



“WHEN I DROPPED BELOW 40 HOURS FLYING A YEAR, I STARTED TO WORRY ABOUT CORROSION FROM THE PLANE SITTING AROUND. I READ UP ON DIFFERENT TYPES OF OILS AND SELECTED AEROSHELL OIL W 100 PLUS.”

Keith Wishmeier, Pilot

INNOVATION WITH ENGINE MANUFACTURERS

Engine and oil technologies are constantly being reinvented. For example, the recently developed diesel (compression-ignition) aircraft engines are becoming popular for good reasons. They can be up to 30% more fuel efficient\* than spark-ignition engines and run on widely available, relatively low cost jet fuel.

AeroShell has always been a pioneer. In this case, we created an AeroShell oil for these engines with SMA and Thielert's engine development teams. This work involved more than 40,000 hours of aircraft engine tests. The formula was then enhanced to meet the Mercedes-Benz Specification 229.5 and launched as AeroShell Oil Diesel Ultra.

\*Published brake specific fuel consumption for a 135-hp Thielert Centurion engine is 0.36 lb/hp-hr, whereas that of 150-hp Lycoming IO-320 engine is 0.55 lb/hp-hr.

DEDICATED LIGHT SPORT AIRCRAFT OIL

Some people use motorcycle oils in light-sport aircraft engines, but these formulations can change without notification and are unsuitable for use with Avgas. Motorcycle oil additive packages are not optimised for the rapid temperature changes and fluctuating oxygen levels associated with flying.

AeroShell Oil Sport Plus 4 is the first oil specifically developed for light-sport, very-light and ultralight aircraft with four-stroke engines. It is manufactured to aviation quality standards and was developed with ROTAX.

“I RECOMMEND AEROSHELL OIL W 15W-50, ESPECIALLY IN HOUSTON, WHERE, IN WINTER, WE NEVER KNOW IF WE ARE GOING TO BE STARTING OUR ENGINES AT 30 OR 80°F.”

Debby Rhin-Harvey, FAA Designated Examiner, Commercial Airline Captain and US Unlimited Aerobatic Team Member



Product	Benefits	Specifications and approvals (Full approval details can be obtained from your AeroShell representative)
Compression-ignition (diesel) engines		
AeroShell Oil Diesel Ultra	<ul style="list-style-type: none"><li>Promotes long engine life</li><li>Reduced maintenance</li><li>Developed with equipment manufacturers</li><li>The only oil designed for diesel aero-engines burning jet fuel</li></ul>	<ul style="list-style-type: none"><li>Mercedes Benz 229.5</li><li>Approved for Thielert/Centurion 1.7 and 2.0, Austro Engine AE300 and SMA SR305-230E engines</li><li>Meets automotive specifications ACEA A3/B4 and API SL/CF (aviation specifications are yet to be defined)</li></ul>
AeroShell Oil “W” range		
AeroShell Oil W 15W-50	<ul style="list-style-type: none"><li>Reduced maintenance costs</li><li>Fastacting protection</li><li>Climatic versatility</li><li>Fuel saving</li></ul>	<ul style="list-style-type: none"><li>Avco Lycoming 301F (Service Bulletin 1014J and revisions 446C and 471)</li><li>Teledyne Continental MHS-24B (Service Bulletin M81-11 and revisions)</li><li>Pratt &amp; Whitney – all radial engines (Service Bulletin 1183 revision R)</li><li>FAA Airworthiness Directive 80-04-03</li></ul>
AeroShell Oil W 80/100 Plus	<ul style="list-style-type: none"><li>Added wear protection</li><li>Added corrosion protection</li><li>Proven ashless additive technology</li></ul>	<ul style="list-style-type: none"><li>SAE J 1899 and MIL-L22851</li><li>Textron Lycoming Service Bulletin 446C and 471, and Service Instruction 1409A</li><li>Teledyne Continental SIL 99-2</li><li>US Federal Aviation Authority Airworthiness Directive 80-04-03</li></ul>
AeroShell Oil W 80/100/120	<ul style="list-style-type: none"><li>Improved performance</li><li>Proven ashless additive technology</li></ul>	<ul style="list-style-type: none"><li>SAE J-1899</li></ul>
Straight mineral grades		
AeroShell Oil 65/80/100/120	<ul style="list-style-type: none"><li>High-quality straight mineral oil</li><li>Aids engine break in</li><li>Prevents cylinders glazing</li><li>Clean burning</li></ul>	<ul style="list-style-type: none"><li>SAE J-1966</li></ul>
Light-sport, very-light and ultralight engines		
AeroShell Oil Sport Plus 4	<ul style="list-style-type: none"><li>Aviation-quality oil</li><li>Multigrade climatic versatility</li><li>Developed with ROTAX</li></ul>	<ul style="list-style-type: none"><li>API SL, JASO MA, VW 502 00</li><li>Fully approved – all ROTAX 912 and 914 series engines, ROTAX Service Instruction SI-912-016/SI-914-019</li><li>Selection of suitable operating fluids for ROTAX engine type 912 and 914 (series)</li></ul>

A COMPREHENSIVE AND PROVEN RANGE

AeroShell is a comprehensive and proven product range; all new products undergo extensive testing. Our technical support can also offer helpful insights.

Whatever you fly, we can provide a full range of AeroShell products to meet your needs, including

- AeroShell greases, such as AeroShell Grease 7, for highly loaded gears and general airframe lubrication
- AeroShell preservatives, including AeroShell Fluid 2F for corrosion protection during prolonged periods of storage.



AeroShell is a trade mark of Shell Brands International AG manufactured and used under licence of Shell Brands International AG.

“I USE AEROSHELL GREASE 22 AND 7 AS WELL AND HAVE NEVER HAD A PROBLEM WITH OUR PROPELLERS OR WHEEL BEARINGS.”

Doug Turner, Pilot and Mechanic

CONTACT US

For more information, please contact your AeroShell representative or visit [www.shell.com/aviation](http://www.shell.com/aviation).



Shell Aviation

AEROSHELL OILS FOR YOUR PISTON ENGINE AIRCRAFT





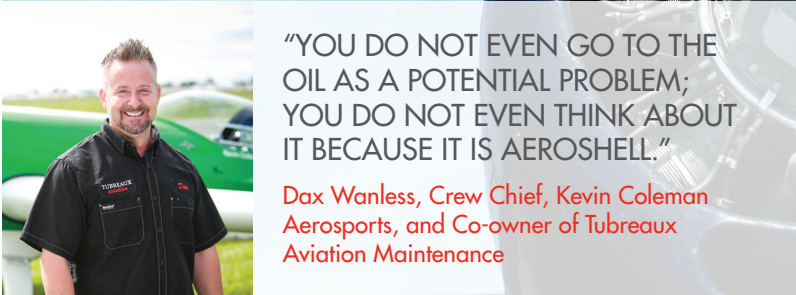
# AEROSHELL PISTON ENGINE OILS

We understand your desire for low-cost, dependable flight. You can rely on the AeroShell range of piston engine oils (PEO) to help protect your engine, reduce its maintenance costs and improve its efficiency. Whether you keep a vintage aircraft flying, takeoff in subzero temperatures or run a compression-ignition (diesel) engine on jet fuel, there is an AeroShell oil designed specifically to help lift your performance.

## GIVING YOU CONFIDENCE

A customer recently said, "An airplane is not a place you want to be testing new solutions, which is why we use AeroShell."

We understand your need to have confidence in your engine oil. Generations of pilots and engineers have trusted AeroShell in their aircraft. It is no surprise that AeroShell is one of the best selling PEO ranges. If you are looking for peace of mind, we recommend our high-quality AeroShell oils.



"YOU DO NOT EVEN GO TO THE OIL AS A POTENTIAL PROBLEM; YOU DO NOT EVEN THINK ABOUT IT BECAUSE IT IS AEROSHELL."

Dax Wanless, Crew Chief, Kevin Coleman Aerosports, and Co-owner of Tubreaux Aviation Maintenance

## REDUCING MAINTENANCE

Poor-quality oil may fail to protect your engine from wear and corrosion, and allow efficiency- and power-robbing sludge to form. The result could lead to frequent and costly maintenance.

AeroShell oils are designed to give your engine protection from wear, corrosion and deposits. For example, AeroShell Oil W 100 Plus had over one and a third times the load-carrying capacity of a competitor's multigrade oil in FZG scuffing load tests. That means it is better at keeping heavily loaded components apart and free from harmful metal-on-metal wear.

AeroShell can help to keep your aircraft out of the workshop and in the air for longer.



"WE TRUST AND USE [AEROSHELL] OILS BECAUSE SHELL HAS A LONG HISTORY OF SUPPLYING EXCELLENT QUALITY PRODUCTS AND SETTING STANDARDS. THAT IS WHY COLLECTORS OF AIRPLANES TRUST AEROSHELL."

Cyrille Valente, Amicale Jean-Baptiste Salis President

## BREAK-IN OIL\*

AeroShell Oil 65, 80, 100, 120

- High-quality straight mineral oil
- Aids engine break in
- Prevents cylinders glazing
- Clean burning

\*AeroShell oils are used primarily during the break in of many new or recently overhauled four-stroke aviation piston engines and in a few engines that require them for normal operations.

## ENGINE OILS

### SPARK-IGNITION ENGINES

AeroShell Oil W 15W-50

- Reduced maintenance costs
- Fast-acting protection
- Climatic versatility
- Fuel saving

Greater temperature range and advanced corrosion protection

AeroShell Oil W 80 Plus, W100 Plus

- Added wear protection
- Added corrosion protection
- Proven ashless additive technology

Enhanced wear and corrosion protection

AeroShell Oil W 80, W 100, W 120

- Improved performance
- Proven ashless additive technology

### DIESEL ENGINES

AeroShell Oil Diesel Ultra

- Promotes long engine life
- Reduced maintenance
- Developed with equipment manufacturers
- The only oil designed for diesel aero-engines burning jet fuel

### LIGHT SPORT 4-STROKE ENGINES

AeroShell Oil Sport Plus 4

- Aviation-quality oil
- Multigrade climatic versatility
- Developed with ROTAX



"MY GRANDFATHER USED AEROSHELL AND IT HAS A TRADITION OF EXCELLENCE THAT CANNOT BE MATCHED."

Skip Stewart, Award-Winning Air Show Pilot



"AEROSHELL OIL W 15-W50 IS A GREAT PRODUCT. MY ENGINE IS 200 HOURS OVER THE SUGGESTED TBO AND IS STILL GOING STRONGLY. WHEN WE LOOKED INSIDE, IT WAS ABSOLUTELY GORGEOUS."

Mitch Latting with Jolie Lucas, both Vice Presidents of the California Pilots' Association and Mooney Ambassadors

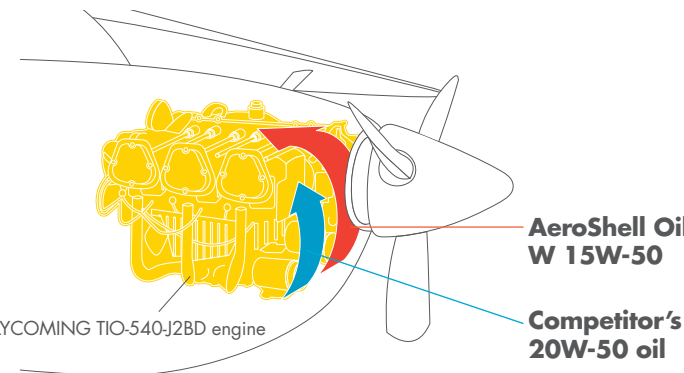
## MORE VALUE, MORE SAVINGS

Few pilots would risk excessive maintenance costs through using low-quality oil. The proven protection of AeroShell can help to reduce maintenance costs. But did you know that selecting the right product can also help to cut operating costs? For instance, in tests, AeroShell Oil W 15W-50 showed a measurable reduction in fuel consumption compared with single-grade oils. As a multigrade oil, it also helps to remove the cost of changing oil with the seasons. The bottom line is that AeroShell is great value.

## START-UP PROTECTION

Most wear occurs on engine start-up, so getting rapid low-temperature flow is critical.

At 0°C ambient temperature, AeroShell Oil W 15W-50 reaches full pressure in the front oil gallery more than **25 seconds quicker** than a competitor's 20W-50 oil.



"WHEN YOU FLY AS CLOSE AS WE DO, YOU MUST RELY ON NOTHING BUT THE BEST. AEROSHELL LUBRICANTS ARE THE ONLY LUBRICANTS I TRUST!"

Mark Henley, AeroShell Aerobatic Team Founder

