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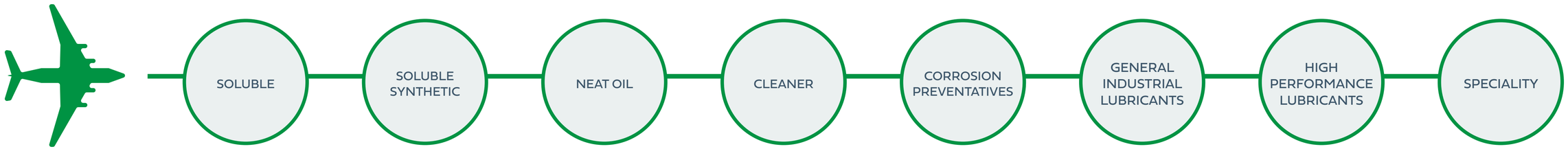
Product Portfolio



PRODUCT TYPE SOLUBLE

PRODUCT	DESCRIPTION	APPROVAL*
Almaredge 11 FF	• A high performance semi synthetic metalworking fluid, which is chlorine and formaldehyde releasing agent free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines	**Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00 B PR6300A
Almaredge 51 FF	• High performance soluble metalworking fluid which is chlorine and formaldehyde releasing agent free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. •Suitable for large central systems and single sump machines	**Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00 B PR6300A
Alusol ABF 10	• High performance semi synthetic metalworking fluid which is boron, amine, chlorine and formaldehyde releasing agent free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines	**Airbus:** AIPS 00-00-010 **Bombardier:** BAMS 569-001 Class A
Alusol MF-X	• High performance soluble chlorine free metalworking fluid. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines.	**MTU Aero Engines GmbH:** MTH979
Alusol SL 51 XBB	• High performance soluble metalworking fluid formulated without boron and formaldehyde releasing agents. • It contains an additive package that may help to enhance machining performance and surface finish. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	**Safran Aircraft Engines (Ex SNECMA):** PR 6300A **GE West Jefferson**
Alusol SL 61 XBB	• High performance semi-synthetic metalworking fluid formulated without boron, biocides, formaldehyde releasing agents and chlorine. • It contains an additive package that may help to enhance machining performance and surface finish. • It also provides excellent product stability which helps to lower overall operating costs. • Suitable for large central systems and single sump machines.	**Pratt & Whitney Aircraft :** PMC 9308 Rev. C **Rolls Royce:** Category 1 Approval CSS 127 / 129 /131 (Additi on to MLC104) **GE Rutland:** RUT-2429 **GE Lynn:** LYNN-6046 **Safran Aircraft Engines (Ex SNECMA):** PR 6300A

PRODUCT TYPE SOLUBLE

PRODUCT	DESCRIPTION	APPROVAL*
Hysol 6519	• High performance semi-synthetic metalworking fluid which is chlorine and formaldehyde releasing agent free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines.	**Bombardier:** BAMS 569-001 Class A, C, D
Hysol 6754	• High performance soluble metalworking fluid which is formaldehyde releasing agent, boron and chlorine free. • It contains an additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines	**Bombardier:** BAMS 569-001 Class A, C
Hysol ABF 12	• High performance soluble metalworking fluid which is boron, amine, chlorine and formaldehyde releasing agent free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio resistance properties and lower the overall operations costs. • Suitable for large central systems, single sump machines and magnesium machining.	**Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00-B PR 6300A
Hysol MB 50	• High performance soluble metalworking fluid formulated without formaldehyde releasing agents. • It contains an additive package that may help to enhance machining performance and surface finish. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	**Airbus:** AIPS 00-00-010 **Pratt & Whitney Aircraft:** PMC 9285 **GE Aviation** **GE West Jefferson** **GE Ashville** **GE Cincinnati** **GE Castle Hayne** **GE Loves Park** **GE Rutland:** RUT-1996 **GE Lynn:** LYNN-5409 Lynn SDS-5409, Wil SDS-901 **Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00-B PR 6300A
Hysol SL 35 XBB	• High performance semi-synthetic metalworking fluid formulated without boron and formaldehyde releasing agents. • It contains an additive package that provides excellent corrosion protection to machine tools and parts. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	**Safran Aircraft Engines (Ex SNECMA):** PR 6300A

PRODUCT TYPE SOLUBLE

PRODUCT	DESCRIPTION	APPROVAL*
Hysol SL 36 XBB	• High performance semi synthetic metalworking fluid formulated without boron and formaldehyde releasing agents. • It contains an additive package that may help to enhance machining performance and surface finish, provide excellent product stability and lower the overall operations costs • Suitable for large central systems and single sump machines	Safran Aircraft Engines (Ex SNECMA): PR 6300A
Hysol SL 37 XBB	• High performance semi synthetic metalworking fluid which is biocide, boron and chlorine free. • It contains an additive package that can help to enhance machining performance and surface finish. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	Rolls Royce: Class A approval 2023-DRBY-002379 Safran Aircraft Engines (Ex SNECMA): PR 6300A
Hysol SL 45 XBB	• High performance soluble metalworking fluid formulated without boron and formaldehyde releasing agents. • It contains an additive package that may help to enhance machining performance and surface finish. • It also provides good product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	Airbus: AIMS 12-10-001 (technical specification) AIPS 00-00-010 (material specification) Approval 80-T-30-4010 Boeing: BAC5008 Bombardier: BAMS 569-001 Class A, C, D Commercial Aircraft Corporation of China, Ltd. (COMAC): PCD GSC-TC-SF2021/1 Safran Aircraft Engines (Ex SNECMA): PR 6300A
Hysol SL 50 XBB	• High performance soluble metalworking fluid formulated without boron and biocides. • It contains an additive package that may help to enhance machining performance and surface finish. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	Safran Aircraft Engines (Ex SNECMA): PR 6300A Airbus: waiting for approval number
Hysol T 15 CSS 127 Type A	• High performance semi-synthetic metalworking fluid formulated without formaldehyde releasing agents. • It contains an additive package that provides good corrosion protection to machine tools and parts. • It also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	Rolls Royce: CSS127 GB.9, GB.56, AM.201, AP.12, AP.13, EA.157, AP.50, AM.358
Hysol X	• High performance soluble metalworking fluid which is chlorine free. • It contains a unique additive package that works in synergy to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines.	Boeing: BAC 5008 Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A

PRODUCT TYPE SOLUBLE

PRODUCT	DESCRIPTION	APPROVAL*
Hysol XB	• High performance semi-synthetic metalworking fluid which is formaldehyde releasing agent and chlorine free. • It contains an additive package that helps to enhance machining performance and surface finish, provide excellent product stability, improve system life and lower the overall operations costs. • Suitable for large central systems and single sump machines.	Airbus: AIPS 00-00-010 EADS ASN 42302 Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A
Hysol XF	• High performance chlorine free semi-synthetic metalworking fluid formulated without formaldehyde releasing agents. • It contains an additive package that helps to enhance machining performance and surface finish, provide excellent product stability, improve bio-resistance properties and lower the overall operations costs. • Suitable for large central systems and single sump machines	Airbus: AIPS 00-00-010 Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A Rolls Royce: CSS 129 & 131 Type A GB.56

PRODUCT TYPE SOLUBLE SYNTHETIC

PRODUCT	DESCRIPTION	APPROVAL*
Syntilo 34	• Mineral oil, boron and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides good product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	MTU Aero Engines GmbH: MTH841
Syntilo 75 EF	• Mineral oil free, boron free synthetic coolant developed as a general purpose grinding and light to medium duty machining fluid for ferrous metals. • It is machine friendly showing excellent compatibility to paint, elastomer and machine tool. • It exhibits good anti-corrosion properties coupled with a high resistance to bacterial attack. • It can be used in both single sump machines as well as central systems.	Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A
Syntilo 9954	• Mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	MTU Aero Engines GmbH: MTH1125
Syntilo 22	• Mineral oil free synthetic coolant especially developed for grinding application on ferrous metals, glass and ceramics. • It forms a clear, stable solution in both hard and soft waters. • It exhibits good anti-corrosion properties coupled with long system life. • It can be used in both single sump machines as well as central systems.	Bombardier: BAMS 569-001
Syntilo 81 E	• Mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines.	Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A
Syntilo 9818	• pH-neutral, mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs.	Boeing: BAC 5008

PRODUCT TYPE SOLUBLE SYNTHETIC

PRODUCT	DESCRIPTION	APPROVAL*
Syntilo 9828	• Water soluble, synthetic cutting and grinding fluid engineered for performance on today's aerospace alumi-num alloys and composite fiber material	Boeing: BAC 5578 Bombardier: BAMS 569-001 Commercial Aircraft Corporation of China, Ltd. (COMAC): PCD ZB2019/2019-A
Syntilo 9913	• pH-neutral synthetic cutting and grinding metalworking fluid formulated without mineral oil, boron and formaldehyde releasing agents. • Syntilo 9913 is has been developed for heavy duty machining of aluminum and other aerospace alloys. • It also provides excellent product stability which helps to lower the overall operational costs.	Airbus: AIPS 00-00-010 Boeing: BAC 5008 BAC 5578 Bombardier: BAMS 569-001 Class A, C, D Commercial Aircraft Corporation of China, Ltd. (COMAC): PCD GSC-TC-SF2021/1 Pratt & Whitney Aircraft: PMC 9398 GE Rutland: RUT-1626 GE Bromont GE Lynn: LYNN-6272 Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A
Syntilo 9918	• pH-neutral, mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs.	Pratt & Whitney Aircraft: PMC 9152 GE Asheville Safran Aircraft Engines (Ex SNECMA): 455-201-0-00-B PR 6300A
Syntilo 9923	• Mineral oil free synthetic coolant especially developed heavy duty machining of aluminium alloys and other aerospace alloys. • It forms a clear, stable solution in both hard and soft waters. • It contains a combination of surfactant chemistry that provides superior lubrication and excellent cooling properties. • It can be used in both single sump machines as well as central systems.	Airbus: AIPS 00-00-010 Bombadier: BAMS 569-001 Class A, C, D
Syntilo 9930	• Mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	Pratt & Whitney Aircraft: 008341 ,Same as product name GE Rutland: RUT-1765 GE Cincinnati GE Durham GE Lafayette

PRODUCT TYPE SOLUBLE SYNTHETIC

PRODUCT	DESCRIPTION	APPROVAL*
Syntilo 9954	• Mineral oil and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. • Syntilo 9954 is suitable for large central systems and single sump machines	**GE Aircraft:** MSDS No.52265 **GE Rutland:** RUT-1165 **GE Castle Hayne** **GE Lynn:** LYNN-634 **Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00-B PR 6300A
Syntilo CR 68	• Mineral oil and formaldehyde releasing agent free synthetic metalworking fluid formulated especially for the grinding of cemented tungsten carbide. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. Suitable for large central systems and single sump machines	**GE Lynn:** LYNN-5513
Syntilo 9974 BF	• Mineral oil, boron and formaldehyde releasing agent free synthetic coolant. • It contains an additive package that provides good corrosion protection to machine tools and parts. • The fluid also provides excellent product stability which helps to lower the overall operational costs. • Suitable for large central systems and single sump machines	**Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00-B PR 6300A Airbus: waiting for approval number

PRODUCT TYPE NEAT OIL

PRODUCT	DESCRIPTION	APPROVAL*
Carecut ES 2	• Chlorine and heavy metal free neat cutting oil based on advanced biodegradable ester technology. It is especially formulated with a unique combination of sulphur and phosphorus based anti-wear additives to optimise machining performance, enhance surface finish and lower the overall operating costs. • It can be used in single sump machines and large central systems.	**Safran Aircraft Engines (Ex SNECMA):** PR6300A
Honilo 971 M	• Chlorine- and zinc- free neat grinding oil	**MTU Aero Engines GmbH:** MTH788
Honilo 981	• Chorine free low viscosity neat cutting oil, which is sulphur and heavy metal free	**Safran Aircraft Engines (Ex SNECMA):** PR6300A
Ilocut 534	• Medium viscosity, chlorinated, high performance neat cutting oil	**Pratt & Whitney Aircraft:** PMC 9270
Ilocut 5770	• High viscosity dual purpose neat cutting oil which is chlorine and heavy metal free. It is especially formulated with a unique combination of sulfur based EP additives and boundary lubricants to optimize machining performance, enhance surface finish, and lower the overall operating costs. • It can be used in single sump machines and large central systems.	**GE Aircraft** **GE Hookset** **GE West Jefferson** **GE Cincinnati** **GE Castle Hayne** **GE Rutland:** RUT-1336 **GE Lynn:** LYNN-5081 **Safran Aircraft Engines (Ex SNECMA):** PR6300A
ILOCUT EDM 200	• Low viscosity mineral oil based high performance electric discharge machining (EDM) fluid, designed to enable optimum rates of metal removal, together with low electrode wear, good surface finish and fine tolerances. • It is especially formulated to provide exceptional performance in all spark-erosion applications	**Rolls Royce:** CSS142 GB.9, GB.316, AM.248
Iloform TDN 81	• High viscosity, chlorinated, heavy duty forming fluid. It is a blend of high performance extreme pressure and lubricity additives in a fully solvent refined paraffinic mineral oil	**GE Aircraft:** MSDS No.64555

PRODUCT TYPE NEAT OIL

PRODUCT	DESCRIPTION	APPROVAL*
Variocut B 27	• Chlorine and heavy-metal free neat cutting oil	**Pratt & Whitney Aircraft:** PMC 9290
Variocut B 30	• Chlorine free neat cutting oil	**Safran Aircraft Engines (Ex SNECMA):** PR6300A
Variocut B 46 TC	• Neat cutting oil formluated without chlorinated paraffins and zinc additives	**Airbus:** AIPS 00-00-010 **Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00 B PR6300A
Variocut B 9	• Chlorine and heavy-metal free neat cutting oil, which is based on synthetic ester and mineral oil technology	**MTU Aero Engines GmbH:** MTH 522 **Safran Aircraft Engines (Ex SNECMA):** 455-201-0-00 B PR6300A **Rolls Royce:** CSS 141 Type B GB.584
Variocut G 600 HC	• Chlorine and heavy-metal free neat cutting oil based on the latest generation of Extreme High Viscosity Index (EHVI) hydrocracked base oils. • Well suited for high speed CBN grinding of aerospace alloys.	**Bombardier:** BAMS 569-001 Class A **Pratt & Whitney Aircraft:** PMC 9278 **Safran Aircraft Engines (Ex SNECMA):** PR 6300A **GE Rutland** RUT-1887 **GE Asheville** **Pratt & Whitney Aircraft:** PMC 9278 Rev. J
Variocut D 249	• Heavy duty chlorine and heavy metal free neat cutting oil specially formulated with a unique combination of extreme pressure additives, lubricity additives and base oil to optimize machining performance, improve tool life and enhance surface finish in severe machining applications. • Its high level of additization ensures a similar finish and tool life as that of a chlorinated product. • Variocut D 249 is suitable for use in central systems as well as individual machines Advantages: • Advanced additive technology and EP additives give high lubricity properties and lower production costs through extended tool life • Extremely high anti-weld properties prevent burnishing or tearing wall finish; frequently eliminates need for further finishing • Low viscosity and excellent wetting characteristics reduce drag out and result in lower product usage • Good filtering characteristics and high oxidation stability increase product lifetime • Our chlorine and heavy metal free formulation improves the environmental profile and reduces disposal costs	**GE Rutland:** RUT-2175 **GE Lynn:** LYNN-5678

PRODUCT TYPE NEAT OIL

PRODUCT	DESCRIPTION	APPROVAL*
Variocut G 500	• Chlorine and heavy-metal free neat cutting oil Advantages: • Low foam characteristics, even at high pressures and flow rates, leads to increased production rates. • Superior additive technology can lead to extremely high cutting and grinding efficiencies, increased tool life, improved surface finish, and lower overall operating costs. • Multi-metal machining using our superior additive technology provides opportunity for product consolidation. • Low odour, high flashpoint, low mist and light colour result in high operator acceptability. • Our chlorine and heavy-metal free formulation improves the environmental profile and reduces disposal cost	**GE Lynn:** LYNN-3807
Variocut G 572	• Heavy duty oil which can be used in all types of grinding applications where high surface finish is important. • This product contains a very high additive package which will provide exceptional boundary lubrication in the most difficult operations. • Can be used in all types of thread, tap, gear and form grinding where requirements are extremely critical Advantages: • Uniquely compounded to give increased lubrication and surface wetting • Provides minimal heat generation resulting in reduced discoloration and problems with heat checks • Provides excellent wheel support, thus maintaining wheel form and final work piece finish and accuracy • Recommended for use with cubic boron nitride grinding wheels • Superior performance regardless of type of thread or form grinder	**GE Rutland:** RUT-2281
Variocut G 600	• Chlorine free neat cutting oil. • Designed for high speed, creep feed, especially gear grinding of ferrous metals with CBN and carborundum wheels	**GE Lynn:** LYNN-1279
Variocut C Moly Dee	• High performance tapping fluid that can improve threading accuracy, extend tool life, improve surface finishes and increase production. • Suggested for use on most metals, including aluminum, titanium and steel. • It is especially effective on difficult-to-machine metals such as stainless steel and aerospace alloys Advantages: • Outstanding thermal and chemical stability means improved threading performance. This resistance to breakdown allows adherence to closer tolerances and provides smoother, more accurate threads • The molybdenum disulfide withstands pressures up to 400,000 psi, which is beyond the yield point of any known metal. This reduces metal-to-metal contact and results in longer tool life • Contains selected extreme pressure additives, including sulfur and MoS2 that promote optimum metal cutting performance and improved surface finishes. • The synergistic combination of friction reducing lubricants and chemical activity can help to permit faster speeds and increase production	**GE Rutland:** RUT-2358
Performance Bio NC Plus	• Chlorine free, multi-metal compatible, high performance neat cutting oil, which is based on plant oil technology. • Designed for gear manufacturing and general cutting operations of ferrous and nonferrous metals. • Performance Bio NC Plus may also be used in selected Minimum Quantity Lubrication (MQL) and light duty forming operations. • Customer feedback in the USA has highlighted low misting characteristics, robust oxidation stability and excellent cooling properties, which can help increase productivity.	**GE Lynn:** LYNN-5837

PRODUCT TYPE CLEANER

PRODUCT	DESCRIPTION	APPROVAL*
Careclean AS 1	• A fast drying, low odour, isoparaffin based solvent cleaner. • It has excellent solvency power and is compatible with all metal substrates and most non-metal substrates	**Airbus:** PSA: Z000151179 **Airbus:** ASN42202
Techniclean 2000	• Economical, mild pH floor cleaner for removing moderate to heavy duty soils. • Lean concentrations of this product will effectively remove lighter soils. • You can save money by using less concentrate and reducing cleaning fluid purchases. The mild pH of Techniclean 2000 makes it particularly operator friendly. Advantages include: • Versatile cleaning fluid that can be used for scrubbing floors and general maintenance cleaning • Fast-drying, no-slip finish prevents sticking when used in floor scrubbing equipment and manual operations • Ambient temperature operation saves energy and energy dollars	**GE Rutland:** RUT-1621 **GE Lynn:** LYNN-5568
Techniclean S 5001	• Designed for use in all types of industrial spray washing equipment, including intensive flood washers. • Formulated to provide iron corrosion inhibition and a low foaming profile. • Effectively removes a variety of soils such as: adhesive compounds, crankcase, light gear oils, grinding oils, heat treat oils, heavy forming oils, heavy viscosity oils, hydraulic oils, lapping compounds, light forming oils, lubricating greases, lubricating oils, medium viscosity cutting oils, polishing compounds, pressing compounds, thick soft-film rust preventives and thin soft-film rust preventives. Advantages: • Low foam eliminates foam-outs in spray washers and enhances performance in transfer lines • Slight, imperceptible film residue provides in-process corrosion protection • Moderate pH reduces the possibility of skin irritations	**GE Rutland:** RUT-1965 **GE Lynn:** LYNN-5570
Techniclean 3602	• Neutral pH, high pressure process spray cleaner containing biodegradable surfactants and corrosion inhibitors. • It is formulated without nitrates and silicates. Advantages: • Short term in-process corrosion protection to limit rework made necessary by rust • Splits oils, rather than emulsifying them, to provide easy skimming and long bath life • Low foam for initial cold water start-ups • Ambient temperature operation saves energy which reduces cleaning cost	**GE Rutland:** RUT-2157
Techniclean MP Flex	• Heavy duty alkaline cleaner that effectively breaks loose hardened deposits of chips and swarf, and readily removes oily residues, gummy deposits, grit and dirt from interior and exterior machine surfaces. • Particularly well suited for coolant system cleanouts, yet it can be used in immersion, general maintenance and spray wash applications. Advantages: • Splits oils, rather than emulsify them, to provide easy skimming and long bath life. • Provides short-term corrosion protection of metal surfaces between cleanout and recharge. • Low foaming to preclude pump cavitation. • Produces a fast-drying, non-tacky residue to prevent sticking when used in floor scrubbing equipment and manual operations. • Holds USDA C1 status as a cleaner for use in inedible product processing areas, non-processing areas, and/or exterior areas of official establishments operating under the Federal meat, poultry, shell egg grading and egg products inspection programs	**GE Lynn:** LYNN-5690 **GE Bromont** **GE West Jefferson** **GE Cinncinnati** **GE Castle Hayne** **GE Durham**

PRODUCT TYPE CLEANER

PRODUCT	DESCRIPTION	APPROVAL*
Techniclean 45 XBC	• Aqueous, mild alkaline industrial process cleaner, containing highly effective corrosion inhibitors providing excellent temporary corrosion protection. The product is formulated without boron and formaldehyde releasing agents. • It is capable of providing several weeks temporary indoor corrosion protection on steel and cast iron metals, depending on storage conditions. • Effectively removes soluble and light neat cutting oils, lubrication oils, particles and general dirt.	**Safran Aircraft Engines:** waiting for approval number
Techniclean 80 XBC	• An aqueous, low alkalinity, industrial process cleaner containing surfactants and corrosion inhibitors. • The product is formulated without boron and formaldehyde releasing agents	**Rolls Royce:** CSS204 GB.56 approval (Addition to MLC104) Type A & Type B **Safran Aircraft Engines:** waiting for approval number
Techniclean 90 XBC	• An aqueous, low alkalinity, industrial process cleaner containing surfactants and corrosion inhibitors. • The product is formulated without boron and formaldehyde releasing agents	**Rolls Royce:** CSS204 GB.56 approval (Addition to MLC104) Type A & Type B
Techniclean OX 1	• A powerful oxygenated solvent cleaner that demonstrates good biodegradability. • Its environmentally responsible formulation has no ozone depletion potential and does not support the greenhouse warming effect	**Airbus:** ASN42202

PRODUCT TYPE CORROSION PREVENTATIVES

PRODUCT	DESCRIPTION	APPROVAL*
Rustillo DW 4130	• Soft film solvent deposited temporary corrosion preventive and dewatering fluid formulated to give excellent long-term indoor protection.	**Safran Aircraft Engines (Ex SNECMA):** PR6300A
Rustilo DWX 30	• A powerful solvent deposited corrosion preventive with good dewatering properties. • The product, after evaporation of the solvent, leaves an ultra-thin greasy protective film	**Rolls Royce:** CCS 122 GB.9, GB.56, AM.201, AP.12, AP.13, EA.157, AP.50, AM.358, EA.180 **Safran Aircraft Engines (Ex SNECMA):** PR6300A
Rustilo DW 180 HF	• A high quality corrosion preventive with dewatering properties, specifically formulated based on a low volatile solvent in order to comply with the today's VOC legislation. • The solvent, after evaporation, leaves a thin oily to greasy protective film.	**Rolls Royce:** CSS122 EA.180
Rustilo DW 210 X	A high quality solvent deposited corrosion preventive with excellent dewatering properties. The solvent, after evaporation, leaves an oily protective film.	**MTU Aero Engines GmbH:** MTH 1012
Rustilo DW 330	• A high quality solvent deposited corrosion preventive with good dewatering properties. • The solvent, after evaporation, leaves a firm greasy protective film.	**Safran Aircraft Engines (Ex SNECMA):** PR6300A
Rustilo DWX Series	• Powerful solvent deposited corrosion preventive with excellent dewatering properties	**Rolls Royce:** CSS 154

PRODUCT TYPE GENERAL INDUSTRIAL LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Aircol SR 46	• Designed for use in rotary screw compressors and based on polyalphaolefin (PAO) fluids. • Suitable for use in oil flooded rotary screw compressors operating under extreme climatic conditions, harsh environments and severe operating conditions where very high air discharge temperatures (> 100°C) are experienced.	**GE Aviation US: Lynn:** LYNN-6223
Aircol SN 100	• Compressor lubricant formulated to cope with the severe operating conditions experienced in rotary screw, rotary vane and reciprocating air compressors operating at high compression ratios and high discharge temperatures. • Under these conditions it offers reduced carbon forming tendencies and extended oil life when compared to mineral oils due to their much higher oxidation resistance. • In reciprocating units, Aircol SN 100 has up to eight times the service life of mineral oils Advantages: • Superior oxidation stability. • Improved lubricity and film strength. • Higher film strength and excellent anti-wear properties. • Excellent high temperature performance. • Reduced maintenance, extended oil life and cleaner operations, minimises carbon formulation and provides extended valve life. • Reduced oil consumption due to a reduction in the required lubricant feed rate to the cylinder walls and piston rings without increasing wear rates. Since less lubricant is consumed the delivered compressed air is also of higher quality. • Reduced compressor down-time due to less wear on all moving parts, longer machine life and reduced maintenance. • The operating temperature range of Aircol SN grades extend beyond that of conventional mineral oils. The high spontaneous ignition temperature provides greater safety by reducing the possibility of downstream fires and explosions	**GE Aviation US: Lynn:** LYNN-6266
Aircol Series	Compressor oil range	**Rolls Royce:** CSS 165
Alpha Series	Gear oil range	**Rolls Royce:** CSS 152 **GE Rutland** **GE Bromont**

PRODUCT TYPE GENERAL INDUSTRIAL LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Hyspin AWS 10	• Hydraulic oil range based upon highly refined mineral oil enhanced with a stabilised zinc additive system	**Pratt & Whitney Aircraft:** MSM 6017
Hyspin AWS 32	• Hydraulic oil range based upon highly refined mineral oil enhanced with a stabilised zinc additive system	**Pratt & Whitney Aircraft:** PMC 9626 **GE Lynn** **GE Asheville** **GE Castle Hayne:** LYNN-5603
Hyspin AWS 46	• Hydraulic oil range based upon highly refined mineral oil enhanced with a stabilised zinc additive system	**Pratt & Whitney Aircraft:** PMC 9805 PMC 9825 **GE Bromont** **GE Castle Hayne**
Hyspin AWS 68	• Hydraulic oil range based upon highly refined mineral oil enhanced with a stabilised zinc additive system	**Pratt & Whitney Aircraft:** PMC 9621 PMC 9831 PMC 9807 **GE Lynn** **GE Castle Hayne** **GE Bromont:** LYNN-5144
Hyspin Series	Hydraulic oil range	**Rolls Royce:** CSS 150
Hyspin Spindle Oil 10	• Based upon highly refined mineral oil enhanced with rust and oxidation inhibitors and formulated especially for the lubrication of high speed and precision machine tool spindle bearings	**Pratt & Whitney Aircraft:** MSM 9801 **GE Rutland:** RUT-2416 **GE Bromont**
Hyspin Spindle Oil 2	• Based upon highly refined mineral oil enhanced with rust and oxidation inhibitors and formulated especially for the lubrication of high speed and precision machine tool spindle bearings	**Pratt & Whitney Aircraft:** MSM 6543 **GE Bromont**

PRODUCT TYPE GENERAL INDUSTRIAL LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Hyspin VG 32	• Based upon highly refined mineral oil enhanced with rust and oxidation inhibitors • Specially formulated to provide protection against rust and oxidation while demonstrating good lubricity. • This range is designed for use in hydraulic systems which do not need anti-wear performance but where a degree of rust and oxidation resistance is desirable. It is also suitable for pumps which contain silver-plated components. • Compatible with the most commonly used nitrile, silicone and fluropolymer seal materials.	**GE Lynn:** LYNN-6176
Hyspin VG 100	• Based upon highly refined mineral oil enhanced with rust and oxidation inhibitors • Specially formulated to provide protection against rust and oxidation while demonstrating good lubricity. • This range is designed for use in hydraulic systems which do not need anti-wear performance but where a degree of rust and oxidation resistance is desirable. It is also suitable for pumps which contain silver-plated components. • Compatible with the most commonly used nitrile, silicone and fluropolymer seal materials.	**GE Lynn:** LYNN-5527
Iloquench 1	Quench fluid, cold quench Is a general purpose, low viscosity quenching oil. It is based on selected solvent refined mineral oil highly resistant to oxidation and therefore offers long service life with minimum deterioration of properties during service	**Rolls Royce:** CSS 153 UK.60
Iloquench 32	• High quality, low viscosity quenching oil. • It contains an additive package which provides accelerated quenching characteristics compared to straight mineral quenching oils.	**Pratt & Whitney Aircraft:** PMC 9496
Magna Series	circulating oil range	**Rolls Royce:** CSS 149
Spheerol EPL 2	• Comprises lithium based products, containing highly refined mineral oils, fortified with extreme pressure (EP) additives as well as corrosion and oxidation inhibitors. • These greases have been formulated with additives that provide good film strength under medium to high loads.	**Pratt & Whitney Aircraft:** MSM 6192

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Anvol SWX 46	• Synthetic polyol ester type hydraulic fluid for use in applications that require a high degree of lubricity and fire resistance according to Factory Mutual category 1. • Formulated to work in high pressure hydraulic systems up to 7500 psi, Castrol Anvol SWX 46 provides geared pumps with protection against wear equivalent to that of mineral oils. • The fluid has a naturally high viscosity index and is shear stable, a significant advantage in modern sensitive equipment. • It is designed for superior system reliability through a reduced tendency to form varnish or sludge in valves, pipes and reservoirs. • It also provides greater resistance to water by offering high levels of corrosion protection and ease of water oil separation.	**Pratt & Whitney Aircraft:** MSM 6582
Anvol WG 46	• HF-C type water-glycol fire resistant hydraulic fluid, containing anti-wear additives and corrosion inhibitors. • It provides protection against rust and in hydraulic pump tests, Anvol WG 46 has shown high levels of anti-wear performance during product pump testing. Its foam resistance, low temperature flow, emulsion stability and storage stability are also excellent according to storage stability testing. Advantages: •Anti-wear performance gives wear protection to system components and reduces downtime from unscheduled maintenance • Excellent fire resistance - cannot be ignited in spray ignition tests. • Excellent glycol in water stability - true solution means longer service and storage life • Outstanding corrosion protection - provides protection below the liquid surface and in vapor phase. • Exceptionally low pour point - ensures consistent performance over a wide temperature range. • Excellent air release properties - provides fast release of entrained air to prevent pump cavitation	**GE Rutland:** RUT-1886
Magna SW D 32	• Specially formulated for the lubrication of slideways on machine tools. • It is based on powerful extreme pressure and lubricity additives in highly refined mineral oil offering constant glide behaviour, excellent adhesion and wear protection as well as excellent corrosion protection and ageing resistance	**Pratt & Whitney Aircraft:** PMC 9661 **GE Bromont**
Magna SW D 68	• Specially formulated for the lubrication of slideways on machine tools. • It is based on powerful extreme pressure and lubricity additives in highly refined mineral oil offering constant glide behaviour, excellent adhesion and wear protection as well as excellent corrosion protection and ageing resistance	**Pratt & Whitney Aircraft:** PMC 9600 **GE Bromont** **GE Asheville** **GE Castle Hayne** **GE West Jefferson:**
Molub-Alloy Paste White T	• Excellently suited for all assembly work as well as for base or thin-film lubrication. • White, almost colorless when applied as thin layer. • The paste prevents fretting corrosion and facilitates assembly and disassembly. • It is resistant to hot and cold water and protects against corrosion.	**Airbus:** AIMS 09-07-001 **MTU Aero Engines GmbH:** 21AF8406

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Molub-Alloy 860/220-1 ES	• High-performance multi-service lithium complex greases formulated from premium petroleum base oils, lubricating solids and a combination of corrosion inhibitors specifically chosen for protection against corrosive process waters. • These are designed to extend the service life of bearings in heavy-duty applications and at elevated temperatures. • Provide an appropriate oil film for applications at slower to moderate speeds, higher loads, and/or higher temperatures sustained for longer periods of time. • The load carrying and anti-wear capabilities of Molub-Alloy 860 ES greases exceed conventional complex greases. • High performance is the result of chemical additives working synergistically with select Molub-Alloy lubricating solids which are dispersed uniformly throughout the grease. • These lubricating solids offer their greatest benefit at slow speeds or when bearings endure heavy loads and shocks. Solids also protect newly machined bearing surfaces during the critical period of 'running in'. • Good bearing surfaces are essential for long service life.	**GE Rutland:** RUT-2349
Molub-Alloy 860/460-1 ES	• High-performance multi-service lithium complex greases formulated from premium petroleum base oils, lubricating solids and a combination of corrosion inhibitors specifically chosen for protection against corrosive process waters. • These are designed to extend the service life of bearings in heavy-duty applications and at elevated temperatures. • Provide an appropriate oil film for applications at slower to moderate speeds, higher loads, and/or higher temperatures sustained for longer periods of time. • The load carrying and anti-wear capabilities of Molub-Alloy 860 ES greases exceed conventional complex greases. • High performance is the result of chemical additives working synergistically with select Molub-Alloy lubricating solids which are dispersed uniformly throughout the grease. • These lubricating solids offer their greatest benefit at slow speeds or when bearings endure heavy loads and shocks. Solids also protect newly machined bearing surfaces during the critical period of 'running in'. • Good bearing surfaces are essential for long service life.	**GE Rutland:** RUT-2322
Molub-Alloy 860/460-2	• High-performance multi-service lithium complex greases formulated from premium petroleum base oils, lubricating solids and a combination of corrosion inhibitors specifically chosen for protection against corrosive process waters. • These are designed to extend the service life of bearings in heavy-duty applications and at elevated temperatures. • Provide an appropriate oil film for applications at slower to moderate speeds, higher loads, and/or higher temperatures sustained for longer periods of time. • The load carrying and anti-wear capabilities of Molub-Alloy 860 ES greases exceed conventional complex greases. • High performance is the result of chemical additives working synergistically with select Molub-Alloy lubricating solids which are dispersed uniformly throughout the grease. • These lubricating solids offer their greatest benefit at slow speeds or when bearings endure heavy loads and shocks. Solids also protect newly machined bearing surfaces during the critical period of 'running in'. • Good bearing surfaces are essential for long service life.	**GE Lynn:** LYNN-6294

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Molub Alloy OG 9002 Heavy	• Solvent-free open gear lubricant based on a highly refined, viscous, paraffinic petroleum derivative with excellent oxidation and thermal stability. • It is specifically designed to help maximise protection to open gears and slides on large draglines and shovels while minimising potential pollutants to the environment. • A proprietary blend of Molub-Alloy lubricating solids is included to promote anti-wear and load carrying properties. The lubricating solids also contribute to the texture of the film surface which is resistant to the adherence of dirt and environmental contaminants. Molub-Alloy lubricating solids work synergistically with chemical antiwear and Extreme Pressure (EP) additives to reduce contact temperatures and-wear while providing excellent protection under extreme pressure and shock loading Advantages: • Low shear, low friction durable film – even under extreme pressures, the semi-dry working film resists erosion from rain or sleet, resists peeling in dusty environments, and resists film destruction by contaminating oils and greases migrating from nearby mechanisms • Simple and economical application – can be applied via automatic dispensing throughout a wide temperature range • Excellent rust and oxidation resistance – protects the equipment and the lubricating film against the elements in severe climates • Pioneering compounding technology – flows readily in the film-forming process yet it resists 'squeeze-out' and clings tenaciously even to gear teeth in vertical orientation	**GE Rutland:** RUT-2220
Optigear 1100/68	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Lynn:** LYNN-3952
Optigear 1100/100	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Rutland:** RUT-2406

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Optigear 1100/150	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Rutland:** RUT-2405
Optigear 1100/220	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Lynn:** LYNN-4325
Optigear 1100/460	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Lynn:** LYNN-3972

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Optigear 1100/680	• Developed to tackle wear-related problems in heavily loaded industrial gears and bearings. Developed for service in enclosed gear drives, sliding and rolling bearings, the Optigear 1100 gear oils are typically used where heavy and shock load conditions prevail. • Optigear 1100 is formulated with Tribol Gear Oil Additive (TGOA) Plastic Deformation (PD) additive. TGOA PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the microsmoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • TGOA PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears. Advantages: • Optigear 1100 oils are particularly valuable in the running-in phase as well as in applications where surfaces have already been damaged in the micro-range. • Typical applications are spur, helical, herringbone, bevel and planetary gears as well as in geared couplings. Optigear 1100 gear oils may be used in rolling and sliding bearings. Particularly suitable for Heavy duty reciprocating pumps for drilling mud or cement placement offshore and onshore drilling sites. • Optigear 1100 oils have good water separation properties.	**GE Lynn:** LYNN-3951
Optigear BM 100	• High-performance extreme pressure gear oil, developed to tackle wear-related problems in heavily loaded industrial gears and bearings. • Formulated with Castrol's Microflux Trans (MFT) Plastic Deformation (PD) additive which helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the micro smoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • MFT PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears.	**MTU Aero Engines GmbH:** MTS6244 **Pratt & Whitney Aircraft:** MSM 5557
Optigear BM 220	• High-performance extreme pressure gear oil, developed to tackle wear-related problems in heavily loaded industrial gears and bearings. • Formulated with Castrol's Microflux Trans (MFT) Plastic Deformation (PD) additive which helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the micro smoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • MFT PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears.	**MTU Aero Engines GmbH:** MTS6244 **GE Lynn** **GE Castle Hayne :** LYNN-6095
Optigear BM 68	• High-performance extreme pressure gear oil, developed to tackle wear-related problems in heavily loaded industrial gears and bearings. • Formulated with Castrol's Microflux Trans (MFT) Plastic Deformation (PD) additive which helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the micro smoothing of surface roughness without increasing wear. • The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. • MFT PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears.	**MTU Aero Engines GmbH:** MTS6244 **GE Lynn** **GE Castle Hayne** **GE West Jefferson:** LYNN-6094
Optigear Synthetic 800/460	• Developed for the lubrication of heavily loaded gears, bushings and bearings which may operate over a broad range of temperatures from ambient to elevated temperatures (>80°C/176°F). • They are particularly intended to extend the service life of both lubricant and machine parts where unusually high operating and oil reservoir temperatures are encountered. • The high performance characteristics are achieved with select polyalkyleneglycol (PAG) based synthetic fluids. They feature chemical and thermal stability, high viscosity index, water solubility, and compatibility with metals and elastomers most commonly used in machine construction. • The naturally high resistance to oxidation of the synthetic base fluid is further enhanced by inhibitors. • Corrosion protection is very effective even in the presence of water. Also, a package of high performance additives acts in combination for superior anti-wear and Extreme Pressure (EP) performance.	**GE Lynn** **GE Bromont:** LYNN-3942

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Optigear Synthetic RO 150	• High-performance synthetic oil, developed especially for gears used in rail traffic and mechanical engineering applications (such as in Robots). The properties of Optigear Synthetic RO mean it can be used in extreme climate conditions and for long-term use	**MTU Aero Engines GmbH:** 21AF2840
Perfecto HT 5	• Based on a solvent-refined, high viscosity index mineral oil specially selected for its high thermal and oxidation stability.	**Rolls Royce:** CSS 168
Rustilo WDP Spray (Penetrat WDP Spray)	• Multi-purpose aerosol spray oil with good penetrating properties, excellent rust-dissolving ability and outstanding corrosion protection.	**MTU Aero Engines GmbH:** MTH310
Tribol CM ATO 100	• Oil designed for severe service in pneumatically operated tools producing rotary and/or reciprocating motion • Offers excellent protection with a very thin film because of a proprietary blend of antiwear, extreme pressure (EP), and friction modifying agents which perform synergistically in combination. • It is formulated to sustain a lubricant film in the presence of excessive condensed moisture from a humid environment. • Special compounding causes the water to be encapsulated and removed in the exhaust air. This allows the lubricating oil to preferentially wet cylinders, vanes, valves, and other contact surfaces for maximum protection.	**GE Lynn:** LYNN-2348
Tribol GR 100-0 PD	• Lithium based greases containing highly refined mineral oils, enhanced with the MicroFlux Trans (MFT) additive system. • High load bearing capacity – extends the operating period under high loads leading to optimum wear protection • Superior lubrication and surface smoothing effects due to MFT can reduce failures, leading to less downtime and repair work. PD technology can prolong the life of damaged components • Establishment of a protective layer of MFT – this additive system can effectively increase the load bearing area, reducing unit pressures, operating temperatures and wear, increasing service life of both parts and lubricant • Improved bearing surfaces for longer service life result from the 'running in' effect of MFT • Extremely low coefficients of friction – generating energy savings and reduced noise levels • Multi-functional – highly recommended for anti-friction bearings with grease reservoir and for leaky gearboxes. • Easily pumpable in central lubrication systems – does not channel on gears running at high speeds	**GE Lynn** **GE Bromont:** LYNN-5748

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Tribol GR 100-1 PD	• Lithium based greases containing highly refined mineral oils, enhanced with the MicroFlux Trans (MFT) additive system. • High load bearing capacity – extends the operating period under high loads leading to optimum wear protection • Superior lubrication and surface smoothing effects due to MFT can reduce failures, leading to less downtime and repair work. PD technology can prolong the life of damaged components • Establishment of a protective layer of MFT – this additive system can effectively increase the load bearing area, reducing unit pressures, operating temperatures and wear, increasing service life of both parts and lubricant • Improved bearing surfaces for longer service life result from the 'running in' effect of MFT • Extremely low coefficients of friction – generating energy savings and reduced noise levels • Multi-functional – highly recommended for anti-friction bearings with grease reservoir and for leaky gearboxes. • Easily pumpable in central lubrication systems – does not channel on gears running at high speeds	**GE Rutland** **GE Bromont:** RUT-2403
Tribol GR 100-2 PD	• Lithium based greases containing highly refined mineral oils, enhanced with the MicroFlux Trans (MFT) additive system. • The MFT additive technology provides optimum wear protection and an extremely low coefficient of friction even under extremes of pressure, vibration, shock loads, at high or low speeds or varying micro-smoothing of the friction surfaces. Under severe load, components of the MFT additive combination are activated, initiating an improvement of surface friction characteristics through plastic deformation. The products of that organic reation become a component of the tribopolymer system. • Unlike the case with conventional lubricants, the tribopolymers formed by MFT are long-chained compounds with excellent lubricity and adhesion. This means that the load carrying area is improved and a hydrodynamic lubrication film is easier to maintain. This unique physio-chemical reaction achieves a non-sacrificial micro-smoothing of the friction surfaces.	**MTU Aero Engines GmbH:** 21AG9778 **GE Rutland:** RUT-2402 **Pratt & Whitney Aircraft:** MSM 5526
Tribol GR 100-2 PD Memolub	MEMOLUB is a refillable autonomous single & multi-point lubrication system • Lithium based grease containing highly refined mineral oils, enhanced with the MicroFlux Trans (MFT) additive system.	**MTU Aero Engines GmbH:** 21AF6511
Tribol GR 400-2 PD	• Mineral oil based, lithium soap greases enhanced with the MicroFlux Trans (MFT) additive system. • They are particularly suited for long-term lubrication and for heavy mechanical loads such as extremely high pressures, vibrations and shock loads.	**MTU Aero Engines GmbH:** 21AG9778
Tribol GR 400-2 PD Memolub	MEMOLUB is a refillable autonomous single & multi-point lubrication system • Mineral oil based, lithium soap greases enhanced with the MicroFlux Trans (MFT) additive system. • They are particularly suited for long-term lubrication and for heavy mechanical loads such as extremely high pressures, vibrations and shock loads.	**MTU Aero Engines GmbH:** 21AG9778

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Tribol GR 4020/220-2 PD	• Greases are formulated from highly refined petroleum base oils, a lithium complex thickener, and Tribol • Grease Oil Additive (TGOA), the latest advancement in the field of friction reducing and surface improving additive technology. These multi-service greases are designed to extend the service life of bearings in heavy-duty and elevated temperature applications. • The load-carrying, anti-wear, and friction reducing capabilities of Tribol GR 4020 PD greases exceed conventional complex greases due to the advanced TGOA additive technology. Under relatively high specific loads and related temperatures, this technology promotes a non-destructive smoothing of surface roughness in the micro-range. This smoothing effect reduces friction and leads to an increase of the actual load-bearing surface. • If surface roughness peaks redevelop because of shock loads or stop-and-go operation, the TGOA additive package automatically reactivates. Surface roughness is again smoothed and lubrication optimized	**GE Rutland:** RUT-2277 **GE Lynn:** LYNN-5617
Tribol GR CLS 000	• Lithium/calcium based extremely water-resistant high performance semi-fluid grease. • Excellent rheological properties in combination with an optimum low-temperature behavior ensures a wide range of applications. • Tribol GR CLS 000 grease features an excellent corrosion protection as well as a high resistance to detergents and caustic soda.	**Pratt & Whitney Aircraft:** MSM 5569
Tribol HM 943/100	• (Anti-wear) hydraulic and circulating oils were developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised. • Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. • Antiwear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. • Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.	**Pratt & Whitney Aircraft:** MSM 6554
Tribol HM 943/22	• Developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised: • Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. • Anti-wear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. • Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.	**GE Rutland:** RUT-2392 **GE Lynn:** LYNN-5433
Tribol HM 943/46	• Developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised: • Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. • Anti-wear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. • Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.	**GE Rutland:** RUT-899

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Tribol HM 943/32	• (Anti-wear) hydraulic and circulating oils were developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised. • Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. • Antiwear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. • Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.	**Pratt & Whitney Aircraft:** MSM 6558, Hydraulic Fluid, ISO 32 **GE Rutland:** RUT-1392 **GE Lynn:** LYNN-580
Tribol HM 943/68	• (Anti-wear) hydraulic and circulating oils were developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised. • Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. • Antiwear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. • Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.	**Pratt & Whitney Aircraft:** MSM 6557, Hydraulic Oil **GE Rutland:** RUT-2364 **GE Lynn:** LYNN-582
Tribol SW MWO 20	• Offers excellent thin-film wear protection due to a proprietary blend of anti-wear, extreme pressure (EP) and friction modifying agents which perform synergistically in combination. • When subjected to the extreme pressure of contacting asperties these additives convert to low-shear compounds on working surfaces, lubricating much like solid-film lubricants. • Because the additives in Tribol SW MWO way oils are fully dissolved but act like solid lubricants in service, the products are designated "LS" for "Liquid Solids." • The high quality base oils in Tribol SW MWO way oils are selected for their ability to maintain strong film integrity even under great stress. • Additional compounding with select polymers adds both adhesive and cohesive characteristics to these products. • Tribol SW MWO way oils are not corrosive to ferrous or non-ferrous metals and rust and oxidation inhibiting characteristics are maximized to afford effective rust protection and long life of the oil. • Tribol SW MWO way oils are "low phenol" products, typically containing less than 2 ppm of phenolic compounds • Viscosity grade 68	**GE Rutland:** RUT-1537 **GE Lynn:** LYNN-4001
Tribol SW MWO 40	• Offers excellent thin-film wear protection due to a proprietary blend of anti-wear, extreme pressure (EP) and friction modifying agents which perform synergistically in combination. • When subjected to the extreme pressure of contacting asperties these additives convert to low-shear compounds on working surfaces, lubricating much like solid-film lubricants. • Because the additives in Tribol SW MWO way oils are fully dissolved but act like solid lubricants in service, the products are designated "LS" for "Liquid Solids." • The high quality base oils in Tribol SW MWO way oils are selected for their ability to maintain strong film integrity even under great stress. • Additional compounding with select polymers adds both adhesive and cohesive characteristics to these products. • Tribol SW MWO way oils are not corrosive to ferrous or non-ferrous metals and rust and oxidation inhibiting characteristics are maximized to afford effective rust protection and long life of the oil. • Tribol SW MWO way oils are "low phenol" products, typically containing less than 2 ppm of phenolic compounds • Viscosity grade 220	**GE Rutland:** RUT-2404

PRODUCT TYPE HIGH PERFORMANCE LUBRICANTS

PRODUCT	DESCRIPTION	APPROVAL*
Tribol SW 1066/220	• High performance slide and way lubricant. Developed specifically to lubricate the slides and ways of modern metalworking machine tools used in high precision, high volume manufacturing. • Demands for increased production have led to the design of higher and higher speed machines. Increased operating speeds have also spawned new metal removal fluids and coolants which are highly surface active to increase the speed of tool wetting and the removal of heat. • The surfactant additives used in these modern coolants have a detergent and cleansing action on oil and can rapidly displace lubricants used to protect slides and ways. • Tribol SW 1066 is manufactured with the highest quality base oils and additives available. The base oils are highly refined paraffinic base stocks with high Vis. They were selected for their ability to sustain a lubricating film despite sudden changes in load or shearing forces. The formulation includes select polymer additives for both adhesive and cohesive characteristics. • A carefully balanced treat rate of rust and oxidation inhibitors offers maximum rust protection for parts and long service life from the oil. Tribol SW 1066 is not corrosive to ferrous or nonferrous metals.	**Pratt & Whitney Aircraft:** MSM 6560 ,ISO 220
Performance Biolubes BioHydraulic 32	• Biodegradable hydraulic fluid formulated using vegetable ester oil and additives to prevent corrosion, wear, and oxidation. • Recommended for use where leakage or spillage may present a risk of harm to the environment or in environmentally sensitive areas such as waterways, agriculture, forestry, and mining and construction industries. • It can also be used in metalworking applications where excellent lubricity is necessary such as in cutting and deformation processes especially for steel and non ferrous materials.	**GE Lynn:** LYNN-5762
Performance Bio SW 68 PBL	• Specifically designed for use in machine tool slideway systems. • Should be used in place of conventional mineral slideway oils to ensure optimum performance when used in conjunction with the CARECUT neat cutting range. It is especially important with machine slideway systems as the majority of machine tools employ total loss technology. • May also be used for machine tool hydraulic systems where ester based soluble cutting fluids are being utilised and minimisation of impact of contamination is required. Advantages: • Inherently Biodegradable • Environmentally friendly • Excellent stick slip performance • Compatible with ester based neat cutting oils • Compatible with certain ester based soluble oils	**GE Rutland:** RUT-2433 **GE Lynn:** LYNN-5763

PRODUCT TYPE SPECIALITY

PRODUCT	DESCRIPTION	APPROVAL*
Memolub HPS (Mega)	MEMOLUB is a refillable autonomous single & multi-point lubrication system	MTU Aero Engines GmbH
Memolub Kit Distrilube DB 4	MEMOLUB is a refillable autonomous single & multi-point lubrication system	MTU Aero Engines GmbH

PRODUCT TYPE ADDITIV

PRODUCT	DESCRIPTION	APPROVAL*
Acticide 14	Biocide isothiazolinone based.	MTU Aero Engines GmbH: MTH1115
Antifoam N 110	• Antifoam additive especially developed for mineral oil containing neat metalworking fluids. • It is optimised for stability and compatibility as an effective tank-side additive for both single sump machines as well as central systems	MTU Aero Engines GmbH: MTH965
Antifoam S 101	• Aqueous solution of calcium acetate recommended for use in very soft water systems. • It can be used in single sump machines as well as central systems. • Recommended for use in water based metalworking fluids to increase water hardness. • It reduces unacceptable foam levels and also prevents foam from being generated.	GE Rutland: RUT-2194 GE Lynn: LYNN-6263
Antifoam S 111	• Polyalkylenglycolether based silicon free antifoam for synthetic cutting fluids. • It can be used in single sump machines as well as central systems	MTU Aero Engines GmbH: MTH922
Synlube 1	Polymer additive for replenishment in synthetic products	Pratt & Whitney Aircraft: PMC 9377
Synlube L4	Corrosion additiv based on mixture of fatty acids	Pratt & Whitney Aircraft: PMC 9356 GE Lynn: LYNN-632
Techniclean SC 320	• System cleaner to clean oil systems • Softens and removes sludge, lacquer formation, and resin- like deposits • The contaminants are then kept in suspension and the particles are removed from the system with the oil drain	Pratt & Whitney Aircraft: MSM 6588 GE Rutland: RUT-2530 GE Lynn: LYNN-5948

PRODUCT TYPE CLEANER WIPES

PRODUCT	DESCRIPTION	APPROVAL*
Careclean AS 1 WDL	• Contains individually packaged, perforated cleaning wipes made of nonwoven fabric, impregnated with a fast drying, low odour, isoparaffin based solvent cleaner	**Airbus:** PSA: Z000151179 **Airbus:** ASN42202
Careclean AS 1 WFS	• Contains individually packaged, high quality, non-woven cleaning wipes, impregnated with a fast drying, low odour, isoparaffin based solvent cleaner.	**Airbus**
Techniclean IPA 100 WFS	• Contains individually packaged, high quality, non-woven cleaning wipes, impregnated with a fast penetrating, quick drying, light-duty cleaning agent based on premium quality isopropyl alcohol of high purity	**Airbus**
Techniclean OX 1 WDL	• Contains individually packaged, perforated cleaning wipes made of nonwoven fabric, impregnated with a powerful oxygenated solvent cleaner that demonstrates good biodegradability. • Its environmentally responsible formulation has no ozone depletion potential and does not support the greenhouse warming effect.	**Airbus:** PSA: Z000151179 **Airbus:** ASN42202
Techniclean Tablefit WDL	• Contains individually packaged, perforated cleaning wipes made of nonwoven fabric, impregnated with a powerful cleaner based on water soluble solvents and anionic surfactants	**Airbus**

***APPROVALS:**

Airbus
All Airbus approvals are only applicable in certain jurisdictions, please contact Castrol for further information.

Boeing
All Boeing approvals are only applicable in certain jurisdictions, please contact Castrol for further information.

Bombardier
All Bombardier approvals are only applicable in certain jurisdictions, please contact Castrol for further information.

Commercial Aircraft Corporation of China, Ltd (COMAC)
All Commercial Aircraft Corporation of China, Ltd. approvals are only applicable in certain jurisdictions, please contact Castrol for further information.

GE Aircraft
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GE Aviation
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MTU Aero Engines GmbH
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