

STITT EXTENDED-BARREL SPARK PLUGS SIGNIFICANTLY REDUCE THE COSTS OF OPERATING ENGINES WITH VALVE COVER-MOUNTED IGNITION COILS



Waukesha VHP4 With Factory Configuration



Waukesha VHP4 With STITT Configuration

For inexplicable reasons, recent engine series from a number of manufacturers have been introduced with what we would label as “user-unfriendly” ignition configurations. These configurations are commonly identified as either valve



Factory Selected Components TABLE A

ORIGINAL EQUIPMENT IGNITION COMPONENTS	ENGINE MANUFACTURER PART NUMBER	LIST PRICE
Valve Cover-Mounted Ignition coil	69694G	\$188.21
Plastic (teflon) Extension	A211797G	\$199.54
Short Spark Plug	60999Z	\$39.90
HIGH VOLTAGE COMPONENTS TOTAL COST		\$427.65

cover-mounted or cylinder head-mounted. Our appraisal is that these style ignition configurations provide no benefits to the engine operator. On the contrary, we think that the record is clear that they have only resulted in higher

engine production costs and excessively higher engine operating costs

We think it provable that by replacing the engine manufacturers’ ignition configuration ideas with our recommendations, manufacturing and operating

costs can be radically reduced. Just consider the contrast of these cost figures..

Consider the VHP4 series [eg., L7044GSI] of Waukesha engines, for example. Using the factory

selected components [TABLE A], the total component cost is \$427.65.

By contrast, consider the costs of the components doing it the STITT way [TABLE B]. Doing it this way, the total cost is \$127.70.

Beyond this significant acquisition cost savings, it is in the reduction of the costs of operating such



STITT Selected Components TABLE B

STITT-RECOMMENDED IGNITION COMPONENTS	MANUFACTURER and PART NUMBER	LIST PRICE
Remote-Mounted Ignition coil	Altronic 501-061 (or Equivalent)	\$58.00
Secondary Lead	Stitt USL2LE-VHP4	\$29.95
Extended-Barrel Spark Plug	Stitt S-R807LLBEX17-2 or Stitt S-AGR18LLBEX17-2	\$39.75
HIGH VOLTAGE COMPONENTS TOTAL COST		\$127.70

engines that the Stitt ideas really stand out.

Firstly the maintenance replacement of the plastic extension is completely eliminated. And though such an extension is often thought to be a capital item, only infrequently

replaced, it is in fact as much a consumable as the spark plug. And that is principally because the plastic material will fail when exposed to normal operating temper-

atures. In fact, we would assert that the Teflon is subjected to temperatures

that exceed the UL maximum recommended operating temperature for this material when it is first put into service in an engine. If that assertion is doubted, then we suggest that the operators of these engines review UL 764A,B,C. This is an ANSI standard incorporating a TEMPERATURE INDEX FOR POLYMERIC MATERIALS.



STITT Extended Barrel Spark Plug S-AGR18LLBEX17-2

The failures of this plastic material will typically be dielectric puncturing in the area of the high temperature connection to the spark plug and/or warpage and fracturing of the thin wall section plastic in the area of the high temperature connection to the spark plug.

Secondly, the fragile pri-

mary connectors to the ignition coil will be eliminated. And this is a distinct improvement in ignition system reliability and durability.



STITT Extended Barrel Spark Plug S-R807LLBEX17-2

Contrary to what some may think, Cannon-style connectors were never designed for repeated "make-and-break" events, such as must occur when the ignition coil is removed for a spark plug change. The Cannon-style connectors are fragile and breakage is to be considered likely when the operator is forced to routinely disconnect and connect them in the course of normal engine operation [spark plug changing, valve lash adjustment, etc].

Furthermore, these style connectors may be unable

to withstand the typical vibrations of a high-speed engine operation. It would not be surprising if these Cannon-style primary connectors fractured/separated during unattended engine operation.

Thirdly, consider the time savings the STITT configuration offers for such routine maintenance procedures as spark plug replacement. Because time is money, the Stitt configuration saves lots of money.

Start your stop watch and consider the time it takes...

Using the Engine Manufacturer's Ignition Configuration.

1. Disconnect Primary Harness Connector
2. Unfasten the three fasteners that secure the coil to the valve cover.
3. Remove the coil.
4. Disconnect and remove the plastic [Teflon] extension.
5. Remove the short spark plug.
6. Install new spark plug.
7. Replace plastic extension [is it evaluated for its suitability for re-use? If so, and it requires replacement, is a spare readily available?]
8. Replace ignition coil and re-secure it using all three fasteners.

9. Re-connect primary harness.

Our stop watch times this procedure at no less than 15 minutes.

Accomplishing the same objective, a spark plug change, with the engine configured the STITT way, here is the sequence.

1. Disconnect ignition lead from the spark plug.
- 2 Remove spark plug.
3. Install new spark plug
4. Re-connect ignition lead to spark plug.

Our stop watch times this sequence at no more than 5 minutes.

In addition to all these cost savings, the STITT extended-barrel style spark plugs offer extraordinary operating life at the same price of a more conventional, short, industrial spark plug.

The L7044GSI engine [operating "heavily-loaded" in the Powder River Basin of Wyoming] that is being used as the illustration for this article has been operating with our spark plugs (S-AGR18LLBEX17-2) now for 4,000+ hours without any spark plug related down time.

For information, contact STITT Spark Plug Company at: 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