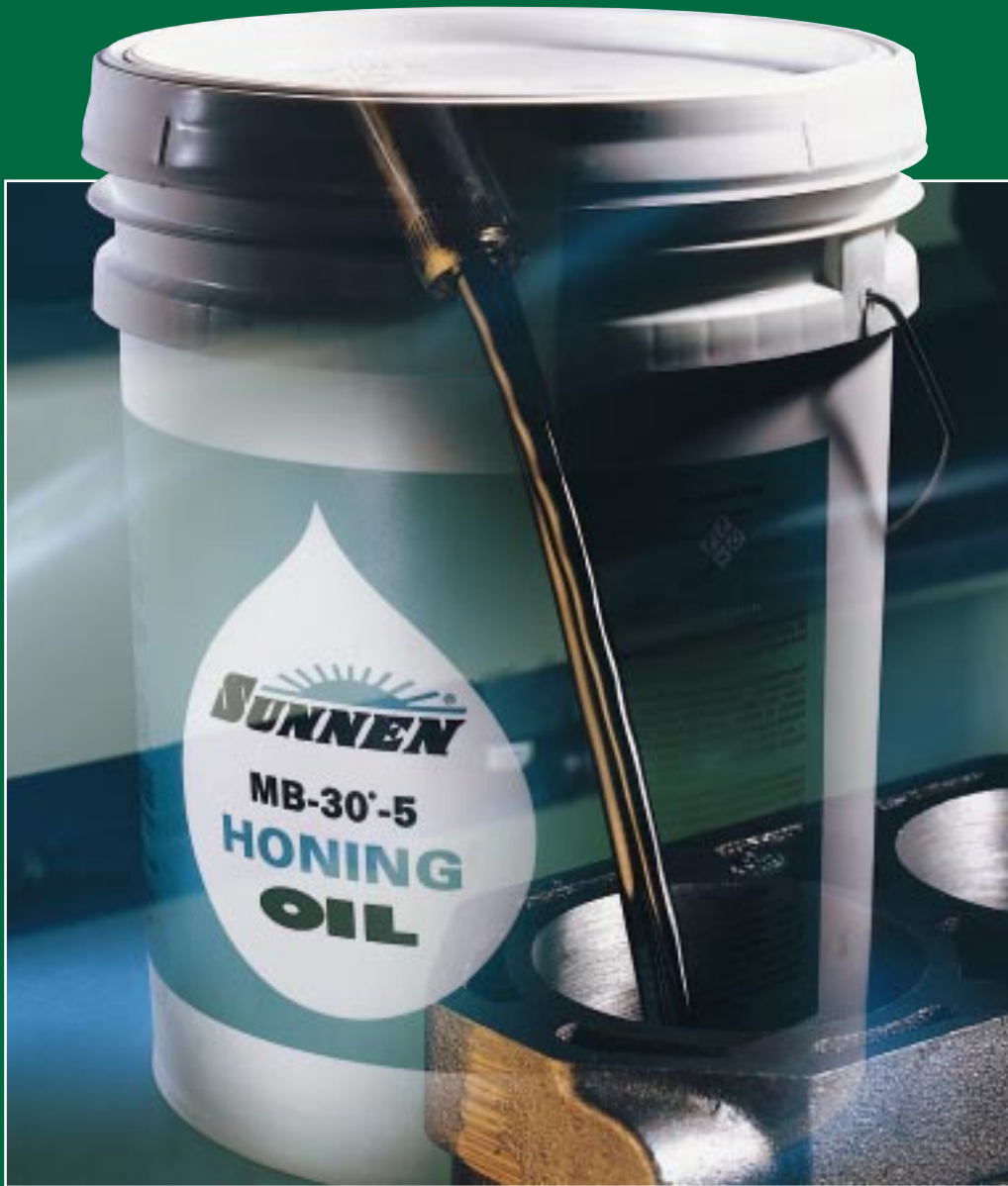


# GENUINE SUNNEN HONING OILS AND COOLANTS



*Where Precision Starts*

## Sunnen... Dedicated to Product Quality

Sunnen, the world leader in honing equipment, built its reputation as the industry leader by stressing product quality and superior service. And these qualities are extremely evident in its premier line of honing oils and Genuine Sunnen Abrasives.

Your use of these two products in combination will produce the **lowest overall honing cost per part.**

Unfortunately, in many instances, the importance of the honing oil is left out of the equation and that can be a costly mistake — because the success of the honing process depends on precision performance by each of the components of the honing system ... machine, tooling, abrasive and honing oil.

With our extensive expertise and knowledge of honing — Sunnen has the solution.

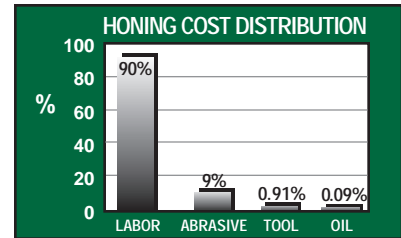
## Genuine Sunnen Honing Oils Ensure The Lowest Honing Cost Per Part

Profitable honing comes from the operator, machine, tooling, abrasive and honing oil working together as a perfect system.

The single largest expense (approximately 90%) of honing cost per part is labor. The second largest expense (about 10%) is abrasive consumption. Typically, oil cost per part honed is less than one tenth of a percent of the total. Yet, a slight decrease in cycle time, or a decrease in abrasive consumption resulting from a better lubricant, repays the cost of premium honing oil many times over.

Your investment in Sunnen honing oils, saturated with surface active agents, provides the extreme lubricity that allows you to use higher honing pressure and harder abrasives for faster, more profitable cutting rates.

And, Sunnen honing oils have repeatedly demonstrated the fastest stock removal rates with the lowest abrasive consumption, resulting in the lowest cost per part honed.



No matter what type of honing application you may have or how difficult the operation, Sunnen has the “solution.” These include traditional mineral oil-based blends for industrial and automotive use, and, environmentally responsible non-hazardous and non-regulated honing oils for industrial and specialty use, such as the nuclear and aerospace industries. Check the Sunnen Honing Oil and Coolant Selection/ Information Charts (back cover) to properly match the right Sunnen honing oil to your specific honing requirement.

**The Bottom Line: It pays to use Genuine Sunnen Honing Oil.**



# Honing Solutions for Industrial

## MB-30 Honing Oil

MB-30 is Sunnen's multi-purpose industrial honing oil. For over forty years, MB-30 has set the standards by which other honing oils are judged. High performance lubricity agents combined with sulfur extreme pressure additives prevent welding and tearing of the work piece and keep the abrasive clean. MB-30 delivers maximum cutting rates and abrasive life when honing difficult materials like stainless steel, and features a much higher level of surface active lubricity agent than other petroleum based machining oils. The MB-30 formula contains metal deactivators to prevent staining of copper containing alloys. MB-30 is also very effective as a general cutting oil for screw machines, drilling, tapping, and reaming. MB-30 works on virtually any metal from aluminum to zirconium.

## MB-40 Honing Oil

MB-40 combines the best features of our industrial and automotive honing oils into one. It is specially formulated

for use in severe applications that encounter problems such as pick up and galling. Formulated with extreme cutting additives, MB-40 works well in Single-Stroke Honing® Diamond Tooling, conventional and superabrasive honing, and KROSSGRINDING® applications. It has also proven useful when fine textures are desired. **NOTE:** Parts cleaning can be more difficult than with MB-30, so it is recommended that MB-40 be used only after MB-30 has proven unsatisfactory.

## LT9X Honing Oil Concentrate

LT9X can be used as a chlorine-free additive to boost performance or replace depleted additives in a wide variety of honing and cutting oils. (Mixing LT9X in a one-to-one ratio with mineral oil makes a formulation similar to MB-30 Honing Oil.) **NOTE:** Choose a mineral oil that is severely solvent refined or severely hydrotreated and has a viscosity of 50-100 sus. Avoid high wax content mineral oils.

## MAN-863 Honing Oil

MAN-863 was developed to answer the need for a non-hazardous, ecologically responsible, unregulated alternative to traditional honing oils. It is composed of natural surface active lubricity agents in combination with preservatives, a sulfur extreme pressure additive and metal deactivator to prevent staining of alloys containing copper. Suitable for all materials including exotic metals. MAN-863 has a mild odor and is very gentle to the operator's skin.

## MAN-852 Honing Oil

MAN-852 is a non-hazardous, ecologically responsible, unregulated honing oil composed entirely of natural surface active lubricity agents. Because this product does not use additives, it is ideally suited for applications where additives are restricted, such as the aerospace and nuclear industries. MAN-852 hones most materials satisfactorily, however, when used with materials such as soft



# Applications

copper, may produce stone loading. MAN-852 is approved by Boeing Aircraft Company and is used to hone critical parts where classic cutting oil additives such as sulfur or chlorine have been shown to cause micro-corrosion, resulting in part failure. MAN-852 has a mild odor and is very gentle to the operator's skin. It is very popular with operators who are sensitive to additives used in regular cutting oils.

## KG3X Honing Oil

KG3X is a non-hazardous, ecologically responsible, unregulated honing oil. Like MAN-852, it is additive free and is composed entirely of surface active lubricity agents, but is formulated to a lower viscosity. Because this honing oil is formulated without additives, it is ideally suited for applications where additives are restricted, such as the aerospace and nuclear industries. KG3X hones most materials satisfactorily, however, when used with materials such as soft copper, may produce stone

loading. Typically, this oil is used to hone critical parts where classic cutting oil additives such as sulfur or chlorine have been shown to cause micro-corrosion, resulting in part failure. KG3X has a mild odor and is very gentle to the operator's skin. It is very popular with operators who are sensitive to additives used in cutting oils.

## SCC Honing Coolant

SCC-505 and SCC-205 Honing Coolant Concentrates are formulated to meet the demands of the KROSSGRINDING® System, Single-Stroke Honing® and metalbond Superabrasive Honing. It is far superior to conventional honing oils in reducing or eliminating workpiece temperature buildup caused by these operations. SCC Coolant is also suitable as a grinding coolant or general purpose metal working fluid for both ferrous and non-ferrous parts. Contains no dangerous nitrites, nitrates, PCB's, PTTBA, Mercurials, or Phenols. (One 18.9 liter (5 gallon) pail makes up to 208 liters (55 gallons) of coolant when mixed at a 10:1 ratio).

**SCC Selection Information:** SCC-505 and SCC-205 are very similar. For best results, select SCC-505 when general all-around performance and longer coolant life are desired. Select SCC-205 when superior performance is required, such as when honing aluminum or using fine grit diamond plated tools or metalbond abrasives.

### DOT-Approved Returnable Totes

Returnable 1255 liter (330 gallon) totes eliminate the worry of environmental disposal regulations. Bulk pricing saves money over drum prices. Contact Sunnen for program details.



# Honing Solutions for Automoti

## SCC-100/101 Grinding Coolant

SCC-100/101 is a general purpose non-hazardous grinding fluid formulated to be very mild to the operator's skin. The excellent foam control makes SCC-100/101 ideal for use in grinders, especially the Sunnen Valve Refacer and Tappet Refacer. The coolant is compatible with machine tools that are designed to use water-based coolant. The coolant is recommended for light duty machining and grinding of alloy steels, copper alloys and some aluminum. SCC-100/101 is non-hazardous per OSHA, DOT and EPA regulations.

## Sunnen LP8X Honing Oil

LP8X is a chlorine-free version of MAN-845 honing oil. LP8X is petroleum based and contains a highly effective sulfur additive in combination with lubricity agents to produce slightly higher honing performance than MAN-845 in automotive machine shop applications. It is suitable for honing a wide range of materials and performs very well as a screw machine or general purpose cutting oil. LP8X is compatible with the oil and filter system of all Sunnen honing machines and other manufacturers' machine tools in which petroleum oils are normally used.

## MAN-845 Honing Oil

MAN-845 is formulated for general purpose automotive machine shop honing. It is excellent for con rods, piston pins, king pins, or general shop honing. MAN-845 can be boosted if necessary for occasional honing of more difficult materials (like aluminum or high nickel cast iron) by adding a small amount of Sunnen Industrial Honing Oil. It is petroleum based, containing high performance lubricity agents in combination with both sulfur and chlorine extreme pressure additives. The low viscosity creates less oil "carry off" and makes cleaning easier. MAN-845 is also an excellent screw machine and general purpose cutting oil. MAN-845 is compatible with the oil and filter system of all Sunnen honing machines and other manufacturers' machine tools in which petroleum oils are normally used.



# ve Engine Rebuilding

## MAN-C Honing Oil Concentrate

MAN-C is a honing oil concentrate, which when mixed at the proper ratios with customer supplied mineral oil, makes MAN-845 or CK-50 honing oil. The end user will save on shipping expenses by purchasing the mineral oil locally and mixing it with MAN-C at their facility.

## CK-50 Honing Oil

CK-50 is specially formulated for honing cast iron automotive and truck engine blocks and should not be used to hone other materials. It is petroleum based, containing high performance lubricity agents in combination with both sulfur and chlorine extreme pressure additives. The low viscosity creates less "carry off" of oil on the motor block and is easily cleaned in hot tanks or spray washers. CK-50 is compatible with the oil and filter system of all Sunnen Honing Machines and other manufacturers' machine tools in which petroleum oils are normally used.

## DOT-Approved Returnable Totes

Returnable 1255 liter (330 gallon) totes eliminate the worry of environmental disposal regulations. Bulk pricing saves money over drum prices. Contact Sunnen for program details.



# Honing Oil Selection Information

		RECOMMENDED HONING OIL										
		INDUSTRIAL						AUTOMOTIVE				
		MB-30/ LT9X*	MB-40	MAN-863	MAN-852	KG3X	SCC-505	SCC-205	SCC-100	CK-50	MAN-845/ MAN-C*	LP8X
<b>PROCESS</b>	Honing	yes	yes	yes	yes	yes	yes(1)	yes(1)	no	yes	yes	yes
	KROSSGRINDING®	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	SINGLE STROKE HONING®	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Grinding	no	no	no	no	no	yes	yes	yes	no	no	no
<b>MATERIAL</b>	Broaching	yes	yes	yes	yes	yes	no	no	no	no	no	no
	Gundrilling	yes	yes	yes	yes	yes	no	no	no	no	no	no
	Milling	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Drilling	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>MATERIAL</b>	Turning	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Use as Additive	yes	yes	yes	yes	yes	NA	NA	NA	no	no	no
	Use as base	no	no	no	no	no	NA	NA	NA	yes	yes	yes
	Alnico	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
<b>MATERIAL</b>	Aluminum	yes	yes	yes	yes	yes	yes	yes	yes	no	yes(2)	yes(2)
	Beryllium	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Brass	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
	Bronze	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
<b>MATERIAL</b>	Carbide	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Carbon	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Cast Iron(soft)	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Cast Iron (hard)	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
<b>MATERIAL</b>	Ceramic	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Cobalt	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Ferrite	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Glass	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
<b>MATERIAL</b>	Inconel	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Molybdenum	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Nickasil plating	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Nylon	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
<b>MATERIAL</b>	Plexiglass	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Polycarbonate	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Silver	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Steel (soft)	yes	yes	yes	yes	yes	yes	yes	yes	no	yes(2)	yes(2)
<b>MATERIAL</b>	Steel (hard)	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no
	Steel (stainless)	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Stellite	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Quartz	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
<b>MATERIAL</b>	Titanium	yes	yes	yes	yes	yes	yes	yes	no	no	no	no
	Zirconium	yes	yes	yes	yes	yes	yes	yes	no	no	no	no

(1) Requires metalbond abrasive

(2) Depends on Material

\* The concentration requirements for MAN-C and LT9X will vary by material being honed. For more information, contact Sunnen Customer Service.

		HONING OIL SPECIFICATIONS/INFORMATION										
		INDUSTRIAL						AUTOMOTIVE				
		MB-30	MB-40	MAN-863	MAN-852	KG3X	SCC-505	SCC-205	SCC-100	CK-50	MAN-845	LP8X
<b>CHEMISTRY</b>	Hazardous OSHA	yes	yes	no	no	no	yes	yes	no	yes	yes	yes
	Hazardous DOT	no	no	no	no	no	no	no	no	no	no	no
	Mineral Oil	yes	yes	no	no	no	yes	no	no	yes	yes	yes
	Sulfur	yes	yes	yes	no	no	no	no	no	yes	yes	yes
<b>SIZE Avail.</b>	Chlorine	no	yes	no	no	no	no	no	no	yes	yes	no
	Viscosity (SUS)	125	125	125	150	125	WATER	WATER	WATER	65	65	65
	Pails 18.91 L (5 gal)	yes	yes	yes	yes	yes	yes	yes	(1)	no	yes	yes
	Drums 209.21 L (55 gal)	yes	yes	yes	yes	yes	no	yes	no	yes	yes	yes
<b>DELIVERY Shipped From:</b>	Returnable Totes	yes	yes	yes	no	yes	no	no	no	yes	yes	yes
	1255 L (330 gal)											
	St. Louis, MO	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Los Angeles, CA	yes	yes	no	yes	no	no	no	no	yes	yes	no
<b>DELIVERY Shipped From:</b>	Fort Worth, TX	yes	yes	no	no	no	no	no	no	yes	yes	no
	Atlanta, GA	yes	yes	no	no	no	no	no	no	yes	yes	no
	Detroit, MI	yes	yes	no	no	no	no	no	no	yes	yes	no
	Baltimore, MD	yes	yes	no	no	no	no	no	no	yes	yes	no
<b>DELIVERY Shipped From:</b>	Worcester, MA	yes	yes	no	no	no	no	no	no	yes	yes	no
	Grand Island, NB	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes

(1) Supplied in Quart (.946 liter) or Gallon (3.78 liter) Containers

NOTE: Sunnen reserves the right to change or revise specifications and product design in connection with any feature of our products contained herein. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment, supplies or accessories previously sold. Information contained herein is considered to be accurate based on available information at the time of printing. Should any discrepancy of information arise, Sunnen recommends that user verify the discrepancy with Sunnen before proceeding in any bore sizing and finishing operation.



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