

**UNISON**

*Soaring to  
new heights  
with innovative  
performance  
technology  
solutions*



**Autolite<sup>®</sup>**  
*Aviation Spark Plugs*

*by UNISON*



# UNISON

*Unison Industries is a leader in aerospace technology, manufacturing systems and components for turbine engine and general aviation piston engines. Working in cooperation with Honeywell, one of the largest manufacturers of automotive spark plugs today, Unison designs and manufactures massive electrode and fine wire aviation spark plugs. Unison's aviation spark plugs are specifically engineered to provide excellent performance in demanding piston engine environments, and complete the Unison piston engine ignition system – Slick Magnetos, Slick Harnesses, SlickSTART™ and LASAR®.*



# Take flight

## MASSIVE – Specifications and Cross Reference<sup>1</sup>

Unison Part #	Mounting Thread Size	Reach	Shielding Thread	Gap (Current Autolite Gap)	Bendix Autolite Part # (pre 1980s)	Champion Part #	Auburn Part #
UREM38E	18mm	1/2"	5/8"-24	.016"-.021"	SH26	REM38E	SR-86
URHM38E	18mm	1/2"	3/4"-20	.016"-.021"	SH260	RHM38E	HSR-86,-87
UREM40E	18mm	1/2"	5/8"-24	.016"-.021"	SH20A	REM40E	SR-87,-88
URHM40E	18mm	1/2"	3/4"-20	.016"-.021"	SH200A	RHM40E	HSR-87,-88
URHB32E	18mm	13/16"	3/4"-20	.016"-.021"	SL350	RHB32E	273
UREB37E	18mm	13/16"	5/8"-24	.016"-.021"	SL30A	REB37E	171
URHB37E	18mm	13/16"	3/4"-20	.016"-.021"	SL300A	RHB37E	271
UREM37BY <sup>2</sup>	18mm	1/2"	5/8"-24	.016"-.021"	–	REM37BY	–

## FINE WIRE – Specifications and Cross Reference<sup>1</sup>

Unison Part #	Mounting Thread Size	Reach	Shielding Thread	Gap (Current Autolite Gap)	Bendix Autolite Part # (pre 1980s)	Champion Part #	Auburn Part #
URHB36S	18mm	13/16"	3/4"-20	.017"-.021"	–	RHB36S	–
URHB32S	18mm	13/16"	3/4"-20	.017"-.021"	–	RHB32S	–
URHM38S	18mm	1/2"	3/4"-20	.017"-.021"	–	RHM38S	–
UREB36S	18mm	13/16"	5/8"-24	.017"-.021"	–	REB36S	–
UREM38S	18mm	1/2"	5/8"-24	.017"-.021"	–	REM38S	–

<sup>1</sup> Cross reference depends on application. <sup>2</sup>UREM37BY is a projected gap design.



Both Unison's massive electrode and fine wire electrode aviation spark plugs are FAA-PMA approved for almost every piston engine aircraft flying today.

# URHB36S

**U**

Indicates Unison  
manufactured  
aviation spark plug.

**3<sup>rd</sup> position**

Indicates the  
plug nut size  
H – 3/4" nut  
E – 5/8" nut

**4<sup>th</sup> position**

Indicates the reach of  
the spark plug  
B – long reach (13/16")  
M – short reach (1/2")

**two digit  
number**

Indicates the  
heat range of  
the spark plug.

**last letter**

Indicates  
electrode type  
E or BY – massive  
S – fine wire

## ***Autolite® Aviation Spark Plugs: Part Numbering System and Packaging***

Unison's Autolite® Aviation Spark Plugs are available in individual, 4- and 12-plug packaging. Autolite® Aviation Spark Plug users can also purchase their massive or fine wire spark plugs as part of Unison's Slick Ignition Upgrade Kits, which feature:

- Slick magnetos
- Slick harnesses
- Massive or fine wire Autolite® Aviation Spark Plugs
- Any required assembly hardware

# *with Autolite*

## ***Product Support***

Unison's product support team, Piston Help, is available for your technical questions, product comments and warranty concerns. They are available to assist you in gaining top performance from your Autolite® Aviation Spark Plugs and other complementary Slick ignition products. Visit [www.autoliteannie.com](http://www.autoliteannie.com) or [www.unisonindustries.com](http://www.unisonindustries.com) for more information.

## ***Piston Help***

Piston Help can be reached from 8:00 a.m. – 5:00 p.m. E.S.T., Monday – Friday at [pistonhelp@unison.ae.ge.com](mailto:pistonhelp@unison.ae.ge.com), via phone at (904) 739-4081, or via fax at (904) 739-4006.

A team member from Piston Help is also available at IA Renewals and trade shows all across the country. Visit Unison's website at [www.unisonindustries.com/news/tradeshows.html](http://www.unisonindustries.com/news/tradeshows.html) to view a complete list of shows Unison will be attending.



# Massives

## **Autolite® Massive Electrode Aviation Spark Plugs**

*OEMs and overhaul facilities around the world are specifying massive electrode Autolite® Aviation Spark Plugs for their performance, heat transfer, leakage protection, advanced reliability, long life, and cost-effectiveness.*



# *It's time*

\* based on published list pricing as of 1-1-2005 for comparable massive electrode spark plug products.

**Unison's massive electrode spark plugs have a list price significantly less than the competitor.\***

**Autolite®**  
Aviation Spark Plugs  
by UNISON

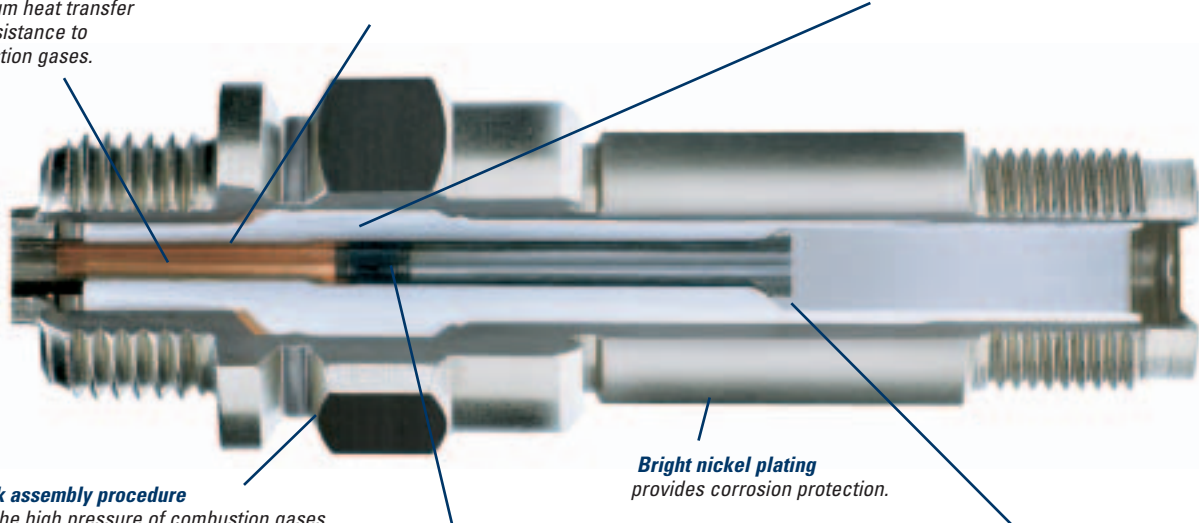


## Autolite® Aviation Spark Plugs "Massive" Electrode Product Features

**High-conductivity copper core electrode** is co-extruded inside a special nickel alloy for optimum heat transfer and resistance to combustion gases.

**Vacuum-cemented center electrode** for better heat transfer from the center electrode to the insulator, which helps reduce fouling.

**High-alumina ceramic insulator** is enhanced with a proprietary protective glaze material for high mechanical strength and superior dielectric quality needed to survive the severe engine environment.



**Hot-lock assembly procedure** resists the high pressure of combustion gases, and creates a leakproof sealing force between the insulator and outer shell.

**Bright nickel plating** provides corrosion protection.

**Proprietary glass center seal and integral resistor** bonds the insulator, center electrode, and terminal into a single, leakproof structure for maximum durability, electrical conductivity and improved spark gap life.

**Non-screw head electrode** offers a consistent contact surface for excellent harness-to-spark plug termination and energy transfer.

**to  
change your plugs**



# Fix Wires



## **Autolite® XL Fine Wire Aviation Spark Plugs**

*Now there's a finer choice when it comes to premium plugs, Autolite® XL Fine Wire Spark Plugs. Unison's Autolite® XL plugs combine the same trusted performance of Autolite® massive electrode spark plugs with the enhanced premium benefits of an iridium fine wire design. And in addition to its premium design: the Autolite® XL has a list price significantly less than the competitor's listed price.\**

# It's time

\* based on published list pricing as of 1-1-2005 for comparable fine wire spark plug products.

**Introducing the Autolite® XL: Premium performance and benefits – at a price that makes sense for all pilots.**

**Autolite® XL**  
Fine Wire Aviation Spark Plugs  
by UNISON



### **Autolite® XL Fine Wire Aviation Spark Plugs Product Features**

**Proven performance** incorporating all the great benefits and advanced technology of the massive electrode spark plugs.

**Iridium electrodes** for the side wire and center rivet provide long life while resisting lead attack and fouling.

**Improved scavenging** as a result of the open nose design.

**Projected gap design** for maximum spark exposure to the fuel-air charge

**Pedestal mount** for the welded side wire, resulting in a projected gap design with minimal spark shrouding.

**High temperature black paint** for additional corrosion protection.



**to  
upgrade your plugs**



*Unison is your one-stop-shop for all of your piston engine ignition needs. All of Unison's piston engine ignition products are FAA-PMA approved and are manufactured at our facility in Rockford, Illinois. Information on engine compatibility with Unison's piston engine ignition products can be found in Unison document L-1318, Application Data Manual. For a list of approved LASAR® applications refer to service letter SL1-96.*



### **Slick Magnetos**

Unison's Slick magnetos power a majority of the world's piston-powered aircraft today. And because every Slick magneto shipped from the factory is new, not overhauled, it is the choice for quality-conscious pilots and OEMs. Unison's Slick magnetos come with a full factory warranty and are less expensive than most competitor's magnetos. In addition, Unison offers a cash-rebate upgrade program, which is regarded as one of the most generous for ignition systems in the aviation piston industry. Contact Unison's Piston Help team to learn how you can benefit from Slick magnetos.

# Synchronized

### **Slick Harnesses**

The perfect complement to your Slick Magnetos, Unison's Slick harnesses are available in five colors to enhance your engine's cosmetic appeal. Slick harnesses feature better corrosion protection, superior ignition noise suppression, maximum delivered energy and greater flexibility for optimum ignition system performance.





### ***Slick Ignition Upgrade Kits***

No need to shop around – Unison’s Slick ignition upgrade kits offer all of Unison’s piston engine ignition components in a convenient package that costs considerably less than buying individual components separately. The kits feature Slick magnetos and harnesses, your choice of massive or fine wire Autolite® Aviation Spark Plugs, and any required assembly hardware.

### ***SlickSTART™ Magneto Start Booster***

Available for Slick magnetos (and most TCM-Bendix magnetos), SlickSTART™ is a magneto start booster that delivers up to 340% more spark energy to your spark plugs for easy engine starts every time.

Requiring no maintenance,

SlickSTART™ overcomes poor engine priming, and reduces costly

electrical stress to your battery and starter. SlickSTART™ can replace

TCM-Bendix’s starting vibrators, used with retard breaker magnetos, or it can be used to boost impulse-coupled magnetos.



# ***Superiority***

### ***LASAR® Digital Engine Control System***

A microprocessor-based electronic engine control system, LASAR® can be installed on the most popular Textron Lycoming engines in service today. With LASAR®, your engine starts quicker, runs smoother, climbs faster and consumes less fuel under cruise conditions.

### ***Spare Parts and Tools***

Unison offers an array of spare parts and tools for all of your piston engine ignition maintenance needs. Contact Unison’s Piston Help at (904) 739-4081 or [pistonhelp@unison.ae.ge.com](mailto:pistonhelp@unison.ae.ge.com) for more information.



## Autolite® Aviation Spark Plugs: Tools

Unison offers many spark plug tools to assist you in the installation and maintenance of your Autolite® Aviation Spark Plugs. These tools are available for purchase from any authorized distributor, or by contacting Aircraft Tool Supply (ATS) at (800) 248-0638. You may also visit ATS online at [www.aircraft-tool.com](http://www.aircraft-tool.com).

Autolite® Aviation Spark Plug Tools:

- Spark Plug Tray
- Spark Plug Cleaner/Tester
- Spark Plug Feeler Gauge
- Spark Plug Cleaner
- Spark Plug Tool Kit
- Erosion Gauge
- Spark Plug Cleaning Tools
- Spark Plug Thread Chaser
- Spark Plug Vibrator Cleaner
- Spark Plug Deep Socket (3/8" and 1/2")
- Spark Plug Thread Lubricant/Anti-seize compound



## L-1710 Installation and Maintenance Manual

Installation and maintenance of your Autolite® Aviation Spark Plugs is simple and easy. Installation instructions and maintenance tips that will help you to get the best performance out of your Autolite Aviation Spark Plugs can be found in Unison document L-1710, Autolite® Aviation Spark Plugs Installation and Maintenance Manual. Check with our Piston Help team to ensure you have the most current revision of the document.

## F-1100 Slick Master Service Manual



Unison has an array of literature to assist you in the care and upkeep of all of your Unison piston engine ignition products, the F-1100 Slick Master Service Manual. The F-1100 MSM is a manual that contains installation and maintenance documents; service letters and bulletins; tips and much more for your Slick magnetos and harnesses, SlickSTART™, and Autolite® Aviation Spark Plugs. The F-1100 MSM is revised on an as-needed basis to ensure you have the most current up-to-date information needed for optimum performance from your Unison piston engine ignition products.

A subscription to the F-1100 MSM is available by contacting the Piston Help team at (904) 739-4081, or via e-mail at [pistonhelp@unison.ae.ge.com](mailto:pistonhelp@unison.ae.ge.com). You may also subscribe by visiting [www.unisonindustries.com/news/service\\_documents.html](http://www.unisonindustries.com/news/service_documents.html). Download the form "F-1100 Slick Manual Subscription Form" and fax it to "Attention Tech Pubs" at (904) 739-4006.

**AVIATION**

*"It's time to change your plugs."*

**Autolite** **Autolite**

**SPARK PLUGS**

by **UNISON**

©2005

 A vintage-style illustration of a smiling female mechanic with blonde hair, wearing a grey short-sleeved uniform shirt and a matching skirt. She is sitting on a large, silver spark plug. The background is a circular logo with a blue border and orange interior.

**FINE WIRE**

*"It's time to upgrade your plugs."*

**Autolite XL** **Autolite XL**

**SPARK PLUGS**

by **UNISON**

 A modern-style illustration of a smiling female mechanic with red hair, wearing a black leather jacket over a white shirt and white pants. She is standing next to a large, black spark plug. The background is a circular logo with a black border and orange interior.

# *Delivering Innovative Solutions to a Range of Markets*

**Space**



**Defense**



**Industrial**



**General Aviation**



**Commercial Aviation**



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