

# WEAR METAL ORIGINS REFERENCE CHART

## MOBILE EQUIPMENT

**FLUID LIFE**

EQUIPMENT RELIABILITY SERVICES

METAL	ENGINE	TRANSMISSION	DIFFERENTIAL	PLANETARY	TORQUE CONVERTER	HYDRAULIC POWER STEERING	FINAL DRIVE	GEAR BOX	AIR COMPRESSOR
<b>Aluminum (Al)</b>	<ul style="list-style-type: none"> <li>Pistons</li> <li>Bearings</li> <li>Bushings</li> <li>Blocks (Some)</li> <li>Housings</li> <li>Oil pump bushings</li> <li>Blowers</li> <li>Thrust bearing</li> </ul>	<ul style="list-style-type: none"> <li>Pumps</li> <li>Clutches (Some)</li> <li>Thrust washers</li> <li>Bushings</li> </ul>	<ul style="list-style-type: none"> <li>Thrust washers</li> <li>Pump bushings (Some)</li> <li>Greases (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Greases (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Impeller</li> <li>Turbine</li> <li>Pump (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Pump/motor Housing</li> <li>Cylinder (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Oil pump</li> <li>Thrust washer</li> <li>Greases (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Thrust Washers</li> <li>Oil pump (Some)</li> <li>Bushings</li> <li>Greases (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Rotors</li> <li>Pistons</li> <li>Bearings</li> <li>Thrust washers</li> <li>Block housing</li> </ul>
<b>Chrome (Cr)</b>	<ul style="list-style-type: none"> <li>Rings</li> <li>Roller taper</li> <li>Bearings (Some)</li> <li>Liners</li> <li>Exhaust valves</li> <li>Water treatment</li> <li>Chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings</li> <li>Water treatment (Oil cooler)</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Rods</li> <li>Spools</li> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Roller/taper</li> <li>Bearings (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Rings</li> <li>Roller/taper</li> <li>Bearings (Some)</li> <li>Water treatment (Oil cooler)</li> </ul>
<b>Copper (Cu)</b>	<ul style="list-style-type: none"> <li>Wrist pin bushings</li> <li>Valve train</li> <li>Bushings</li> <li>Cam bushings</li> <li>Bearings (Near failure)</li> <li>Oil cooler</li> <li>Thrust washers</li> <li>Governor</li> <li>Oil pump</li> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Clutches</li> <li>Steering discs</li> <li>Bushings/thrust</li> <li>Washers</li> <li>Oil cooler</li> </ul>	<ul style="list-style-type: none"> <li>Bushings</li> <li>Thrust washers</li> <li>Oil pumps (Where used)</li> </ul>	<ul style="list-style-type: none"> <li>Bushings</li> <li>Thrust washers</li> </ul>	<ul style="list-style-type: none"> <li>Bushings</li> <li>Thrust washers (Where used)</li> </ul>	<ul style="list-style-type: none"> <li>Pump thrust Plates</li> <li>Pump pistons</li> <li>Cylinder</li> <li>Guides</li> <li>Bushings</li> <li>Oil coolers (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Bushings</li> <li>Thrust washers</li> </ul>	<ul style="list-style-type: none"> <li>Bushings</li> <li>Thrust washers</li> </ul>	<ul style="list-style-type: none"> <li>Wear plates</li> <li>Bushings</li> <li>Wrist pin bushings</li> <li>Bearings (Recip)</li> <li>Thrust washers</li> </ul>
<b>Iron (Fe)</b>	<ul style="list-style-type: none"> <li>Cylinder</li> <li>Blocks</li> <li>Gears</li> <li>Crankshaft</li> <li>Wrist pins</li> <li>Rings (Cast)</li> <li>Camshaft</li> <li>Valve train</li> <li>Oil pump</li> <li>Liners</li> </ul>	<ul style="list-style-type: none"> <li>Gears</li> <li>Discs</li> <li>Housings</li> <li>Bearings</li> <li>Brake bands</li> <li>Shift spools</li> <li>Pumps</li> <li>PTO</li> </ul>	<ul style="list-style-type: none"> <li>Gears</li> <li>PTO</li> <li>Shafts</li> <li>Bearings</li> <li>Housings</li> </ul>	<ul style="list-style-type: none"> <li>Gears</li> <li>Shafts</li> <li>Bearings</li> <li>Housings</li> </ul>	<ul style="list-style-type: none"> <li>Housings</li> <li>Bearings</li> <li>Shafts</li> </ul>	<ul style="list-style-type: none"> <li>Pump/motor vanes</li> <li>Gears</li> <li>Pistons</li> <li>Cylinder bores &amp; rods</li> <li>Bearings</li> <li>Valves</li> <li>Pump housing</li> </ul>	<ul style="list-style-type: none"> <li>Gears</li> <li>Shafts</li> <li>Bearings</li> <li>Housings</li> </ul>	<ul style="list-style-type: none"> <li>Gears</li> <li>Shafts</li> <li>Bearings</li> </ul>	<ul style="list-style-type: none"> <li>Crankshaft block</li> <li>Housing</li> <li>Screws</li> <li>Bearings</li> <li>Shaft</li> <li>Oil pump</li> <li>Piston rings</li> <li>Cylinders</li> </ul>

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METAL	ENGINE	TRANSMISSION	DIFFERENTIAL	PLANETARY	TORQUE CONVERTER	HYDRAULIC POWER STEERING	FINAL DRIVE	GEAR BOX	AIR COMPRESSOR
<b>Lead (Pb)</b>	<ul style="list-style-type: none"> <li>Bearings</li> <li>Gasoline</li> <li>Octane improver</li> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Oil additives (Some)</li> </ul>	—	—	<ul style="list-style-type: none"> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Oil additives (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Bearings</li> </ul>
<b>Silicon (Si)</b>	<ul style="list-style-type: none"> <li>Anti-foam additives</li> <li>Ingested dirt</li> <li>Octane improver</li> <li>Coolant leak</li> </ul>	<ul style="list-style-type: none"> <li>Disk lining</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> <li>Elastomeric seals (Some)</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>
<b>Sodium (Na)</b>	<ul style="list-style-type: none"> <li>Oil additive (Some)</li> <li>Anti-freeze</li> <li>Road salt</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additives</li> <li>Anti-freeze</li> <li>Road salt</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additive</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additive</li> <li>Anti-freeze</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additive</li> <li>Road salt</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additive</li> <li>Ingested dirt</li> </ul>	<ul style="list-style-type: none"> <li>Oil additive</li> <li>Ingested dirt</li> <li>Anti-freeze</li> </ul>
<b>Tin (Sn)</b>	<ul style="list-style-type: none"> <li>Pistons (Overlay)</li> <li>Bearings (Overlay)</li> <li>Bushings</li> </ul>	—	—	—	—	—	—	—	<ul style="list-style-type: none"> <li>Pistons (Overlay)</li> <li>Bearings (Overlay)</li> <li>Bushings</li> </ul>