

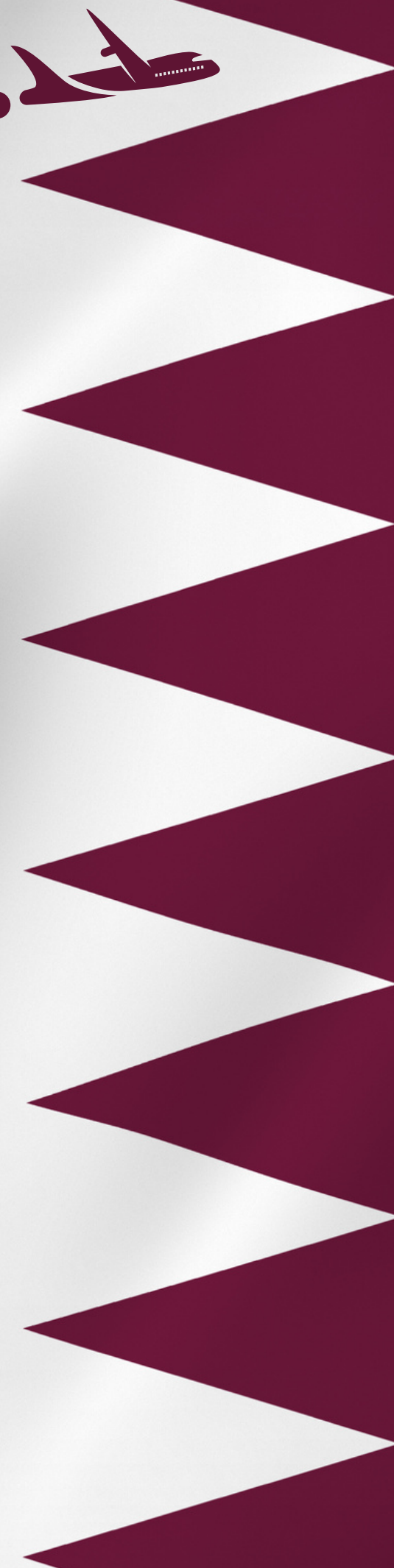


# TCTEK PROFESSIONAL LIQUID & GREASE

QATAR AIRWAYS  
& TCTEK PROFESSIONAL  
PRESENTATION







# AVIATION INDUSTRY

WHAT IS TCTEK PROFESSIONAL LIQUID

WHERE IS TCTEK PROFESSIONAL LIQUID USED

HOW DOES TCTEK PROFESSIONAL LIQUID WORK

WHAT IS IN TCTEK PROFESSIONAL LIQUID

TCTEK PROFESSIONAL PRODUCTS AND  
TEMPARTURES



# WHAT IS TCTEK PROFESSIONAL LIQUID?

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TCTEK® Professional liquid is a clear golden color similar to an SAE 10 weight oil. It is a synthetic liquid. TCTEK® Professional liquid if added to any machine's primary lubricant it will increase operating efficiency, extend equipment life, reduce downtime and unplanned maintenance.

Although TCTEK® Professional liquid is added to the oil, fuel, hydraulic or any other liquids it is not an additive.

TCTEK® Professional liquid does not contain viscosity-increasing or other fluid-enhancing compounds. It does not change the lubricant in any way. Instead, TCTEK® Professional liquid is a metal shielding fluid. TCTEK® Professional liquid is critical inside the machine.

Simply removes circulating oil to reach hot spots and metallic friction surfaces. It uses as a tool. Once the oil carries TCTEK Professional liquid to these areas, the TCTEK® Professional liquid separates itself out of the fluid and leaves the fluid completely unaffected and unchanged.

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## WHERE IS TCTEK PROFESSIONAL LIQUID USED?

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TCTEK ® Professional liquid can be used on all kinds of machines. Typical areas of use is two- and four- stroke diesel and gasoline engines of all sizes between; automotive and industrial transmissions and differentials; all types of compressors, including refrigeration; assembly line speed reduction gears; electric motors; pumps; etc. It is also the most difficult lathe and it is an excellent liquid for mill work. From nuclear-powered submarines to dental drills, rock breakers to bicycles, from air conditioners to sewing machines, TCTEK® Professional liquid is literally works where ever two metal meets each other.

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## HOW DOES TCTEK PROFESSIONAL LIQUID WORK?

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When TCTEK® Professional liquid is applied to a metal surface, the metal and chemical reacts and is absorbed by the metal. Chemical reaction friction and load at temperatures between 100°F and 150°F (38°C – 66°C), depending on the conditions takes place.

The effect of the chemical reaction is that the metal surface hardens (does not change) -when the reaction is completed, it is about seventeen times harder.

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# WHAT IS IN TCTEK PROFESSIONAL LIQUID?

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TCTEK® Professional formula is a chemically reacting synthetic-based liquid. It is a hydrocarbon derivative. At the beginning of the production process, TCTEK® professional liquid is used for various extreme pressure lubricants, natural anti-corrosion components, highly stable chlorinated esters. It consists of a mixture of anti-wear components and antioxidant compounds. The mixture is then introduced into a chemical reactor. TCTEK® Professional liquid proprietary chemical reaction when it comes out of our process, it is no longer a mixture. It is organically unique and pure, it is uniformly bound to a single substance. In its finished form, TCTEK® Professional liquid is fully stable. It's therefore does not require shaking before use. Knowing what is in TCTEK® is just as important as knowing what is not.

TCTEK® Professional liquid does not contain chlorinated paraffin, PTFE, fluorine, solvents, carrier oils, viscosity enhancers, metals, molybdenum, disulfide, sulfur, graphite powders or other solids. TCTEK Professional liquid is not dangerous, flammable, toxic or harmful.

**IT IS %100 ECO FRIENDLY.**

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# TCTEK PROFESSIONAL PRODUCTS AND TEMPERATURES

TCTEK PROFESSIONAL  
LIQUID: -43°C +399°C  
(DOES NOT LIT)



NON EXPLOSIVE

TCTEK PROFESSIONAL 3  
GREASE: -30°C +150°C  
LITHIUM PLASTIC LUBRICANT  
FOR BEARINGS



NON  
FLAMMABLE



NON EXPLOSIVE



TCTEK PROFESSIONAL 6  
GREASE: -30°C +150°C  
LITHIUM PLASTIC LUBRICANT  
WITH MoS<sub>2</sub>



NON  
FLAMMABLE



NON EXPLOSIVE



TCTEK PROFESSIONAL 11  
GREASE: -30°C +150°C  
LITHIUM PLASTIC LUBRICANT  
FOR CENTRAL LUBRICATION



NON  
FLAMMABLE



NON EXPLOSIVE







HIGH-TECH  
MILITARY  
NANO  
TECHNOLOGY



# TCTEK PROFESSIONAL PRODUCTS AND TEMPERATURES

TCTEK PROFESSIONAL 16  
GREASE: -50°C+150°C  
(SHORT TERM +160°C)  
LUBRICANT FOR HIGH SPEED  
ELECTRIC MOTOR BEARINGS



NON  
FLAMMABLE



NON EXPLOSIVE



TCTEK PROFESSIONAL 16 ULTRA  
GREASE: -40°C +180°C  
(SHORT TERM +220°C)  
LUBRICANT FOR HIGH SPEED ELECTRIC  
MOTOR BEARINGS



NON  
FLAMMABLE



NON EXPLOSIVE











## AUXILIARY POWER UNIT

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### REASONS TO TRUST TC TEK PROFESSIONAL LIQUID:

- To ensure optimal engine performance and to avoid unscheduled early engine breakdown for operators in use.
  - It offers exceptional elastomer compatibility, resulting in delays, cancellations and costs. It helps to minimize oil leaks that can cause future unexpected repairs.
  - Optimum wear protection, oxidative and thermal stability and excellent sediment control by providing operators to reduce unplanned maintenance and maximize revenue-generating hours, it helps to level it up.
  - Excellent for extreme temperatures down to  $-43^{\circ}\text{C}$  at low temperatures offers fluidity.
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# 1

## AUXILIARY POWER UNIT

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TCTEK PROFESSIONAL LIQUID has over 40+ years of extensive research and development it has been through the process and is one of the most tested oils on the market. Where and subjected to rigorous in-flight testing and exceptional performance in HTS/HPC oils Metaltec-1 (TCTEK), which is ready to provide, has made a name for itself in the aviation industry designed by companies with custom-made molecules. Proactive to respond to the evolving needs of our customers and the industry developed as TCTEK PROFESSIONAL LIQUID, it is the most useful ever developed and the liquid is environmentally friendly turbine oil. Specially designed to provide unmatched engine performance it has been formulated and the appropriate value for engines and components is engine performance and it provides the perfect balance by providing advanced protection. Outstanding elastomer compatibility, excellent thermal and oxidative stabilizing and advanced sediment control it has its own characteristics. TCTEK PROFESSIONAL FLUID for use in a range of engine models and components have been approved.

BEARINGS

GENERATORS

GEAR BOX

STARTER BOX



# 2

## FUEL SYSTEM

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Jet A and Jet A-1 are kerosene type fuels. Jet A, which is mainly used in the United States, is a  $-40^{\circ}\text{C}$  or below it must have a freezing point and is typically free of static dispersing additives. For United States The freezing point of the Jet A-1 must be  $-47^{\circ}\text{C}$  or below, and for places other than this fuel normally contains a static dispersing additive. Production specifications in the United States, Europe / Africa / Middle East and Australia. There are also other important differences between temperatures.

TCTEK PROFESSIONAL LIQUID meets the requirements of the Standard Specification of Jet A and Jet A-1, ASTM D1655 Aviation Turbine on their fuel. Jet A-1 is also U.K. DEF STAN 91-091 and JIG (Joint Control Group) for Jointly Operated Systems. It is open for compatibility testing with Aviation Fuel Requirements (Checklist). Jet A-1, Rid. Stan. 91-091, with a lower maximum limit for acidity and temperature for conductivity that is in need. In any case, the relevant specifications for the supplied product is relevant.

PUMPS

VALVES

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## HYDRAULIC SYSTEMS

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Quality hydraulic fluids designed for use in commercial aircraft, today's they are the hydraulic fluids that should be preferred for most of the mixed fleet airlines.

TCTEK PROFESSIONAL LIQUID, offering performance characteristics at levels close to fire durable phosphate ester is superior when used in combination with aviation hydraulic fluids, it shows performance on high-quality hydraulic fluids, while offering exceptional rust and sediment control.

As a result of its use even with the lowest density hydraulic fluids available on the market today, it can help airlines save money.

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## HYDRAULIC SYSTEMS

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### REASONS TO TRUST TCTEK PROFESSIONAL LIQUID:

- TCTEK PROFESSIONAL LIQUID has a long shelf life. In the areas where it is used it prolongs their life. The expiration date is unlimited.
- To reduce fuel consumption and costs with its low density formulation assists.
- With its exceptional protection against wear, corrosion, erosion and sediment control, the component it helps to maximize the service life and reduce maintenance costs.
- Exceeding the Class A flashpoint characteristics in aircraft such as Airbus and Boeing, a high level of safety and confidence in operators with its exceptional resistance to flammability.
- It maintains superior performance, stability and viscosity at a wide range of temperatures.





## HYDRAULIC SYSTEMS

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### REASONS TO TRUST TCTEK PROFESSIONAL LIQUID:

- Potential in fuel consumption and costs with its low density formulation saves money.
- Excellent high temperature stability and low temperature stability for long fluid and component life temperature viscosity.
- Excellent deposit control and outstanding protection against wear, rust and corrosion enabling airlines to reduce repair costs and maximize the life of materials.
- Environmentally friendly, non-flammable, PTFE Free, Chemical are not included.
- It is 100% Synthetic liquid. It is not a mixing agent.
- With all approved hydraulic fluids, elastomers and other hydraulic system materials TCTEK PROFESSIONAL LIQUID is compatible with the life of hydraulic systems of mixed fleets. It is a fire resistant formula that can help prolong the life.

MOTORIZED PUMPS  
ACTUARIES

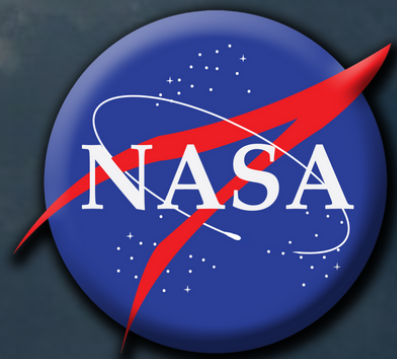
SERVOS  
RAM AIR HYDRAULIC PUMP



## 4

## LANDING GEAR

TCTEK PROFESSIONAL Fluids and Greases to provide exceptional performance and collaborating with key OEMs for many years to improve the reliability of materials and developed by NASA. Wear, rust, corrosion and high like Bridgestone today, as it helps protect against temperature degradation. approved by many wheel manufacturers; Excellent resistance to oxidation and remains stable under adverse weather and other water exposure conditions.



NON FLAMMABLE



NON EXPLOSIVE



# 4

## LANDING GEAR

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### WHY SHOULD WE TRUST TCTEK PROFESSIONAL LIQUIDS AND GREASES IN AVIATION? BECAUSE IT IS SPECIFICALLY FORMULATED AS FOLLOWS:

- It provides years of shelf life to help maximize inventory value not only in airlines but also in many industrial areas.
- On wheels with special lithium complex polyalphaolefin (PAO) synthetic grease formulation it offers maximum protection and part life in its bearings.
- In extreme working environments or when exposed to adverse weather conditions provides resistance to distortion.
- Protects low torque, proper value preservation and performance at high operating temperatures.
- Provides performance on exceptional wide range of extreme temperatures hot, cold, high and low.



# 4

## LANDING GEAR

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Being a reliable product for more than 40 years, it is the choice of leading brands. TCTEK PROFESSIONAL LIQUIDS and Greases, a synthetic product offered by TCTEK, has been around for more than 40 years and has been trusted for a while.

The so-called competitor of a similar type TCTEK PROFESSIONAL products offers a much longer service life with a long annual shelf life than so-called competitors.

TCTEK PROFESSIONAL LIQUID and Grease types are the many aircraft operator's prefer around the world due to polyalphaolefin (PAO), clay-based multi-purpose airframe and on it's wheel bearings, flat and roller bearings at low to high speeds and high required friction reduction, low wear and low lubricant friction losses for lubricating wedges, screws, worm gears and other mechanisms where it is designed.

Performance requirements of key military and commercial aerospace specifications provides greater flexibility and potential inventory consolidation offers benefits to operators.

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# 4

## LANDING GEAR

### WHY SHOULD WE TRUST TCTEK PROFESSIONAL LIQUID AND GREASES IN AVIATION SYSTEM? BECAUSE IT IS SPECIALLY FORMULATED:

- It helps airlines maximize inventory value with a long annual shelf life
- It provides exceptional protection against rust and corrosion on materials.
- Optimum load and weight-bearing performance even under extremely heavy load applications
- It resists degradation in the material's highest extreme cold and temperatures and it helps in performance.

### Common Professional Fluid and Grease point applications:

- Gears
- Actuaries
- Jack screws
- Helicopter rotor bearings
- General body (wedges, slats, stabilizers, lifts)
- Landing gear assemblies
- Flight controls
- Aircraft wheel bearings







## MAIN ENGINE

### REASONS TO TRUST TCTEK PROFESSIONAL PRODUCTS:

- To ensure optimum engine performance and enable operators to unscheduled/early engine service.
- Delivering exceptional elastomer compatibility, avoiding delays, cancellations and helps minimize oil leaks that could cause repairs.
- Optimal wear protection, oxidative and thermal stability and excellent sediment. Operators can reduce unplanned maintenance by providing control and help maximize revenue hours.
- It offers excellent, low-temperature fluidity at extreme temperatures as low as  $-43^{\circ}\text{C}$  degrees.
- TCTEK PROFESSIONAL is one of the most tested fluids on the market, on the ground and rigorously tested in flights and outstanding performance in HTS/HPC oils. It was designed with custom-made molecules to provide productivity results.





## MAIN ENGINE

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- Proactive to respond to the evolving needs of our customers and the industry developed as TCTEK PROFESSIONAL products, the most developed so far advanced turbine formulas. Specially designed to provide unmatched engine performance. It has been formulated and provides optimal engine performance for engines and components and it provides the perfect balance by providing advanced protection.
- Outstanding elastomer compatibility, excellent thermal and oxidative stability and It has advanced sediment control features, TCTEK PROFESSIONAL LIQUID and GREASES are approved for use on many engine models and components.

BEARINGS

OIL SUPPLY LINES

ACCESSORY GEARBOX (AGB)

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TCTEK (with our brand in Europe) has been working for many years with Star Alliance and DELTA Airlines joint cooperation with aircraft companies whose naming rights are confidential.





**QATAR**  
AIRWAYS القطرية





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HIGH-TECH  
MILITARY  
NANO  
TECHNOLOGY



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