

Identify Premature Failure Through Metals in Oil Samples

KOMATSU EQUIPMENT

Source of Oil Sample

Component at Risk

	Engine	Transmission	Differential	Planetary	Torque Converter	Hydraulic Power System	Final Drive	Gear Reduction Box	Air Compressor
Bearing Bonding Material	■								
Bearings	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Block	■ ■								■ ■
Blower	■								
Brake Bands		■							
Bushing/Thrust Washers		■							
Bushings	■ ■ ■ ■	■	■ ■	■	■	■	■	■ ■	■ ■
Cam Bushings	■								
Camshaft	■								
Clutch		■ ■							
Crankshaft	■								■
Cylinder Bores and Rods						■			
Cylinders	■					■			■
Ingested Dirt	■	■	■	■	■	■	■	■	■
Discs		■ ■							
Exhaust Valves	■								
Gasoline	■								
Gears	■	■	■	■		■	■	■	
Glands						■			
Governor	■								
Guides						■			
Housing	■	■	■	■	■	■		■ ■	
Impeller					■	■			
Liners	■ ■								
Octane-Improver	■								
Oil Cooler	■	■ ■				■			■
Oil Pump	■ ■ ■		■				■	■	■
Pistons	■ ■ ■					■			■ ■ ■
Piston Rings									■
Plates						■			
PTO		■	■						
Pumps		■ ■	■		■	■			
Pump Housing						■			
Pump Pistons/Thrust						■			
Pump Plates						■			
Pump/Motor						■			
Rings	■								■
Rods						■			
Roller/Taper	■	■	■	■	■	■	■	■	■
Rotor									■
Screws									■
Shafts			■	■	■		■	■	■
Shift Spools		■							
Specialized Components	■								
Spools						■			
Steering Discs		■							
Thrust Bearings	■								
Thrust Washers	■	■	■ ■	■	■		■ ■	■ ■	■ ■
Turbine					■	■			
Valve Train	■ ■								
Valves						■			
Vanes						■			
Water Treatment	■	■							■
Wear Plate									■
Wrist Pins	■ ■								■

How to Read this Chart

1. Start with the source of the oil sample at the top of the chart.
2. Your oil sample report will tell you which metals from this source are high. The metals are keyed with different colors.
3. If there's high metal level from a particular source, look down the chart to see what components may have problems by locating each instance of that metal.
4. High metal levels may give several indications that there could be problems with a particular component.

Examples

- High copper levels from many sources might indicate a risk of premature failure of bushings and thrust washers.
- High lead levels from many sources might indicate a risk of premature failure of bearings.

Key for Metal

- Iron
- Copper
- Aluminum
- Chrome
- Tin
- Lead
- Nickel
- Silicon