufacturers have made their engines so much more expensive than necessary to fabricate and maintain.

The method by which this financial punishment was imposed was to so configure the ignition system components that the ignition coil was either bolted to a valve cover/cylinder head or mounted under the valve cover.

In addition to the increased maintenance time that such arrangements imposed on the operator, these arrangements added exorbitantly expensive plastic [Teflon, Teflon + viton, Teflon + silicone] extensions to connect the ignition coil to the short, more conventional, spark plug at the bottom of a deep spark plug well.

It must be noted that

the thermal and electrical conditions that these plastic components are subjected to in their operating environment render them as “failing” from the moment they are put into service. That assertion is based on the temperatures at the bottom of a spark plug well and the thermal handling capabilities of plastics based on UL 764A,B,C which is the ANSI standard incorporating a TEMPERATURE INDEX FOR POLYMERIC MATERIALS. We are certain that the fifteen year record of operating these plastic components validates the failure history of plastic in this application. We think no one can dispute that the failures of this plastic material will typically be dielectric puncturing in the area of the high temperature connection to the short spark plug and/or warpage and fracturing of the thin wall section plastic in this same area.

In addition, for those engines where the plastic extension is exposed to lube oil from the valve train, it is predictable that any reuse of the extension with a spark plug change will result in the contamination of the spark plug insulator. Or, more importantly, even when new the plastic extension will not be able to prevent lube oil from entering the spark plug well and contaminating the spark plug insulator. As a rule, these are undesirable operating conditions.

All things considered, another major mystery of the last fifteen years is why the operators of these engines have tolerated these unsuitable ignition configurations.

Though we are certain that our extended-barrel spark plugs are a better solution to the problems of the deep, spark plug well engine, to use them requires the replacement of the

O.E.M. ignition coils. Apparently, the understandings of operating costs are too unformed to reveal that the re-configuration of the ignition systems' high voltage components would result in substantial operating cost savings.

So, if engine operators are going to continue to operate short spark plugs and O.E.M. coils, we are introducing our more cost-effective extension solutions for these engines.

These extensions are fabricated from silicone [superior to Teflon] and are of a modular construction, making them totally rebuildable. Unlike the one-piece O.E.M. extensions, there is no need to replace the entire, expensive component when it fails in the area close to the spark plug.

FOR THE CATERPILLAR  
G3500 SERIES WITH VALVE  
COVER-MOUNTED IGNITION  
COILS



CATERPILLAR PART  
NUMBER: 123-4710  
CATERPILLAR LIST PRICE:  
\$100.58 [21/6/02]

FOR THE CATERPILLAR  
G3600 SERIES WITH CYLIN-  
DER HEAD-MOUNTED  
IGNITION COILS



CATERPILLAR PART  
NUMBER: 123-8641  
CATERPILLAR LIST PRICE:  
\$146.70 [21/6/02]

FOR THE WAUKESHA VHP4  
SERIES WITH VALVE  
COVER-MOUNTED IGNITION  
COILS



WAUKESHA PART  
NUMBER: A211797G  
WAUKESHA LIST PRICE:  
\$199.54 [21/6/02]

FOR THE WAUKESHA AT27  
SERIES WITH VALVE  
COVER-MOUNTED IGNITION  
COILS



WAUKESHA PART  
NUMBER: A296064H  
WAUKESHA LIST PRICE:  
\$191.98 [21/6/02]



STITT PART NUMBER:  
ST1234710  
STITT LIST PRICE: \$54.31



STITT PART NUMBER:  
ST1238641  
STITT LIST PRICE: \$79.22



STITT PART NUMBER:  
ST211797G  
STITT LIST PRICE: \$107.75



STITT PART NUMBER:  
ST296064H  
STITT LIST PRICE: \$103.67

**FOR THE WAUKESHA VGF  
SERIES WITH VALVE  
COVER-MOUNTED IGNITION  
COILS**



**WAUKESHA PART  
NUMBER: A211797J  
WAUKESHA LIST PRICE:  
\$195.92**

Finally, since the spark plug end of all these extensions will “fail” because of the exposure to the thermal environment, we have designed ours so that the spark plug boot component can be replaced easily. And for a fair price.



**STITT SPARK PLUG BOOT  
PART NUMBER: BSB2  
STITT LIST PRICE: \$19.18**

**FOR CATERPILLAR G3500  
UNDER VALVE COVER IGNITION  
COILS**



**CATERPILLAR PART  
NUMBER: 133-5078  
CATERPILLAR LIST PRICE:  
\$35.52 [21/6/02]**

**CATERPILLAR PART  
NUMBER: 127-8893  
CATERPILLAR LIST PRICE:  
\$23.79**

**For more information,  
please communicate  
with us at:**

**STITT SPARK PLUG COMPANY  
936-756-7796 • 281-443-2279  
Outside Texas: 800-231-8006  
Fax: 936-539-9762  
E-Mail: sales@stitt-sparkplug.com  
Web: www.stitt-sparkplug.com**



**STITT PART NUMBER:  
ST211797J  
STITT LIST PRICE: \$105.80**

In addition to this, the CATERPILLAR G3500 SERIES engines with “UNDER VALVE COVER” ignition coils [#124-0749] will also need to have the spark plug boot components of that coil replaced from time to time. Until very recently, these components were not available. But now, Caterpillar is offering them. We think that our replacements are much more cost-effective.



**STITT SPARK PLUG BOOT  
PART NUMBER: BSB2  
STITT LIST PRICE: \$19.18**

**STITT TERMINAL SPRING  
PART NUMBER: TSUVC35  
STITT LIST PRICE: \$12.85**

**OR**

**AS A STITT KIT [BOOT PLUS  
TERMINAL] PART NUMBER:  
EXB18K  
STITT LIST PRICE: \$32.00**

# STITT SHORT SPARK PLUGS OFFER COST SAVINGS TO THE OPERATORS OF CATERPILLAR & WAUKESHA GAS ENGINES



As a part of our continuing investigation into how engine manufacturers have cost the operators of their engines lots more money than necessary, we introduce to the industry our cost-effective, performance-equivalents to the expensive spark plugs that the engine manufacturer selected for original equipment status.

Firstly, it is important to note that precious metal-attachment electrode spark plugs are probably unnecessary. We think that they only cost more money and offer the operator no advantages over more conventional, monolithic nickel alloy electrode spark plugs.

For example, the STITT projecting spark plug multiple ground electrode design [RB77C]

offers the operator equivalent or better longevity under similar conditions to the spark plug that was selected for original equipment without being subjected to competitive evaluation.



**STITT RB77C  
Spark Plug**

With the STITT design, no precious metals are going to come off of the nickel alloy ground and center electrodes as is often the experience with those

spark plugs that have had precious metals attached to less noble electrode alloys.

The list price of the STITT RB77C is \$23.95. The list price of the O.E.M.'s selection is more than \$75.00.

Above is an engine set of STITT RB77C's that have operated in a G3516TA Caterpillar engine for 2,100+ hours.

They were removed from service as the result of routine maintenance.

Based on our experience, there is no reason to pay the higher operating cost and use the O.E.M.'s spark plug selection.

Prior to this usage of the Stitt RB77C's, the operator was using the O.E.M. recommendation.

The same operating hours were achieved, but at a higher cost.

We urge you to consider the Stitt advantages where cost-effective operation is concerned.

**For more information, please communicate with us at:**

**STITT SPARK PLUG COMPANY**  
936-756-7796 • 281-443-2279  
Outside Texas: 800-231-8006  
Fax: 936-539-9762  
E-Mail: [sales@stitt-sparkplug.com](mailto:sales@stitt-sparkplug.com)  
Web: [www.stitt-sparkplug.com](http://www.stitt-sparkplug.com)