



# TECHnotes

Company and industry information for distributors and users of Bel-Ray Total Performance Lubricants

## INDUSTRIAL DIVISION

# Clean Convenient Multipurpose Lubricants

### THIS MONTH

- Aerosol lubricants simplify and save money while providing controlled application
- Products and tips to incorporate into routine maintenance of Powersports equipment
- Bel-Ray Molytube Mill Gear Grease saves major cement manufacturer thousands per year while providing valuable equipment lubrication

Aerosol lubricants are clean, easy to use and excellent at keeping maintenance costs down. Bel-Ray No-Tox Food Grade aerosol lubricants are ideal for clean industries such as food, beverage, pharmaceutical and personal care products. These convenient multipurpose aerosols can be applied exactly where they are needed. Since aerosols are easy to control, only the desired amount is used. This eliminates waste and saves money.

All Bel-Ray Food Grade aerosol products are:

- **NSF H1 registered** for applications where there is a possibility of incidental contact with food or pharmaceuticals
- Kosher and Pareve approved and Halal Certified
- Formulated with bacteriological protection to inhibit the growth of some bacteria, yeasts and molds in the lubricants

surfaces and is waterproof and solvent resistant.

**SUGGESTED USE:** Bearings, slide ways, conveyors, chains, cams and hinges

### Bel-Ray No-Tox Food Grade Silicone Lubricant Spray (61780)

This is a high viscosity, pearlescent, smooth, tacky and waterproof silicone fluid in an aerosol package. Compatible with most seal materials, this product is resistant to many chemicals used in clean industries. This lubricant is chemically inert and will not affect rubber, plastic or metal. The chemical-resistant silicone fluid is unaffected by mild acids, alkalis, alcohol and glycol.

**SUGGESTED USE:** Wet conditions, water displacement, lubricant cleaner and preservative

### Bel-Ray No-Tox Food Grade Waterproof Chain Lubricant Spray (64070)

This tacky, waterproof chain lubricant contains rust and corrosion inhibitors. Special polymers included in the formula resist flinging and dripping. This makes it an excellent product for over-head chains used in the meat and poultry industry. When mixed with solvent and additives that have an affinity for metal, the high viscosity ISO 460 oil develops a very low viscosity oil mixture. The lubricant penetrates into the pins, bushings and plates when applied to chains and bearings. After the solvent evaporates,

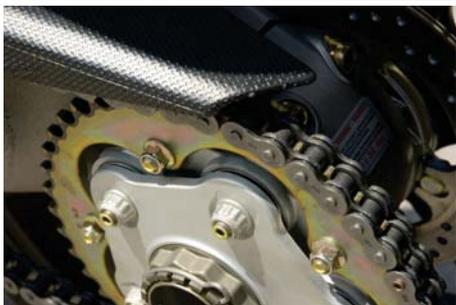
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### NEW Bel-Ray No-Tox Food Grade Dry PTFE Spray (61710)

PTFE (Polytetrafluoroethylene) solids fortify this lubricant spray and provide a clean, durable and long-lasting dry film for use in clean industries where molybdenum disulfide and graphite solid lubricants are not permitted. The PTFE dry film prevents lubricated surfaces from coming in contact with one another, eliminating wear and extending equipment life. This product will not affect plastic or painted

# Routine Maintenance Made Fast and Easy



Routine maintenance performed on your powersports equipment is time spent well. Keep equipment in top shape with Bel-Ray's full line of easy to use maintenance products. Not only do these products keep equipment running smooth, they protect surfaces and save time during clean-up.

## Surface Protection & Detailing

New for 2013 is the Bel-Ray Silicone Detailer & Protectant Spray, specially formulated for the powersports industry. Treated surfaces achieve a brilliant factory-finish shine and resist the accumulation of dust and dirt, making clean-up as easy as wiping off a fender. Safe to use on multiple surfaces including plastic, fiberglass, rubber, metal, chrome and glass, this premium product forms a tenacious bond without reacting to paint, metal or plastic. Water-resistant and dry, it will not wear off with normal use.

In comparison to competitor's products, Bel-Ray Silicone Detailer & Protectant Spray has a higher sheen and provides a thicker protective coating. The product is also easier to spread over a large surface area, saving time during application.

**TO USE:** Apply to clean dry surfaces. Spray a small amount on the surface to be treated and spread evenly with a clean rag.

## Multipurpose

One of the most versatile lubricants used in maintenance is Bel-Ray 6 in 1. This convenient aerosol lubricant is an excellent penetrating fluid and unlike other products leaves an oil film in the treated area. Bel-Ray 6 in 1 can be used for cables and any sliding or rotating surfaces. This lubricant dispels water from cracks and crevices and deposits oil into the treated area, lubricating and sealing out additional moisture.

Unlike other penetrating products, Bel-Ray 6 in 1 contains a heavy lubricating oil that flows into the smallest of areas and is left behind after the solvent evaporates to provide lasting lubrication.

**TO USE:** Shake can well and using the straw supplied, apply directly to the area needing penetration and lubrication.

## Chain Lubrication

Chain lubrication is routinely performed to extend the life of chains and sprockets. This preventative maintenance procedure can be done using one of Bel-Ray's two chain lubricant products.

### Bel-Ray SuperClean Chain Lubricant

is an emulsion-type chain lubricant. It contains solids that, when mixed with the oils and solvents in the can, develop into an emulsion. When applied to the chain and sprocket components, this white emulsion eliminates metal to metal contact and increases the chain and sprocket life. Super-Clean Chain Lubricant does not fling off, keeping equipment clean from chain lubricant. SuperClean Chain Lubricant is recommended for off-road and street bike chains.

Unlike chain waxes, Bel-Ray SuperClean Chain Lubricant provides a lubricating film that shears on itself eliminating metal-to-metal contact between the rollers, plates and sprockets greatly extending chain and sprocket life.

**TO USE:** Shake the can for one minute to make sure all the solids are fully mixed with the oils and solvents. Apply the chain lubricant after a ride when the chain is warm. Apply to the inside of the chain right before it engages the rear sprocket. Centrifugal force will distribute the lubricant to the outside of the chain.

### Bel-Ray Blue TAC Chain Lubricant

is a polymer-type chain lube that offers strong penetration to pins and bushings and goes on clear. When applied to a clean chain and allowed to set for fifteen minutes, the lubricant will stay where applied and not fling off. When tested by Ducati Racing in Italy, the team reported that Bel-Ray Blue TAC Chain Lube was the best chain lube they had ever tested. Blue TAC Chain Lubricant is recommended for street bikes and any chain type, regular or "o" ring.

Bel-Ray Blue TAC Chain Lubricant is not like oily-type chain lubes. It penetrates the pins and bushings and leaves a special polymer that does not fling off. This provides better lubrication for the chain components and extends chain and sprocket life.

**TO USE:** The best time to apply chain

lubricant is after a ride while the chain is still warm. Apply the chain lube to the inside of the chain before it enters the rear sprocket. Centrifugal forces will distribute the lubricant to the outside of the chain during use.

### Air Filter Maintenance

Air filter maintenance is another necessary routine task. Bel-Ray makes two different types of air filter oil: Bel-Ray Foam Filter Oil and Bel-Ray Fiber Filter Oil.

Bel-Ray Foam Filter Oil is available in liquid or aerosol form. Oily foam filter oils do not provide the protection that Bel-Ray Foam Filter Oil does. It contains polymers that make the filter tacky enough to prevent sub-micron particles from entering. It allows superior airflow to protect engines and provide maximum horse power.

**TO USE:** Work the foam filter oil into all of the cells of the filter by pouring a small amount of oil on the outside of the clean and dry filter and a small amount of oil on the inside. While wearing protective gloves or by putting the filter in a plastic bag, squeeze the filter to work the oil into all of the cells. Then hang the filter until all of the solvent has evaporated from the oil. This will take at least a couple of hours. After the solvent has evaporated, the filter can be installed in the bike. A small amount of Bel-Ray Waterproof Grease



applied to the seal where the filter meets the filter box will prevent contamination from getting through the seal.

When the foam filter gets dirty, use Bel-Ray Foam Filter Cleaner & Degreaser. Spray the Cleaner & Degreaser on the filter. Work it into the cells of the filter to emulsify the oil. Then wash the cleaner and oil out of the filter with water. Put some dish soap or car soap on the filter and work the soap into the cells. The soap will loosen the dirt. Wash the soap out with water and rinse the filter clean. Let the filter completely dry and then reapply the foam filter oil.

The **Bel-Ray Fiber Filter Oil** aerosol adheres to dry filter media without soaking the surface and blocking air flow. The use of the Bel-Ray Fiber Filter Oil allows greater air flow to produce increased horse power.

**TO USE:** Aerosol is sprayed lightly onto

the outside of the gauze type filters coating the filter media.

Both the Foam Filter Oil and the Fiber Filter Oil will filter out sub-micron particles to protect the internals of your engine.

### Versatile Molybdenum Disulfide Lube

Bel-Ray Assembly Lube contains molybdenum disulfide, a solid lubricant that eliminates metal-to-metal contact in sliding and rotating equipment. Unlike competitor assembly lubes formulated for engine assembly only, Bel-Ray Assembly Lube is a versatile product that can be used for engine assembly, spline and hub lubrication and anti-seize coating for fasteners.

**TO USE:** For engine assembly, apply only a slight film to the contact surfaces of cams, lifters and bearing surfaces. The lattice structure of the molybdenum disulfide will shear on itself eliminating metal-to-metal wear. When used for drive shaft splines or rear hub splines, clean the splines and apply a liberal amount of Assembly Lube to both spline surfaces before assembly.

Bel-Ray's full line of service products is designed to maintain and protect powersports equipment. Check out all of the Bel-Ray Performance Products online at [www.belray.com](http://www.belray.com) or at a local dealer.

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the ISO 460 oil provides excellent wear protection for all contact surfaces. The polar aspect of the product causes the oil to attach to the metal surface to create a barrier against water, effectively preventing corrosion. Because of the superior adhesion of the chain lubricant, re-application periods can normally be extended, saving time and money. Bel-Ray No-Tox Food Grade Waterproof Chain Lubricant has the highest viscosity base oil of any food grade chain lubricant and will extend equipment life.

**SUGGESTED USE:** Overhead chains, conveyors, bearings and bushings

### Bel-Ray No-Tox Food Grade White Grease Spray (62440)

This aerosol lubricant contains aluminum complex thickener, white mineral oil and PTFE and ZnO lubrication solids. After application, the grease consistency is NLGI 2 grade. The aerosol package

makes the grease convenient to use and allows precise placement. This product has excellent cling and adherence properties that resist the wiping/squeezing action of gears, cams, slideways and sleeve bearings. The aluminum complex thickener makes the grease virtually waterproof, and the anti-wear additives plus lubrication solids reduce friction and wear. Bel-Ray Food Grade White Grease Spray has the highest base oil viscosity among leading brands plus bacteriological protection. This makes it the product of choice for clean industries.

**SUGGESTED USE:** Gears, cams, slideways, sleeve bearings, sliding levers, cam followers and any sliding surface

### Bel-Ray No-Tox Food Grade Multipurpose Lubricant Spray (61881)

This versatile general purpose lubricant contains white mineral oil and an excellent

anti-wear and corrosion protection package. With aggressive penetrating power, it will creep into the tightest crevasses. The unique bacteriological protection system effectively inhibits the growth of certain bacteria, yeast and mold in the lubricant. The formula also provides superior adhesion to metal surfaces and will not drip. Bel-Ray No-Tox Food Grade Multipurpose Lubricant Spray cleans, lubricates and preserves and is ideal for preventing rust and displacing water from equipment parts.

**SUGGESTED USE:** bushings, bearings, light gears, sliding surfaces, hydraulic cylinder rods, corrosion protection for metal surfaces

Check out all the Bel-Ray Performance Products on our website at [www.belray.com](http://www.belray.com) or contact your Bel-Ray Industrial Sales Representative for assistance in solving your lubrication requirements.



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## MINING DIVISION

# Molyube® Mill Gear Grease Solves the Problem



One of the world's largest cement manufacturing companies was experiencing problems lubricating the open gears of their kiln. The current competitor's lubricant base oil viscosity of 10,000 cSt @ 40°C was too heavy and would not flow out of the kiln gear shroud. This caused the open gears to pick up spent, contaminated lubricant, leading to excessive wear and major maintenance problems. By working with the cement company's engineering department, Bel-Ray reviewed the open gear lubricant specification and determined a new grade of the Molyube® Mill Gear Grease would solve the problem. Bel-Ray developed two new grades of the Molyube Mill Gear Grease, Medium (76991) and Heavy (76992).

Bel-Ray recommended the new Molyube Mill Gear Grease Heavy to replace the competitor's open gear lubricant. Molyube Mill Gear Grease Heavy is an NLGI 00 with a base oil of 6440 cSt @ 40°C. It contains molybdenum disulfide, ultra-pure synthetic graphite and Extreme Pressure additives providing an 800 kg 4-Ball weld load. The grease is sprayable and drains completely from grease shrouds and drain chutes. Manual cleanup is eliminated.

Bel-Ray moved forward with testing the new Molyube Mill Gear Grease Heavy. The cement company equipped the kiln's open gears with an automatic spray lubrication system. The contact flank side of the pinion teeth is sprayed with the grease. The pinion gear is 17 inches wide and has 21 teeth. The bull gear is 22 feet in diameter and has 236 teeth rotating at 4 rpms. The initial setting for the Mill Gear Grease Heavy application was every 4 minutes for 30 seconds through four spray

nozzles. This rate of application lubricates the entire bull gear.

The amount of Molyube Mill Gear Grease Heavy applied to the mill teeth was systematically reduced over the last several months. This would determine how much lubricant is needed. Usage that started at 160 grams per hour is now running at 90 grams per hour. This is a 44% reduction from the original application. Additional reductions in consumption are expected to be realized when adjustments are completed.

In the extreme low temperatures of the area, the Molyube Mill Gear Grease Heavy flows from the kiln shrouds. The grease eliminated the back-up of spent lubricant and reduced the cost of manpower to clean the lubricant from the shrouds. The cement plant spent twelve man-hours cleaning the shrouds of the old mill grease and found the entire shroud system needed to be replaced. With the old grease removed and a new shroud system in place, the flow problem is fully resolved.

Estimated cost savings for this application is \$10,000 per year based on the reduction in consumption and the elimination of manually cleaning the kiln open gears.

Molyube Mill Gear Grease series is now available in three grades of base oil viscosity, Light (76986), Medium (76991) and Heavy (76992). Bel-Ray is ready to assist in solving your lubrication problems. Contact your Bel-Ray Sales Manager or log onto the Bel-Ray website at [belray.com](http://belray.com) for complete product offering and technical assistance.