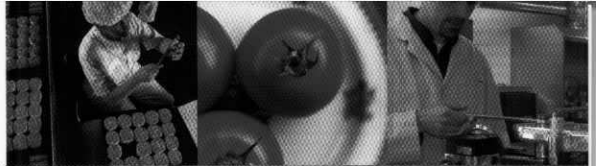


EXTEND EQUIPMENT LIFE.
REDUCE MACHINERY DOWNTIME.
IMPROVE PLANT PROFITABILITY.



Food-Grade

X-FACTOR

DISCOVER THE X-FACTOR.



Worldwide food and beverage processing is a dynamic and constantly evolving mix of new processes, new equipment and new regulations. JAX has been at the forefront of food and beverage plant lubrication since the inception of true USDA food-grade lubricants nearly 50 years ago. JAX was first with a registered food-grade grease at the birth of commercial food-grade lubricants in our industry, and we continue to be first today with new product offerings for evermore demanding applications.

JAX is a manufacturer and global supplier of the highest quality industrial, synthetic and food-grade lubricants for machinery and processes. As you will discover in this booklet, we have been the driving, innovative force in lubrication for food processors for the last half century.

JAX is a wholly-owned American company that has become a global player in food-grade lubrication with international distribution and the most technical expertise and experience in the industry. We are not a major oil company, a satellite division of a multi-national owner, or a piece of a venture capital portfolio. As an independent company, we have the freedom and autonomy to compound lubricants without compromising superior performance for price. From formulating new lubricants for unique new processes, to rushing emergency testing through our independent RPM Laboratory, it is the hundreds of little, and not so little, things that separate JAX from other lubricant companies. Obviously, to enable us to do this, we seek to employ only dedicated people who provide real, hands-on assistance to our customers' businesses, management and machinery on a daily basis.

Why is this important to you? It means we are never distracted from our primary goal of bringing the newest tribology technology to your equipment and production lines, and we are dedicated to providing only America's Finest in terms of lubrication, support service and technical innovation.

Listed below are some recent highlights of state-of-the-art developments in food and beverage plant lubrication from JAX.

- JAX Halo-Guard® FG Series are E.P., food machinery greases that usher in a new era of corrosion protection and remarkable extreme-pressure and antiwear capabilities in a plant-wide, food-grade grease.
- JAX Poly-Guard® FG Series greases provide the ultimate in food machinery lubrication where high temperatures coupled with high bearing speeds and loads have caused premature wear to lubricated parts.
- Angel-Guard Fluids® are 100% synthetic, food-grade lubricants developed specifically for extended drain intervals in high-speed beverage can seamers, including those manufactured by Angelus Sanitary Can Machine Company.
- JAX Micronox® Technology is a groundbreaking advance in food-grade technology developed with unsurpassed performance in preserving and protecting food-grade lubricants from microbial contamination in meat and poultry plants worldwide.

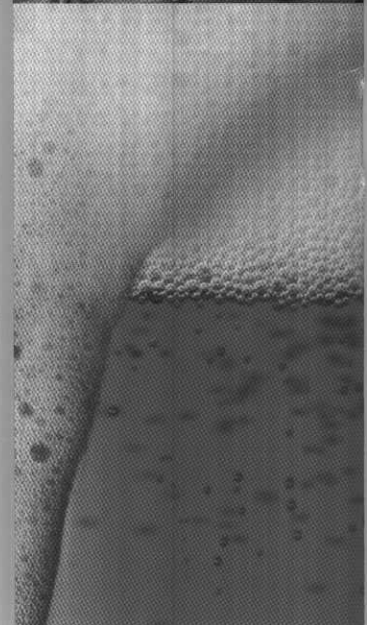
If your company is looking for an experienced, hands-on partner to help get control of your lubrication practices, programs and production, talk to us. Nobody knows your equipment, your industry and your applications better than JAX! Nobody!



With a daily blending capacity of nearly 100,000 gallons, we serve a diverse group of food and beverage processors including:

- Bakeries
- Canneries
- Meatpackers
- Poultry Processors
- Beverage Plants
- Freezing Plants
- Dairies
- Pet Food Plants

and dozens more...

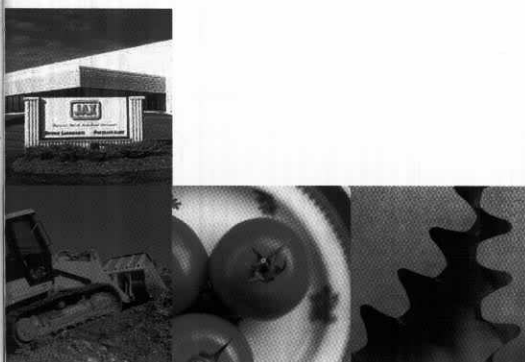


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Products are listed separately as Food-Grade (USDA/NSF H1) and Industrial-Grade (USDA/NSF H2) and further divided into Greases and Fluids. Common application and usage charts are shown in each section.

There are also brief "Technical Highlights" sections, which list some of the most useful charts and answers to some of the most commonly asked questions in the lubricant business.



EXPERIENCE COUNTS

When we say that JAX was there at the inception of food-grade lubricants, it helps to get some perspective on where the industry has been, and where it may be headed in the future.

Recent entries into the field of food plant lubrication may talk a good game, but JAX hands-on development experience for over 50 years in the U.S. and on the international stage is significant. This extensive experience cannot be overcome by competitors' flashy advertising, limited experience and untested product quality.

Until the early 1960's, lubrication of machinery in most food and beverage plant operations was not any different from typical industrial plants. FDA-approved white oils were available for process use, but the limited lubrication value and added expense of these base oils made them unsuitable for all but the simplest machinery lubrication.

At that time, the USDA developed a program which utilized approved products from the developing FDA regulations regarding ingredients for lubricants with possible exposure to processed products. Although the USDA jurisdiction for inspection and control was primarily over meat, poultry and egg plants, the list they were developing would, over the next three decades, become the U.S. and in many instances, the worldwide standard for non-food compounds used in processing plants.

The first classifications of lubricants were AA, for use in possible incidental contact situations, and BB for non-food contact areas. There was also a "knock-out" list of chemicals that could not appear in any non-food compounds. The presence of these components would immediately disqualify a product for use in any inspected facility.

The very first branded approval of a USDA food-grade grease, JAX Magna-Plate 8, was developed by us for the prosperous and growing U.S. meatpacking industry.

Although rapid adoption of these lubricants was mandated in USDA-inspected plants of the day, other processing industries, outside of the authority of the USDA, were not so quick to adopt these new lubricants. In many cases there were good reasons. The ingredient and additive technologies were not well equipped to handle applications beyond those that were very basic. Factor in typical sanitation procedures, and it was evident that to gain acceptance of these lubricants, improvements would have to be made in areas of wear protection, corrosion resistance and stability.

Early in the 1970's, the USDA designations were changed from AA to H1 and from BB to H2. The H3 designation was added for soluble oil applications and a 3H designation was later added for release agents, GRAS ingredients and ingestible, pharmaceutical-grade white oils.

JAX had already researched, pioneered and improved food-grade greases and fluids to address evermore complicated applications, machinery and processes. An ever-growing group of companies were now using JAX FG lubes to protect their equipment and products with H1 rated lubricants, whether or not their facilities were USDA inspected.

USDA decided to discontinue their formal approval process of non-food compounds in 1998, for reasons not fully explained other than budgetary. The new HACCP requirements for food plants put the burden of responsibility **directly on the processors and their suppliers** for ensuring that the products are in conformance with the FDA/USDA guidelines used for the previous 30+ years.

Although the existing approvals would not expire, newly developed products and technologies would need to undergo an approval process as well. JAX immediately incorporated our internal FG approval process and self-certification, which identically follows FDA/USDA ingredient and labeling procedures standardized under the now defunct testing program of the USDA. JAX classified lubricants as FG those which meet the FDA requirements for USDA H1 approval (FDA 21 CFR 178.3570).

Since then, several independent non-governmental agencies have offered certification procedures similar to those incorporated by USDA or JAX internal process. NSF has become a readily accessible source for product review and approval, and new ISO standards are being developed to incorporate the review process as well. JAX is consistently staying in front of the regulatory changes that may affect the future of our industry.

FOOD-GRADE GREASES



Poly-Guard FG® Series **FG-LT, FG-2**

NSF H1

The ultimate in food machinery lubrication where high temperatures coupled with high bearing speeds and loads have caused premature wear to lubricated parts. Poly-Guard® FG provides the highest level of antiwear performance in an NSF H1 grease, and incorporates Micronox® antimicrobial technology. Poly-Guard® FG-LT grade yields excellent performance in automated centralized lubrication systems. Excellent versatility and high-temperature performance make this a true plant-wide grease.

Halo-Guard® FG Series **FG-00, FG-LT, FG-2, FG-PM**

NSF H1

This series of revolutionary food-grade greases is manufactured with proprietary antiwear chemistry that improves performance over all competitive CSC greases. A newly enhanced calcium sulfonate complex thickener provides exceptional mechanical stability, very high load-carrying (E.P.) ability and remarkable rust and corrosion control. In addition, JAX Halo-Guard FG has excellent water resistance and outstanding high-temperature performance abilities. This technology is combined with a new high viscosity, partial synthetic food-grade base fluid to make JAX Halo-Guard FG the best high-performance, food-grade grease for heavily-loaded applications. This is a true high-performance, plant-wide food-grade grease.

Magna-Plate® 8

NSF H1

This is a general-purpose NLGI #2 food-grade grease. It has excellent water resistance and lubrication qualities. Good oil bleed characteristics at low ambient temperatures make it ideal for small high-speed bearings.

Magna-Plate® 22 **Extreme Low Temperature**

NSF H1, 100% Synthetic

This unique 100% synthetic grease is formulated for freezers and other applications where temperatures can approach -50°F and lower. It possesses excellent wear and rust protection in an extremely pumpable grease.

Magna-Plate® 44 Series **44-0, 44-1, 44-2**

NSF H1

JAX Magna-Plate 44 series are high-performance food-grade greases formulated for broad use in all food and beverage processing environments. Enhanced antiwear protection and pumpability with low bleed and separation characteristics make 44-0 and 44-1 ideal greases for all centralized greasing applications requiring food-grade greases. A high degree of water resistance, oxidation stability and antiwear protection allow this food-grade grease to perform in areas thought to be unacceptable for ordinary food-grade greases.

Clear-Guard FG

NSF H1

This translucent grease was compounded with a special high-temperature polymer that will cling to metal surfaces under the most severe conditions. Water, salts, heat and chemicals will not affect performance and it resists sling and channeling under high-speed or high-temperature conditions.

Oven Ice FG-2

NSF H1, 100% Synthetic

A 100% synthetic PAO-based grease with an inorganic thickener system for extreme high-temp and moderate low-temp conditions. Oven Ice is crystal clear and meets the requirements of NSF H1 and FDA 21 CFR 178.3570.

Gear-Guard FG

NSF H1, 100% Synthetic

Food Plant Open Gears

This is a 100% synthetic, E.P., NSF H1 food-grade open gear grease which provides the adhesion, water resistance and load-carrying properties of the best non-food-grade open gear lubes. Gear-Guard FG provides incredible "stay-put" performance in all food plant open gear applications.

FOOD-GRADE GREASES USAGE CHART

	General Greasing	Closers & Fillers	Conveyor Bearings	High Temp > 300°F	Low Temp < 40°F	Freezers to -60°F	Automated Lube	Meat Saws & Knives	Wet Environments	Corrosive Environments	Open Gears
Poly-Guard FG Series	●	●	●	●	●		LT	●	●	●	
Halo-Guard FG Series	●	●	●	●	●		LT OO	●	●	●	●
Magna-Plate 8					●			●			
Magna-Plate 22					●	●				●	
Magna-Plate 44 Series	●	●	●	●	●		44-1 44-0	●	●	●	
Clear-Guard FG	●	●	●	●				●	●		
Oven Ice FG-2				●							
Gear-Guard FG				●					●	●	●

● Primary Recommendations ● Secondary Recommendations

Closing Machines/Seamers

- Lower gun pressures will help to remove more contamination since new grease will force out contaminated grease without flowing around it as easily.
- Cover feed cam life can be increased with a small drip feed or spray system using Magna-Plate 78.
- Generally speaking, the higher the bearing speeds or the lower the temperature, the lighter the grease has to be in order to provide proper oil flow for good lubrication.

FOOD-GRADE FLUIDS



Magna-Plate® 60, 62, 64, 66 **ISO 32, 46, 68, 100**

NSF H1

America's Finest Food-Grade Hydraulic Fluids can be used in a variety of applications where an NSF H1 fluid is required. They are food-grade, Group II white mineral based oils containing rust and oxidation additives and excellent antiwear protection. They are fully tested and OEM-approved for hydraulic systems, and are recommended for compressors and gear systems requiring food-grade oils.

Magna-Plate® 72, 74 **Food Plant Air Line Lubrication**

NSF H1

Magna-Plate 72 and 74 are low viscosity air line oils with rust inhibitor for use in all air-operated equipment. Magna-Plate 74 contains an effective antiwear additive, additional rust inhibitors, and a high percentage of emulsifiers to pick up and exhaust tramp moisture in the air lines. Contains Micronox®.

Magna-Plate® 78, 78E Fluids

NSF H1

These fluids are heavy, tackified, E.P. food-grade oils for superb wear protection on overhead chains and conveyors, drip systems, can lid cams, or anywhere a positive antiwear NSF H1 approved lubricant film is needed. Magna-Plate 76 is recommended for automatic oiling systems. Magna-Plate 78 and 78E (Emulsified) provide excellent antiwear performance in Angelus Can Seamers.

Magna-Plate® 80, 86, 88 **Extreme Low Temperature**

NSF H1, 100% Synthetic

These synthetic fluids are formulated with antiwear, rust inhibitor and "non-drip" additives for freezer chain and conveyor lubrication. The base fluids are food-grade synthetic oils with pour points as low as -90°F. These fluids have excellent penetration properties.

Angel-Guard® Fluids

NSF H1, 100% Synthetic

State-of-the-art, 100% synthetic, food-grade antiwear fluids compounded to provide the ultimate in wear and corrosion protection. JAX Angel-Guard fluids provide long drain performance in recirculating systems and include JAX complimentary, ongoing RPM Oil Analysis services. Formulated specially for high-speed beverage can seamers including those manufactured by Angelus Sanitary Can Machine Company.

Flow-Guard Synthetic Fluids NSF H1, 100% PAO Synthetic **ISO 22 through 680**

These are state-of-the-art 100% synthetic food-grade lubricating oils for use in a myriad of food and beverage plant applications. JAX Flow-Guard Fluids usage range includes industrial hydraulics, gear drives, compressors, chains and other lubricated machinery. This series of antiwear fluids is compounded to provide superior long drain performance, minimize component wear and eliminate system "downtime."

Magna-Plate® FG ISO Gear Oils
ISO 220FG, 320FG, 460FG

NSF H1

These gear oils are semi-synthetic, white oil-based with sheer stable V.I. modifiers. As a result, they can be used in gearbox applications previously thought to be too severe for food-grade lubricants. The superior operating characteristics provide reduced operation temperatures, reduced friction, and minimal gear wear. The high film strength offers excellent lubricity for spur, helical, spiral, bevel, planetary and worm gears. Contains Micronox®

Magna-Plate® FG PAG Gear Oils 100% Synthetic, NSF H1
80W90FG, 85W140FG, 250FG

100% synthetic, food-grade gear lubricants for enclosed gearboxes where high loads lead to premature wear and untimely gear failure. The load-carrying capacity and wear protection characteristics are far superior to white oil-based gear oils and many non-food-grade industrial gear oils. Since the synthetic base fluid is ashless, these fluids can be excellent high-temperature food-grade chain lubricants which will not leave carbon deposits or residue. High load and water tolerance characteristics.

Not compatible with mineral oil or PAO-based gear oils.

FGH-AW Series Hydraulic Oils
ISO 32, 46, 68, 100

NSF H1

These compounded food-grade hydraulic oils were developed to satisfy several lubrication requirements in modern food-processing environments. These oils contain an effective combination of antiwear agents and rust inhibitors that provide performance advantages over non-compounded white oils. Will extend the life and lubrication intervals of costly equipment.

FGG-AW Series Gear Oils
ISO 150, 220, 320, 460

NSF H1

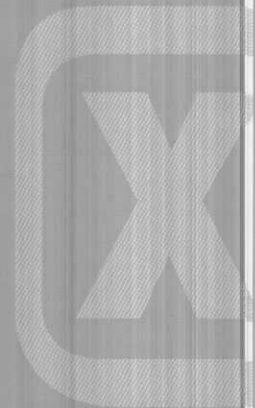
These food-grade gear oils are compounded with advanced additive technologies to provide superior performance over competitive food-grade gear oils. They contain proprietary, optimized combinations of antiwear agents, rust inhibitors, and polymeric viscosity improvers that provide outstanding long-term wear advantages, while their robust antioxidant chemistry ensures deposit-free operation.

Syncomp-FG Fluids NSF H1, 100% Synthetic
ISO 32, 46, 68, 100, 150, 220

These unique fluids are designed to lubricate flooded screw compressors, vacuum pumps, refrigerant compressors, and other mineral oil-lubricated air compressors. They exhibit excellent low- and high-temperature characteristics, reduced volatility, and good compatibility with mineral oils.

Cylinder Oil-FG NSF H1, Semi-Synthetic

This state-of-the-art worm gear oil incorporates the latest developments in food-grade lubrication technology. With reduced operating temperatures, reduced friction and minimal gear wear, it can be used in gearbox applications previously thought too severe for food-grade lubricants.



FOOD-GRADE FLUIDS *continued*

Unitran® FG

NSF H1

Unitran FG is the next generation NSF H1 food-grade hydraulic/power transmission fluid designed for use in a wide range of power-drive, farm and orchard equipment, such as grape and cranberry harvesters. It surpasses OEM standards and performance requirements for wear, chatter, brake capacity, PTO performance and filterability in a variety of transmission and hydraulic applications.

Conveyor Glide Series

NSF H1

Lt, Med, Hvy

NSF H1, food-grade trolley lubricants formulated to provide the benefits most desired in packing-plant trolley lubrication. Compounded with FDA-approved white oils, polymeric additives and fatty acids, they provide unsurpassed lubricity, rust protection, and non-drip characteristics. Conveyor Glide reacts synergistically with wash-down compounds to aid in removing old oil, dirt, animal hair and fats. These fluids also incorporate Micronox®, JAX new, proprietary antimicrobial additive technology, for enhanced antimicrobial protection.

Magna-Kote® 467 FG

NSF H1

This metal-forming lubricant has exceptional metal-wetting characteristics and provides improved finish. It minimizes burning and prevents loading of forming components. Developed specifically for use in can-beading and can-flanging machines, it meets the demanding lubrication requirements of all types of can-manufacturing equipment wherever an NSF-H1 registered lubricant is required.

Aqua-Guard FG

NSF H1

Aqua-Guard FG is a state-of-the-art metal-forming lubricant incorporating the latest developments in food-grade lubrication technology. It is specially formulated and tested for use in Crown Presses for manufacturing sanitary ends. It also has been used in can-beading and can-flanging machines, and other can-forming equipment.

White Mineral Oil

NSF H1; NSF 3H

ISO 22, 46, 68, 100

These oxidation-inhibited mineral oils are for use in all areas of lubrication and oil spray-down where incidental contact with a food, drug, cosmetic or beverage product is possible. Use JAX White Mineral Oil ISO 22 for Packer's Tech Oil applications.

Dry-Glide® Silicone Bulk

NSF H1

A food-grade silicone-based lubricant in a rapid-evaporation-rate food-grade carrier. Its primary applications are for chain and conveyor lubrication where the use of an oil-based lubricant is not desired, yet positive lubrication protection is needed.

Magna-Plate® 2000FG

NSF H1

An NSF H1 food-grade lubricating oil for use in FMC continuous cookers and FMC and Odenberg steam peelers. It eliminates rubbery deposits, clogged lines and gummed check valves. A special polymer helps Magna-Plate 2000FG cling to metal surfaces even after shutdown, reducing metal-to-metal contact on start-up.

Packer Oil 22

NSF H1

JAX Packer Oil 22 is an advanced food plant spray-down oil incorporating JAX exclusive Micronox® antimicrobial technology for immediate and effective knockdown of a wide spectrum of microbes in the lubricant. Packer Oil 22 may provide an extra measure of protection sought by corporate HACCP programs in sanitation procedures.

FOOD-GRADE FLUIDS USAGE CHART

	General Oiling	Hydraulic Systems	Compressors	Gear Boxes	Drip Feed Oilers	Air Lines	Chains < 200°F	Chains up to 600°F	Freezers to -70°F	Vacuum Pumps	Angelus Seamers	Trolley Systems	Spray-Down Oil	Rotary Cookers & Peelers	Metal Forming	Box Slides
MP 60, 62, 64, 66	●	●	●	●	●	●	●			●						
MP 72, 74	●				●	●							●			
MP 78, 78E	●			●	●		●									
MP 80, 86, 88				●	●		●		●							
Angel-Guard Fluids			●	●						●	●					
Flow-Guard Fluids	●	●	●	●	●	●	●		●	●						
MP-FG ISO Gear Oils				●	●		●									
MP FG PAG Gear Oils				●	●		●	●								
FGH-AW Series Hyd.	●	●	●		●	●	●									
FGG-AW Series Gear				●												
Syncomp-FG Fluids			●							●						
Cylinder Oil-FG				●												
Unitran FG		●		●												
Conveyor Glide Series												●				
Magna-Kote 467 FG																
Aqua-Guard FG															●	
White Mineral Oils					●	●							●			
Dry-Glide Silicone Bulk	●															●
Magna-Plate 2000FG														●	●	
Packer Oil 22	●				●	●							●			
Pyro-Kote FG								●								

● Primary Recommendations ● Secondary Recommendations

Hydraulic Systems

- KEEP IT CLEAN, KEEP IT DRY, AND KEEP IT COOL

Gearboxes

- Typically the most ignored lube point in a plant. Usually they aren't noticed until they fail. Because gearboxes are fairly trouble-free, they should rarely fail if properly maintained.
- Use the proper fluid for the loads, temperatures and gear type, and change the gear oil on a regular interval. Monitor critical boxes using a routine oil analysis program.

INDUSTRIAL-GRADE GREASES



Poly-Plate EP

This is a high-temperature, "sealed-for-life" grease made with a nonmetallic thickener. Excellent compatibility with most elastomers and other greases. Poly-Plate EP exhibits low oil bleed, high E.P. properties and excellent shear and oxidation stability. Also highly recommended for electric motor bearing applications.

Magna-Plate® 300 (with moly)

NSF H2

This high-temperature grease features enhanced oxidation and antiwear properties. It will outperform all conventionally thickened greases that are exposed to high temperatures for extended periods. This dramatically reduces caking and carbonized deposits. The high percentage of suspension-grade moly and graphite in JAX Magna-Plate 300 produces a high degree of solid particle orientation on the lubricated surface in order to provide a low initial friction, providing real and constant lubrication.

Magna-Plate® 500-0, 500-1, 500-2

NSF H2

By applying advances in the technology of water resistance, JAX has formulated one of the world's most water-resistant greases. It is an excellent general plant grease for wear protection, rust and water problems, and multipurpose applications. Magna-Plate 500 is known throughout the industry for outstanding performance. Now available in NLGI #0 grade so fully automated centralized greasing systems can take advantage of this remarkable technology.

Magna-Plate® 1000-1, 1000-2

NSF H2

These are the best multipurpose greases available for plant equipment and vehicles with high-temperature requirements. Formulated from the finest raw materials and advanced E.P. additive technology, they will withstand temperatures at or near the drop point without caking or oxidizing for far longer than greases of any other base type.

Magna-Plate® 1100

USDA H2

High-performance specialized grease for areas of high salt and process chemical contamination. Patented corrosion control formulation defies rust formation while providing excellent antiwear performance. Superior water resistance, an extremely high dropping point, excellent compatibility with other greases and outstanding corrosion control also make it an ideal grease for general plant-wide grease lubrication.

Magna-Plate® 1200

100% Synthetic

A fully synthetic grease for temperatures up to and exceeding 600°F. This thermally stable product is formulated with costly synthetic esters and a proprietary base soap to provide excellent oxidation stability and lubrication properties for extended periods and at extremely high temperatures.

Millennium Grease

100% Synthetic

A high-temperature, long-life, synthetic bearing lubricant. Its high dropping point, good mechanical stability and high-temp oxidation resistance make it the best for extremely harsh industrial applications. Millennium Grease is formulated from the finest 100% synthetic base PAO fluids available, and will withstand temperatures at or near the drop point without caking or oxidizing for far longer than greases of any other base type. It is MIL-G-10924G qualified and thus designed to operate from -70°F to 350°F under the harsh environment experienced by military ground and air equipment, including salt water corrosion.

Pyro-Plate EPN-2

100% Synthetic

This high-temperature, synthetic grease combines 100% high viscosity synthetic base oils with a proven high-temp thickener for outstanding performance in severe applications that may encounter heavy loads and infrequent relubrication. Numerous difficult industrial and automotive applications can be solved with JAX Pyro-Plate EPN-2 grease.

Hydro-Guard RCG

A specially formulated water-resistant grease solubilized in a non-flammable high-evaporation rate solvent. It is formulated for applications where conventional lubricating greases are difficult to apply, and light viscosity liquid is required for proper penetration, such as retort cart wheel bearings.

Hydro-Chain Grease

NSF H2

JAX Hydro-Chain Grease is a specially formulated water-resistant grease made to withstand the steam, water and high loads found in hydrostatic cooker chain applications.

Gear-Guard Synthetic

NSF H2, 100% Synthetic

This 100% Synthetic open gear lubricant provides unsurpassed performance in severe applications. Excellent water resistance, extreme-pressure capabilities, film adhesion and wear protection. Ultimate "stay-put" performance.

INDUSTRIAL-GRADE GREASES USAGE CHART

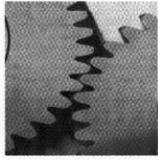
	General Greasing	Closers & Fillers	Conveyor Bearings	High Temp > 300°F	Low Temp < 0°F	Extreme High Temp > 450°F	Automated Lube	Open Gears	Wet Environments	Corrosive Environments	Electric Motor Bearings	Retort Cart Bearings
Poly-Plate EP-0, EP-2	●		●				-0				●	
MP 300	●	●	●	●					●	●		
MP 500-0, 500-1, 500-2	●	●	●				-1 -0		●	●		
MP 1000-1, 1000-2	●	●	●	●		●	-1		●	●	●	
MP 1100	●	●	●	●		●			●	●	●	
MP 1200				●		●						
Millennium Grease				●	●							
Pyro-Plate EPN-2						●			●	●		
Hydro-Guard RCG												●
Hydro-Chain Grease			●						●	●		
Gear-Guard Synthetic								●	●			

● Primary Recommendations ● Secondary Recommendations

General Greasing

- Always try to do your greasing immediately after washdown. This will force the water and caustic soaps out of the bearing before they get a chance to pit and corrode during shutdown.
- Not all greases are compatible. There may be a temporary phenomenon when switching from one grease to another called incompatibility. The problem can range from a mild softening, to greases literally running out of the bearings. As the old grease is flushed out, the problem will correct itself. Refer to the Compatibility Chart in this book, or contact your JAX representative if in doubt about grease compatibility.

INDUSTRIAL-GRADE FLUIDS



GEAR OILS:

Gearboxes come in a wide variety of styles, speeds, and duty levels. We have an industrial gear oil to match any application:

- Multipurpose Gear Oils (NSF H2) SAE 85W90, 85W140
- H-P Industrial Gear Oils (NSF H2) ISO Grades 68 through 680
- Magna-Plate® Gear Oils (NSF H2) 90, 140, 90MV, 140MV
- Synax EP Gear Oils (NSF H2, 100% Synthetic)
ISO 150, 220, 320, 460, 680
- Syngear Industrial Gear Oils (NSF H2, 100% Synthetic)
ISO Grades 22 through 680
- Perma-Gear Fluids EP-PAG (100% Synthetic)
- Syngear-GL Gear Oils (100% Synthetic) SAE 75W90, 80W140

HYDRAULIC FLUIDS:

Our hydraulic oils are compounded for years of trouble-free hydraulic system performance. We have a fluid type and viscosity to match any environment or OEM requirement.

- Premium Hydraulic Oils (NSF H2) ISO 22, 32, 46, 68, 100, 150
- Premium Hydraulic Oil Type Z (NSF H2) HVI-Multi-Grade
- Hydra-Plate® Fluids (NSF H2) ISO Grades 22 through 460
- Hydra-Plate® Fluid-MV (NSF H2) HVI-Multi-Grade

COMPRESSOR FLUIDS:

100% synthetic air compressor fluids for severe operating environments. Syncomp fluids meet the most demanding OEM requirements for extended drain intervals in all industrial compressor applications. Cryoguard Plus is JAX premium, high-performance refrigeration compressor oil.

- Syncomp-P Fluids (100% Synthetic PAO) ISO 22, 32, 46, 68, 100
- Syncomp-FG Fluids (NSF H1, 100% Synthetic PAO) ISO 32 through 150
- Syncomp-D Fluids (NSF H2, 100% Synthetic Diester) ISO 32 through 100
- Cryoguard Plus Fluids (NSF H2 Ammonia Refrigeration) ISO 32, 68
- Syntec Ammonia Compressor Oil (NSF H2, 100% Synthetic) ISO 68
- Premium Rotary Pump Oil HT (NSF H2)
- Syn-Air PGE Fluid (100% Synthetic PAG/Ester) ISO 32, 46

CHAIN & CONVEYOR LUBES

JAX offers a very diverse and complete line of Conveyor Lubes, including E.P. antiwear oils with moly, dry film moly and graphite lubes and the world's finest high-temperature, synthetic fluids for dozens of oven chain applications.

- **Magna-Plate® 200 ISO 46, 150**
- **Magna-Plate® 200NM ISO 22, 46, 100**
- **Conveyor-Guard**
- **Magna-Kote® 404, 412, 412 Plus, 420, 440 (NSF H2)**
- **Super-Cling Chain Oil with PTFE (NSF H2)**
- **Pyro-Kote® Series Oils (NSF H2, 100% Synthetic) ISO 32, 68, 220**

SPECIALTY LUBES:

Premium A-P Pitter Oil

NSF H1

This state-of-the-art lubricating oil uses the latest developments in food-grade technology, and provides a protective film on all metal surfaces, even in extreme water wash-down environments. Contains Micronox® to provide antimicrobial protection for the product.

Premium A-P Reservoir Oil

USDA H2

This oil is blended for use in Atlas-Pacific peeler oil reservoirs. A high degree of rust and wear protection combined with good demulsibility properties allows easier draining of water and contaminants.

Unitran® Fluid, Unitran® HD

USDA H2

Unitran Fluid is a new-generation, premium hydraulic transmission fluid that meets and exceeds the requirements for farm and industrial tractor power train fluid. It is compatible with all of the known brands of universal tractor fluid so it can be used to top off fluids in service. Over 200,000 hours of field tests have shown that JAX Unitran exceeds OEM's standards for wear, chatter, brake capacity, PTO performance and filterability.

Magna-Plate® 2000

NSF H2

This is a high viscosity cooker oil with polymer tac additive, emulsifying agent, and a high percentage of antiwear additives. It is specially compounded for FMC continuous cookers/sterilizers and steam peelers with Manzel box lubricators.

Magna-Plate® 2100

NSF H2

The next generation of cooker oils, Magna-Plate 2100 is a high temperature, non-zinc FMC approved rotary cooker/sterilizer oil. Benefits include greatly reduced wear and corrosion deposits on bronze packing strips.

Continuous Cookers/Sterilizers

- *Some oils can cause the pumps, lines and check valves to become clogged. Make sure they are clear. When setting oil flow using Magna-Plate 2000, try starting with the pumps wide open; if oil gets on the cans, dial back until no oil appears; this should provide maximum lubrication protection and extend valve life dramatically.*

High-Temperature Chains

- *At temperatures which can cause oils to flash off, carbon residue can be a real problem. An ashless fluid like JAX Magna-Plate 85W140FG or Pyro-Kote Series can help without causing the buildup of graphite dry film lubes.*

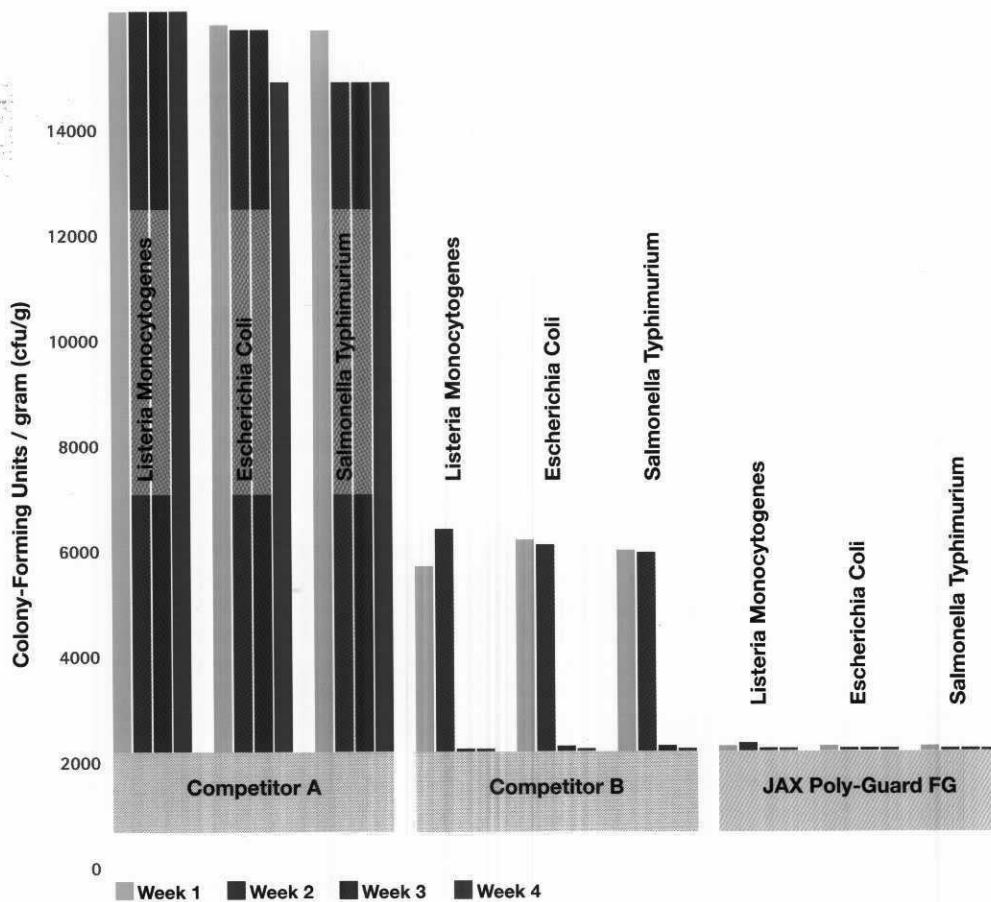


JAX MICRONOX® TECHNOLOGY

Independently engineered and field tested by JAX, the Micronox® additive system is a groundbreaking advance that was developed with the intention of preserving and protecting food-grade lubricants from bacterial contamination in meat, poultry and fresh food processing plants worldwide.

In independent laboratory results, the use of lubricants containing Micronox® was shown to reduce the yeast and mold counts and prevent the formation of Listeria, E. coli and Salmonella.

INDEPENDENT LAB RESULTS



Industry and OEM recognition does not come without JAX having done the groundbreaking development work on advances in food machinery lubrication. Listed below are a few of the firsts and innovations that JAX has brought to the industry:



Top left:
First food-grade and non-zinc cooker oils

Bottom left:
First food-grade, antiwear oil for high speed fillers and seamers

Bottom right:
Industry leading synthetic oven chain oils

JAX FOOD INDUSTRY FIRSTS

- The first Extreme-Pressure, antiwear, food-grade lubricants for chains and conveyors in meatpacking and other food plants.
- The first 100% synthetic, food-grade grease for use in freezing tunnel bearings and other incidental food contact areas where extreme cold temperatures are experienced.
- The first high-performance antiwear food-grade greases for general plant maintenance.
- The first antiwear, food-grade hydraulic oils meeting pump manufacturers' specifications for use in hydraulic systems where the fluid may be exposed to the processed product.
- A fully synthetic, food-grade gearbox lubricant providing extended drain intervals and excellent antiwear and extreme-pressure characteristics.
- The first fully synthetic, food-grade lubricant for cold temperature conveyor lubrication in freezing plant applications.
- The first food-grade grease for the high-speed closing machines found in the brewing and beverage industry compatible with the centralized lubrication equipment found on these machines.
- The first food-grade, EP, antiwear fluid for use in high-speed Angelus can seamers.
- The first food-grade universal hydraulic/transmission fluid for use in harvesting equipment in areas where the product may be exposed to the lubricant.
- The food and beverage industry standard for high-performance, low-volatility vacuum pump oils for use in high oil contamination environments.
- The food industry's highest performing synthetic oven chain lubricants for use in continuous bakery and other process ovens.
- A superior line of food-grade, synthetic compressor fluids for food plant air and refrigerant compression.
- The first retort cart wheel bearing lubricant solubilized with a non-ozone-depleting carrier.
- The first food-grade steel can stamping lubricant line providing low VOC content and high metal finish quality for can lid and end manufacturing.
- The first food-grade, non-zinc, antiwear steam peeler and continuous cooker/sterilizer lubricating oils.
- The first high-temperature-capable, food-grade, synthetic oven chain lubricants.
- Micronox®, the first effective food-grade antimicrobial additive for protecting lubricants with knock-down capabilities, effectively partnering lubricants into plant HACCP programs.



AEROSOL LUBRICANTS, SEALANTS & COATINGS



Listed below are JAX premium quality aerosol products for food plant, industrial and fleet maintenance. We put our time and effort into developing the best available for each application. JAX aerosols are not just a sideline to a paint or parts line, and we don't believe in a "one product does all" philosophy.

This line has been developed and improved over decades of use in the field. Our experience has taught us about the compromises a professional encounters when using inexpensive multipurpose sprays.

Our market is not the mass-merchandise discount house. We have tailored our line exclusively for professional engineers, mechanics and maintenance managers. These people demand products that will work. JAX aerosol products are working, day in and day out.

NSF H1 PRODUCTS

Dry-Glide® Silicone with Micronox® Aerosol, Trigger Spray

A silicone lubricant authorized for use in all sanitary food plant applications where there is a need to eliminate friction between unlike surfaces.

Dry-Glide® WB Silicone Aerosol

A non-flammable, water-based version of our high-percent food-grade silicone spray.

Food-Grade Penetrating Oil Aerosol, Trigger Spray

A food-grade oil with the same penetrating and wetting abilities as our "America's Finest" formula. Also makes an excellent spray-down oil.

Magna-Plate® 86 with Micronox® Aerosol, Trigger Spray

A 100% synthetic lubricant for food-plant extreme-temperature use. Operating range is -70°F to 460°F.

Halo-Guard® FG with Micronox® Aerosol

Cures to a thick coating of white grease to protect against metal-to-metal contact and washout. Very water- and chemical-resistant.

Magna-Plate® 74 with Micronox® Drip-Top Bottles

Compounded to provide the best air line lubricant performance in all areas requiring NSF H1 food-contact authorization. With a high percentage of emulsifiers and rust inhibitors, it provides trouble-free operation of all air-operated equipment.

Magna-Plate® 78 with Micronox® Aerosol, Trigger Spray

An E.P. antiwear food-grade lubricant for the chains and conveyors on equipment in a food-processing environment.

BDF Cling-Lube with Micronox® Aerosol

Formulated with high performance food-grade oil and food-grade grease designed to eliminate dripping from overhead conveyors.

Food-Grade Anti-Seize**Brush Bottles, Pails**

With a base of our top-of-the-line food-grade grease, the addition of high-temp non-corrosive H1 solids gives a reliable anti-seize to fight corrosion and galling on fasteners.

NSF H2 PRODUCTS**Power-Pen****Aerosol**

This high-performance, environmentally-friendly, light-colored lubricant with Teflon® prevents rust, displaces water, lubricates, and penetrates.

America's Finest Penetrating Oil**Aerosol, Trigger Spray**

A blend of the finest oils, solvents, wetting agents and Moly formulated to penetrate and loosen more effectively than a torch. Excellent wicking action.

Chain Drive Pin and Bushing Lube**Aerosol, Trigger Spray**

A foaming, high EP, superb antiwear chain lubricant for areas requiring deep penetrating action in a lighter-colored oil.

Heavy-Duty Chain & Cable Lube**Aerosol, Trigger Spray**

This is a heavy-duty, dual-purpose penetrating lubricant that reduces internal friction and extends chain and cable life. Exposure to outside elements is no problem!

Gear-Guard Synthetic Open Gear**Aerosol**

A synthetic open gear lubricant formulated to be the most water-resistant, supply the best film adhesion, and provide the most wear protection.

Pyro-Kote® 220**Aerosol, Trigger Spray**

Synthetic high-temperature lubricating oil with exceptional antiwear performance. Use on dryers, heatsetting machines, tenter frames, and oven conveyors and chains.

Lift Truck & Sliding Tandem Lube**Aerosol**

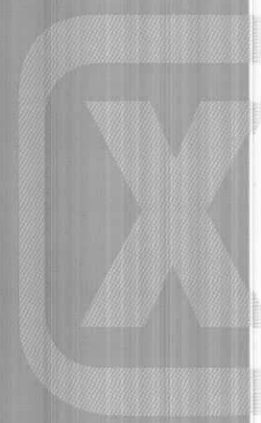
This is a unique combination of two premium greases with Moly and graphite that helps eliminate oil dripping, prevents wear, and reduces friction, rust and freeze-ups to -60°F. Leaves a coating that adheres well.

Protecto-Lube**Aerosol**

A dry Moly spray for long-term lubrication and rustproofing. Makes an excellent anti-seize compound or a lubricant on surfaces where dust, dirt or high temperatures are a problem.

NSF 3H PRODUCTS**DC Conveyor Release WB****Trigger Spray, Bulk**

Formulated for multiple uses in the food-processing industry, particularly in baking where mesh conveyors are carrying product through 300° - 550°F ovens. Meant to be diluted 5:1, 10:1 or as much as 20:1 with hard or soft water. Used on pizza, tortilla, pita and cracker ovens. Now with NSF 3H.



AEROSOL PRODUCTS *continued*

NSF 3H PRODUCTS

Food-Grade Mold Release Aerosol, Trigger Spray

Formulated to provide efficient food release from molds, grills, loaf pans, boning benches, chopping blocks, and other hard surfaces. Provides enhanced release properties and allows for fine, even coating.

PürGel Klear USP Petrolatum Aerosol, Grease Tube, Squeeze Tube

A truly unique package for the food, beverage and pharmaceutical processing industries, this is a direct-contact pure USP clear petrolatum.

T-Oil Food Plant Machinery Coat Aerosol

A pure white mineral oil for food plants that need assurance of 3H integrity for their spray-down oil or slide lubricant. Eliminates potential contamination from transferring oil from bulk to secondary container.

NSF K1 PRODUCTS

Peel-Off Degreaser Aerosol, Trigger Spray

Safe, effective alternative to chlorinated solvents, offering low toxicity, low boiling point, and high solvency.

NSF K2 PRODUCTS

Electrical Contact Cleaner NFF Aerosol

A non-flammable cleaner for electrical and electronic components that is odorless, non-staining and will not harm electrical insulation or plastics.

Precision Contact Cleaner Aerosol

A non-flammable effective contact cleaner that dries fast, leaving no residue. This is a more aggressive formula, so testing on plastics before use is recommended.

High-Tech Cleaner/Degreaser Aerosol, Bulk

An extremely effective blend of high-tech chlorinated solvents for surface preparation, electrical motor/contact cleaning and degreasing industrial equipment.

NSF A7 PRODUCTS

Stainless Steel Cleaner Aerosol, Trigger Spray

Cleans and polishes high-luster surfaces and removes water stains, fingerprints and oils while leaving surface resistant to and free of residue or film.

NSF A1 PRODUCTS

Green-Clean Cleaner/Degreaser Aerosol

An environmentally-friendly cleaner/degreaser for surface preparation, degreasing industrial equipment and cleaning/degreasing metal parts. This is a product that can be used without major downstream concerns. Concentrated for extra heavy cleaning; dilute for normal cleaning.

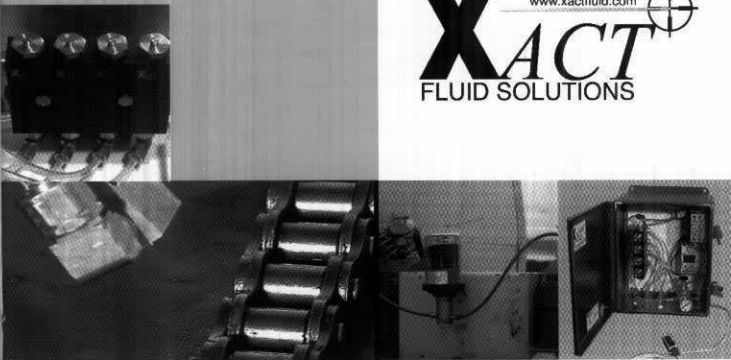
XACT Fluid Solutions is a new division of JAX that provides lubricant application and dispensing systems. These systems Xactly control the application of the lubricants and extend the life of industrial and food-plant machinery.

DISPENSING AND APPLICATIONS SOLUTIONS

The XACT product line includes:

- Single-point lubricators
- Precision chain lubrication
- Multi-point grease lubrication
- Intermediate bulk containment systems
- Clean and safe oil transfer
- Desiccant breathers & vent plugs

XACT Fluid Solutions is also the authorized reseller for many major brands. For more information about XACT Fluid products and services, visit our website at www.xactfluid.com



Top left:
*Precision positive
displacement
pumps*

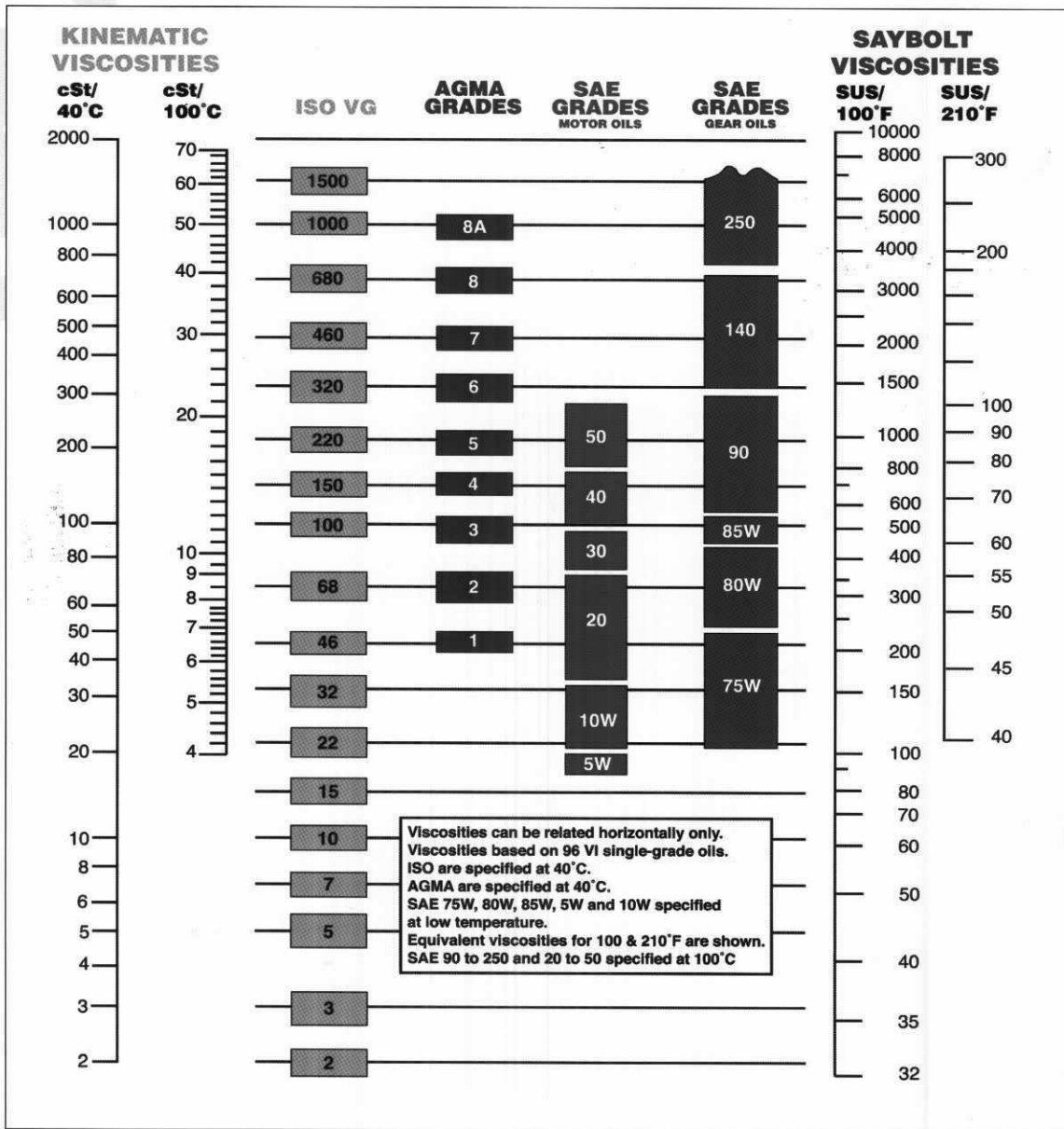
Bottom left:
*Precision chain
lubrication*

Center:
*Remote single-
point lubrication*

Bottom right:
*Nema 4X
washdown safe*



VISCOSITY REFERENCE CHART



NLGI GREASE COMPATIBILITY CHART

	Aluminum Complex	Barium	Calcium	Calcium 12-hydroxy	Calcium Complex	Clay	Lithium	Lithium 12-hydroxy	Lithium Complex	Polyurea
Aluminum Complex	●	●	●	●	●	●	●	●	●	●
Barium	●	●	●	●	●	●	●	●	●	●
Calcium	●	●	●	●	●	●	●	●	●	●
Calcium 12-hydroxy	●	●	●	●	●	●	●	●	●	●
Calcium Complex	●	●	●	●	●	●	●	●	●	●
Clay	●	●	●	●	●	●	●	●	●	●
Lithium	●	●	●	●	●	●	●	●	●	●
Lithium 12-hydroxy	●	●	●	●	●	●	●	●	●	●
Lithium Complex	●	●	●	●	●	●	●	●	●	●
Polyurea	●	●	●	●	●	●	●	●	●	●

● Compatible ● Borderline Compatibility ● Incompatible

NLGI NUMBERS FOR GREASE

A scale for the classification of consistency of a grease, based on penetration numbers determined by ASTM Method D 217. The scale was originally designed by the National Lubricating Grease Institute (NLGI).

NLGI Consistency Number	ASTM Worked (60 strokes) Penetration at 25°C (77°F), tenths of a millimeter
000	445 to 475
00	400 to 430
0	355 to 385
1	310 to 340
2	265 to 295
3	220 to 250
4	175 to 205
5	130 to 160
6	85 to 115

Although there are no official "half" numbers (e.g. 2 1/2), it has become a tradition to give such "half" numbers to intermediate grades (e.g. a grease with a penetration range of 230-260 is called a 2 1/2 NLGI).



JAX, based in Menomonee Falls, WI USA, is a manufacturer of high-technology industrial, synthetic and food-grade lubricants.

Founded in 1955, JAX produces conventional and extreme-performance synthetic lubricants for industrial, manufacturing, transportation, construction, food processing and numerous other industry segments. JAX lubrication products are distributed worldwide.



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