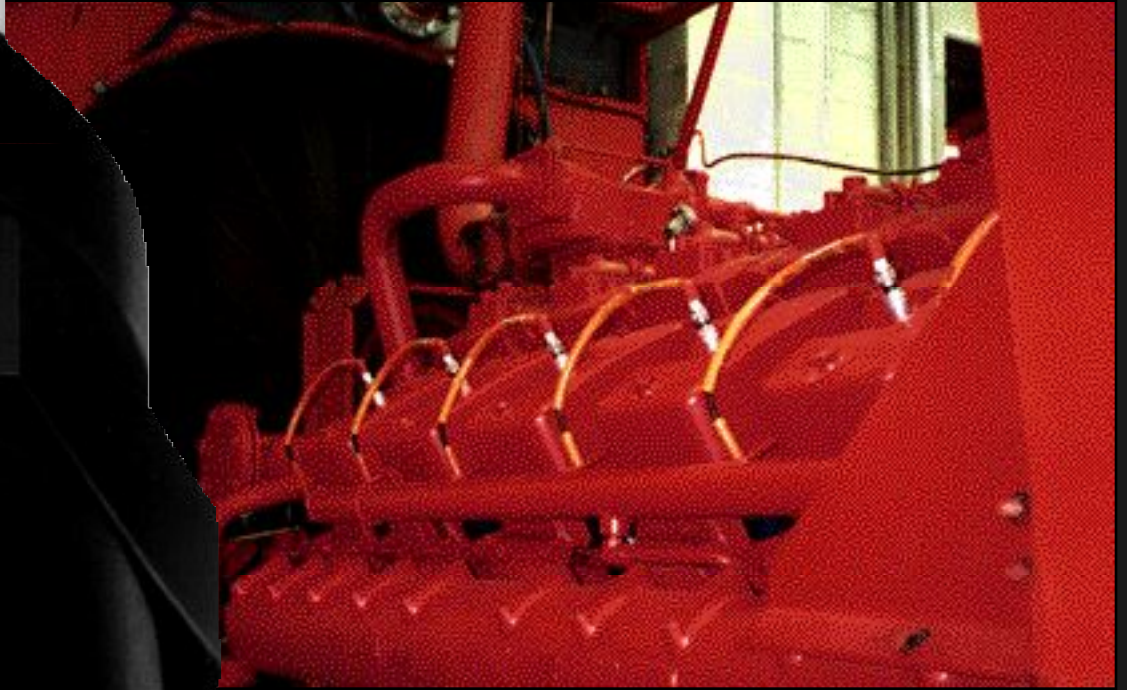


STITT

PRECIOUS METAL ELECTRODE SPARK PLUGS

2000



ENGINE RECOMMENDATIONS

STITT[®]
SPARK PLUG COMPANY

PRECIOUS METAL SPARK PLUGS ENGINE RECOMMENDATIONS

Ariel.....	4 & 5
Caterpillar.....	4 & 5
Clark (Dresser Clark).....	4 & 5
Cooper-Bessemer.....	4 & 5
Cooper Energy Services (Superior Engines).....	6 & 7
Cummins Natural Gas Engines.....	6 & 7
DeLaval (Transamerica).....	6 & 7
Dresser-Rand.....	6 & 7
Gemini.....	6 & 7
Hercules.....	6 & 7
Ingersoll-Rand.....	8 & 9
Kubota.....	8 & 9
Lister Petter.....	8 & 9
Nordberg (Hatch & Kirk).....	8 & 9
Waukesha.....	8 & 9
Worthington.....	8 & 9

CONFIGURATION & STYLES

CONVENTIONAL STYLE PLUG
(Standard Spark Plug Style)



EXTENDED BARREL S-2 STYLE PLUG
(Aircraft Style Spark Plug)



**SIDE GAP
FIRING END
CONFIGURATION**

PRECIOUS METAL ELECTRODE FEATURES

1. MONOLITHIC GOLD-PALLADIUM

Principal precious metal alloy offered. Gold-Palladium(AuPd) is the precious metal that we have selected for the electrodes of these plugs based on years of field research. The superiority of Gold-Palladium in comparison to other precious metals are these:

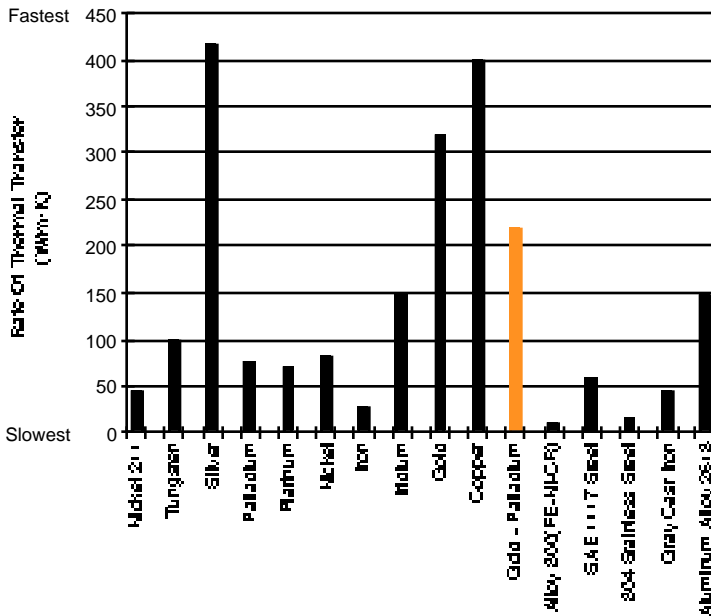
■ Thermal Conductivity

Gold-Palladium(AuPd) is able to transfer combustion heat at a speed almost three times(3X) as fast as commercially pure platinum(Pt), and four times(4X) as fast as the nickel(Ni) alloys routinely used for spark plug electrodes. To retard accelerated rates of electrode erosion, the fastest practicable rates of electrode thermal transfer are required.

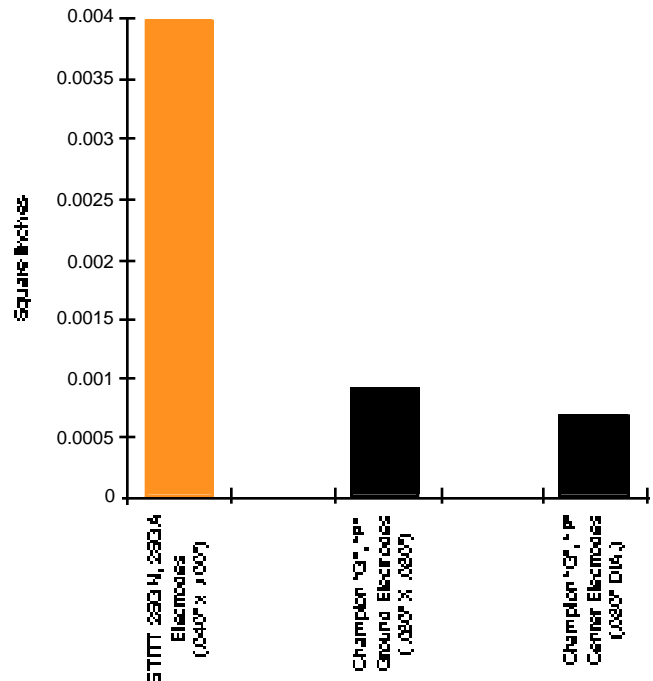
■ Advanced Thermal Conductivity

The removal of heat is directly related to the size of the pipe that is the thermal conduit: a large diameter pipe will remove heat at a faster rate than will any smaller diameter pipe. The monolithic Gold-Palladium(AuPd) electrodes that we are offering are dimensioned as .040" X .100". This is a considerably larger thermal pipe than the one furnished by other manufacturers of precious metal spark plugs, typically supplying these monolithic precious metal electrodes dimensioned as .030" X .030", when used as ground electrodes: .030" diameter wire when used as the center electrode.

Comparison of Material Thermal Transfer Rates



Comparison of Electrodes as Thermal Conduits

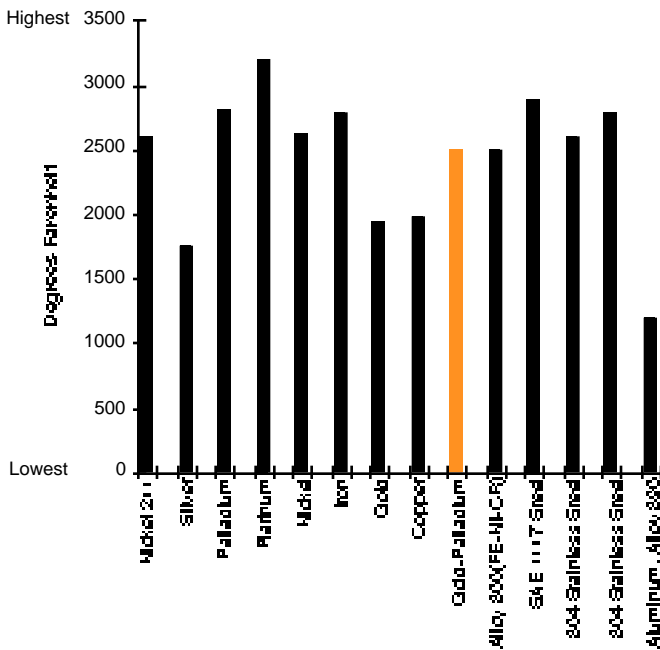


PRECIOUS METAL ELECTRODE FEATURES

High Melting Point

Almost as high as platinum. Every bit as high as most of the nickel alloys used in spark plug electrodes. Compatible with the melting points of internal combustion engine power cylinder component materials.

Comparison of Melting Points



Excellent Resistance To Corrosion & Chemical Attack

Far superior to platinum. Platinum is highly susceptible to poisoning and deterioration when exposed to internal combustion engine lubricant additive packages and fuel gas compounds. In highly oxidizing environments, gold-palladium is less likely to volatilize than iridium.

Negligible Catalytic Reactivity

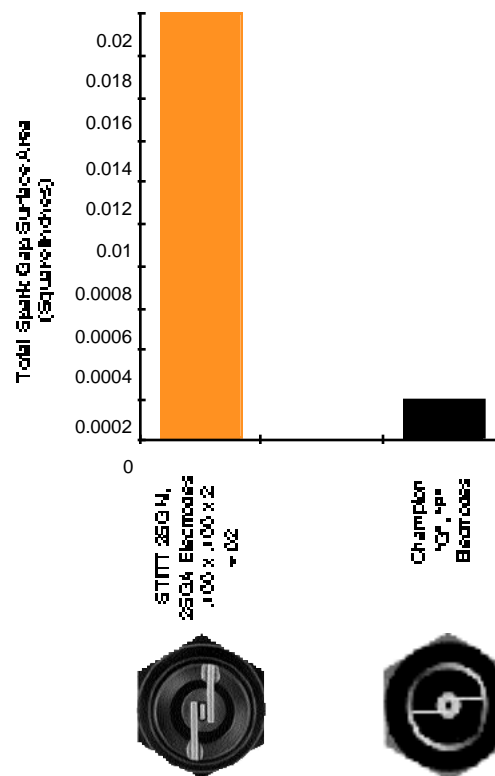
Most precious metals have a high degree of catalytic reactivity when exposed to methane (and other hydrocarbons) which are routinely the constituents of even pipeline quality natural gas. Platinum is the most catalytically active precious metal (in fact, it promotes the spontaneous ignition of methane, CH₄), and that is why we offer Gold-Palladium as our precious metal electrode standard alloy. Gold-Palladium seems to have negligible reactivity in the presence of methane, making it

one of the few precious metal alloys suitable for operation in natural gas fueled engines using every kind of natural gas. From pipeline quality gas, to sewer gas, to landfill gas, and to most unprocessed field gases common to oilfield engines.

2. SPARK GAP SURFACE AREA

Our 2SGN and 2SGA plugs are far superior to all others when evaluated for this feature. As a general rule, the more spark gap surface area furnished offers the possibility for the longest spark plug life. Even more to the point, all of our 2SGN and 2SGA precious metal spark plugs furnish parallel spark gap surface area. Contrast this to the limited gap parallelity of the other precious metal spark plugs being offered.

Spark Gap Surface Area Comparisons*



* This spark gap surface area is theoretical and does not exist in real life. Because Champion uses a round center electrode with these precious metal electrode spark plugs (RL85G, REL89G, RHL89G, RHL79G, RTL85G, RN79G, REN79G, RHN79G, RTN79G, UED88G, REM84P, RW82P, REW82P) there is no parallel spark gap surface area between the square wire ground electrodes and the round wire center electrode [see illustration]. We have given Champion the benefit of the doubt and charted a spark gap surface area as if the center electrode was also fabricated from square wire, furnishing a parallel spark gap surface area.

PRECIOUS METAL ELECTRODE FEATURES

STITT INTERCHANGE CHART

3. STANDARD ELECTRODE CONFIGURATIONS AVAILABLE

2SGN - Gold-Palladium(AuPd) center electrode. Nickel(Ni) ground electrodes. For most of those engines that have been operating the RL85G, RN79G, RW82P precious metal firing-end designs, our 2SGN prefix plugs will furnish equivalent performance and superior durability, at a competitive price.

2SGA - Gold-Palladium(AuPd) center electrode. Gold-Palladium(AuPd) ground electrodes. For those applications where there is a thermal barrier so severe that even straight, large diameter, nickel ground electrodes cannot transfer combustion heat at a fast enough rate.

Considerably more expensive than the 2SGN

electrode alloy combination, but still priced competitively with many of the other fine wire, pure platinum(Pt) or platinum/iridium electrode alloy spark plugs being offered.

4. ALL SPARK PLUG VERSIONS AVAILABLE

Because of our Basis Plug Manufacturing Technique, both of these precious metal electrode configurations can be furnished in any version. From Conventional, Long Flashover(2SGN40L) to Extended-Length, 3/4"-20, 2.125" TWD(S-2SGN40XLBEX12-2). Whatever the ignition configuration of the engine, there is a 2SGN and also a 2SGA firing-end variant available.

STITT-TO-CHAMPION PRECIOUS METAL SPARK PLUG INTERCHANGE CHART

STITT PART NUMBER 2SGN SERIES	STITT PART NUMBER 2SGA SERIES	CHAMPION PART NUMBER
2SGN40L	2SGA40L	RL85G
S-2SGN40L-5	S-2SGA40L-5	REL88G
S-2SGN40L	S-2SGA40L	RHL79G
S-2SGN40L	S-2SGA40L	RHL89G
CPM-2SGN40L	CPM-2SGA40L	RTL85G
2SGN40XL	2SGA40XL	RN79G
S-2SGN40XL	S-2SGA40XL	RHN79G
CPM-2SGN40XL	CPM-2SGA40XL	RTN79G
2SGN80	2SGA80	RM85G
S-2SGN80-5	S-2SGA80-5	REM84P
S-2SGN80	S-2SGA80	RHM85G
CONSULT STITT FACTORY	CONSULT STITT FACTORY	RB75WPC
CONSULT STITT FACTORY	CONSULT STITT FACTORY	RB77WPC
2SGN10	2SGA10	RW82P
S-2SGN10-5	S-2SGA10-5	REW82P

Engine Recommendations Precious Metal Electrodes

“S-____-2” Series 3/4”-20 Aircraft Style 2” Termination Well Depth

ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
ARIEL			
162JGS/1, 325JGS/1	.015	S-2SGN40XLB8.4-2	S-2SGA40XLB8.4-2
CATERPILLAR			
G333, G-3304, G-3306			
1/2” REACH CYL. HEADS	.015	S-2SGN40LB8.4-2	S-2SGA40LB8.4-2
3/4” REACH CYL. HEADS	.015	S-2SGN40XLB8.4-2	S-2SGA40XLB8.4-2
G-343	.015	S-2SGN40LB8.4-2	S-2SGA40LB8.4-2
G-342, G-353, G-379	.015	S-2SGN40LB8.4-2	S-2SGA40LB8.4-2
G-397, G-398, G-399	.015	S-2SGN40LB8.4-2	S-2SGA40LB8.4-2
3400 SERIES	.015	S-2SGN40XLB12-2	S-2SGA40XLB12-2
CLARK (Dresser Clark)			
BA, HBA, TLA, TCV	.015	S-2SGN10B10-2	S-2SGA10B10-2
TCVA, TCVC	.015	S-2SGN10B12-2	S-2SGA10B12-2
HMA, HMB, HMC, HRA, HSRA	.015	S-2SGN10-2	S-2SGA10-2
HRAT, MA, RA, TMB, TRA, TVM	.015	S-2SGN10-2	S-2SGA10-2
TPV, VMC, VRA	.015	S-2SGN10-2	S-2SGA10-2
COOPER-BESSEMER			
GMV, GMVA, GMVC, GMVE, GMVH			
Short Reach (.625”)		CALL STITT	CALL STITT
Long Reach (.875”)		CALL STITT	CALL STITT
GMW, GMWA, GMWC, GMWH, V-250, V-275			
Short Reach (.625”)	.015	S-2SGN10B10-2	S-2SGA10B10-2
Long Reach (.875”)	.015	S-2SGN10LLB10-2	S-2SGA10LLB10-2
GMX, GMXD, GMXE, GMXH			
Short Reach (.625”)	.015	S-2SGN10-2	S-2SGA10-2
Long Reach (.875”)	.015	S-2SGN10LL-2	S-2SGA10LL-2
QUAD			
Long Reach (.875”)	.015	S-2SGN10LLB8-2	S-2SGA10LLB8-2
LS		CALL STITT	CALL STITT
LSV, KSV			
7/8”-18 Heads			
Short Reach (.625”) Center Plug	.015	S-2SGN10B15-2	S-2SGA10B15-2
Short Reach (.625”) Side Plug	.015	S-2SGN10B15-2	S-2SGA10B15-2
Long Reach (.875”) Center Plug	.015	S-2SGN10LLB15-2	S-2SGA10LLB15-2
Long Reach (.875”) Side Plug	.015	S-2SGN10LLB15-2	S-2SGA10LLB15-2
LSVB (.875”) Reach	.015	S-2SGN10LLB15-2	S-2SGA10LLB15-2



Engine Recommendations Precious Metal Electrodes Standard Spark Plug Style

ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
ARIEL			
162JGS/1, 325JGS/1	.015	2SGN40XL	2SGA40XL
CATERPILLAR			
G-333, G-3304, G-3306			
1/2" REACH CYL. HEADS	.015	2SGN40L	2SGA40L
3/4" REACH CYL. HEADS	.015	2SGN40XL	2SGA40XL
G-343	.015	2SGN40L	2SGA40L
G-342, G-353, G-379	.015	2SGN40L	2SGA40L
G-397, G-398, G-399	.015	2SGN40L	2SGA40L
3400 SERIES	.015	2SGN40XL	2SGA40XL
CLARK (Dresser Clark)			
BA, HBA, TLA, TCV	.015	2SGN10	2SGA10
TCVA, TCVC	.015	2SGN10	2SGA10
HMA, HMB, HMC, HRA, HSRA	.015	2SGN10	2SGA10
HRAT, MA, RA, TMB, TRA, TVM	.015	2SGN10	2SGA10
TPV, VMC, VRA	.015	2SGN10	2SGA10
COPPER-BESSEMER			
GMV, GMVA, GMVC, GMVE, GMVH			
Short Reach (.625")	.015	2SGN10	2SGA10
Long Reach (.875")	.015	2SGN10LL	2SGA10LL
GMW, GMWA, GMWC, GMWH, V-250, V-275			
Short Reach (.625")	.015	2SGN10	2SGA10
Long Reach (.875")	.015	2SGN10	2SGA10
GMX, GMXD, GMXE, GMXH			
Short Reach (.625")	.015	2SGN10	2SGA10
Long Reach (.875")	.015	2SGN10LL	2SGA10LL
QUAD			
Long Reach (.875")	.015	2SGN10LL	2SGA10LL
LS		CALL STITT	CALL STITT
LSV, KSV			
7/8"-18 Heads			
Short Reach (.625") Center Plug	.015	2SGN10	2SGA10
Short Reach (.625") Side Plug	.015	2SGN10	2SGA10
Long Reach (.875") Center Plug	.015	2SGN10LL	2SGA10LL
Long Reach (.875") Side Plug	.015	2SGN10LL	2SGA10LL
LSVB (.875") Reach	.015	2SGN10LL	2SGA10LL



Engine Recommendations Precious Metal Electrodes

“S-____-2” Series 3/4”-20 Aircraft Style 2” Termination Well Depth

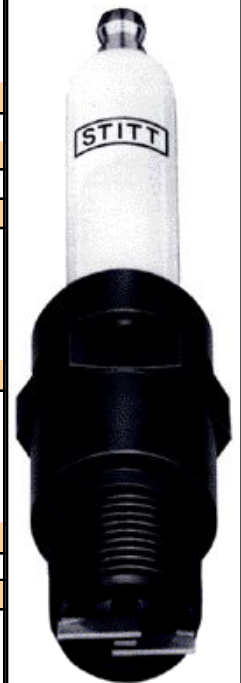
ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
COOPER ENERGY SERVICES (Superior Engines)			
6G510, 6G825, 8G825	.020	S-2SGN80-2	S-2SGA80-2
12G825, 16G825	.020	S-2SGN80-2	S-2SGA80-2
6GT510, 6GTL, 80G6, 80GX6	.020	S-2SGN80-2	S-2SGA80-2
6GX825, 6GT825, 8GT825	.020	S-2SGN80-2	S-2SGA80-2
8GTL, 80G8, 80GX8, 8GX825	.020	S-2SGN80-2	S-2SGA80-2
12GT825, 12SGT, 12GTL	.020	S-2SGN80-2	S-2SGA80-2
16SGT, 16GTL, 16GT825	.020	S-2SGN80-2	S-2SGA80-2
All 7/8”-18 Heads	.020	S-2SGN10-2	S-2SGA10-2
CUMMINS NATURAL GAS ENGINES			
G-495, G-743, GTA-743, G-855 GTA-855, G-1710, GTA-1710 .625” Reach Cylinder Heads	.015	S-2SGN40LLB13-2	S-2SGA40LLB13-2
.750” Reach Cylinder Heads	.015	S-2SGN40XLB13-2	S-2SGA40XLB13-2
L10	.015	S-2SGN40XLB12-2	S-2SGA40XLB12-2
“B” Series	.015	S-2SGN40XL-2	S-2SGA40XL-2
“C” Series	.015	S-2SGN40L-2	S-2SGA40L-2
“K” Series		CALL STITT	CALL STITT
DELAVAL (Transamerica)			
HV-8, HVA-8, HV-12, HVA-12 HV-16, HVA-16, HVA-20, HA-6	.015 .015	S-2SGN10LLB18-2 S-2SGN10LLB18-2	S-2SGA10LLB18-2 S-2SGA10LLB18-2
DRESSER-RAND			
KVSR, KVSRA, KVSE	.015	S-2SGN10XL-2	S-2SGA10XL-2
KVFS, PKVSE	.015	S-2SGN10XL-2	S-2SGA10XL-2
TCV, TCVA	.015	S-2SGN10-2	S-2SGA10-2
GEMINI			
G26, G35	.020	S-2SGN40L-2	S-2SGA40L-2
HERCULES			
G-1600	.020	S-2SGN40-2	S-2SGA40-2
G2300, G3400	.020	S-2SGN40-2	S-2SGA40-2
G4800	.020	S-2SGN40XLB8.4-2	S-2SGA40XLB8.4-2



Engine Recommendations Precious Metal Electrodes

Standard Spark Plug Style

ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
COOPER ENERGY SERVICES (Superior Engines)			
6G510, 6G825, 8G825	.020	2SGN80	2SGA80
12G825, 16G825	.020	2SGN80	2SGA80
6GT510, 6GTL, 80G6, 80GX6	.020	2SGN80	2SGA80
6GX825, 6GT825, 8GT825	.020	2SGN80	2SGA80
8GTL, 80G8, 80GX8, 8GX825	.020	2SGN80	2SGA80
12GT825, 12SGT, 12GTL	.020	2SGN80	2SGA80
16SGT, 16GTL, 16GT825	.020	2SGN80	2SGA80
All 7/8"-18 Heads	.020	2SGN10	2SGA10
CUMMINS NATURAL GAS ENGINES			
G-495, G-743, GTA-743, G-855 GTA-855, G-1710, GTA-1710			
.625" Reach Cylinder Heads	.015	2SGN40LL	2SGA40LL
.750" Reach Cylinder Heads	.015	2SGN40XL	2SGA40XL
L10	.015	2SGN40XL	2SGA40XL
"B" Series	.015	2SGN40XL	2SGA40XL
"C" Series	.015	2SGN40L	2SGA40L
"K" Series		CALL STITT	CALL STITT
DELAVAL (Transamerica)			
HV-8, HVA-8, HV-12, HVA-12	.015	2SGN10LL	2SGA10LL
HV-16, HVA-16, HVA-20, HA-6	.015	2SGN10LL	2SGA10LL
DRESSER-RAND			
KVSR, KVSRA, KVSE	.015	2SGN10XL	2SGA10XL
KVFS, PKVSE	.015	2SGN10XL	2SGA10XL
TCV, TCVA	.015	2SGN10	2SGA10
GEMINI			
G26, G35	.020	2SGN40L	2SGA40L
HERCULES			
G-1600	.020	2SGN40	2SGA40
G2300, G3400	.020	2SGN40	2SGA40
G4800	.020	2SGN40XL	2SGA40XL



Engine Recommendations Precious Metal Electrodes

“S-____-2” Series 3/4”-20 Aircraft Style 2” Termination Well Depth

ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
INGERSOLL-RAND			
JVG, KVG, KVGR, KVT, PJVG, PKV	.015	S-2SGN10-2	S-2SGA10-2
PKVGR, PKVT, PSVG, PVG, SVG	.015	S-2SGN10-2	S-2SGA10-2
KVR, KVS, KVSRA, KVSRA	.015	S-2SGN10-2	S-2SGA10-2
PKVR, PKVSR	.015	S-2SGN10-2	S-2SGA10-2
7/8”-18 Heads 7/8” Reach	.015	S-2SGN10LL-2	S-2SGA10LL-2
7/8”-18 Heads 1” Reach	.015	S-2SGN10XL-2	S-2SGA10XL-2
KUBOTA			
KNG1600E, KNG3200E	.015	S-2SGN40XL-2	S-2SGA40XL-2
LISTER PETTER			
HR2G, HR3G	.015	S-2SGN80-2	S-2SGA80-2
NORDBERG (Hatch & Kirk)			
All Models	.015	S-2SGN80LLBEX24-2	S-2SGA80LLBEX24-2
WAUKESHA			
F1197, F1905		CALL STITT	CALL STITT
H2475, L3711, L3712, H2476		CALL STITT	CALL STITT
VRG Series			
VRG220, VRG330		CALL STITT	CALL STITT
VRG265, VRG283, VRG310		CALL STITT	CALL STITT
VRG155, VRG232		CALL STITT	CALL STITT
VHP Series Engines			
F2895G, F2895GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
F3521G, F3521GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
L5108G, L5108GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
L5790G, L5790GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
L7042G, L7042GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
P9390G, P9390GSI	.015	S-2SGN80B13-2	S-2SGA80B13-2
WORTHINGTON			
LTC	.015	S-2SGN10-2	S-2SGA10-2
UTC, SUTC, ML, MLV	.015	S-2SGN10B24-2	2-SGA10B24-2
SLHC	.015	S-2SGN10B2	2-SGA10B24-2



Engine Recommendations Precious Metal Electrodes Standard Spark Plug Style

ENGINE MANUFACTURER AND ENGINE MODEL	PLUG GAP	2SGN Series	2SGA Series
INGERSOLL-RAND			
JVG, KVG, KVGR, KVT, PJVG, PKV	.015	2SGN10	2SGA10
PKVGR, PKVT, PSVG, PVG, SVG	.015	2SGN10	2SGA10
KVR, KVS, KVSRA, KVSRA	.015	2SGN10	2SGA10
PKVR, PKVSR	.015	2SGN10	2SGA10
7/8"-18 Heads 7/8" Reach	.015	2SGN10LL	2SGA10LL
7/8"-18 Heads 1" Reach	.015	2SGN10XL	2SGA10XL
KUBOTA			
KNG1600E, KNG3200E	.015	2SGN40XL	2SGA40XL
LISTER PETTER			
HR2G, HR3G	.015	2SGN80	2SGA80
NORDBERG (Hatch & Kirk)			
All Models	.015	2SGN80LL	2SGA80LL
WAUKESHA			
F1197, F1905	.015	2SGN80	2SGA80
H2475, L3711, L3712, H2476	.015	2SGN80	2SGA80
VRG Series			
VRG220, VRG330	.015	2SGN40XL	2SGA40XL
VRG265, VRG283, VRG310	.015	2SGN40XL	2SGA40XL
VRG155, VRG232	.015	2SGN80	2SGA80
VHP Series Engines			
F2895G, F2895GSI	.015	2SGN80	2SGA80
F3521G, F3521GSI	.015	2SGN80	2SGA80
L5108G, L5108GSI	.015	2SGN80	2SGA80
L5790G, L5790GSI	.015	2SGN80	2SGA80
L7042G, L7042GSI	.015	2SGN80	2SGA80
P9390G, P9390GSI	.015	2SGN80	2SGA80
WORTHINGTON			
LTC	.015	2SGN10	2SGA10
UTC, SUTC, ML, MLV	.015	2SGN10	2SGA10
SLHC	.015	2SGN10	2SGA10



PRECIOUS METAL ELECTRODE SPARK PLUGS
ENGINE RECOMMENDATIONS

Visit us online at
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because
“STITT HAPPENS”



STITT®

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