

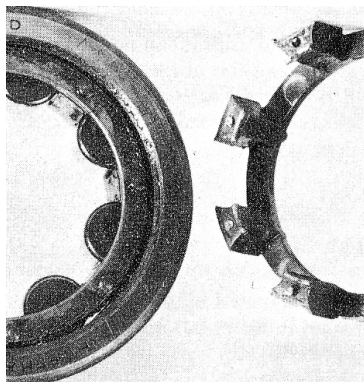
LADDER MARKING OR WASHBOARD EROSION

Characteristics

A regular pattern of dark and light bands which may have developed into definite grooves. Microscopic examination shows numerous small, almost round, pits.

Causes

An electric current has passed across the bearing; a.c. or d.c. currents will cause this effect which may be found on either race or on the rolling elements



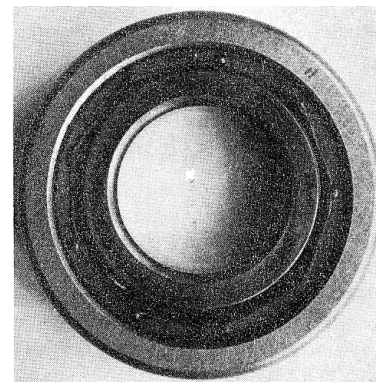
GREASE FAILURE

Characteristics

Cage pockets and rims worn. Remaining grease dry and hard; bearing shows signs of overheating.

Causes

Use of unsuitable grease. Common type of failure where temperatures are too high for the grease in use.



MOLTEN CAGE

Characteristics

Cage melted down to the rivets, inner race shows temper colours.

Causes

Lubrication failure on a high-speed bearing. In this case an oil failure at 26 000 rev/min. in a slower bearing the damage would not have been so localised.



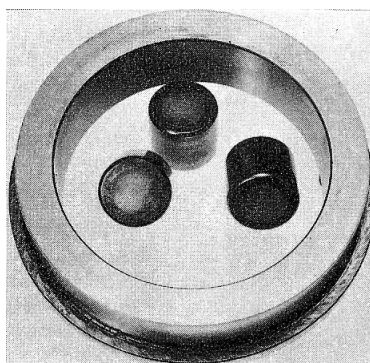
OVERHEATING

Characteristics

All parts of the bearing are blackened or show temper colours. Lubricant either absent or charred. Loss of hardness on all parts.

Causes

Gross overheating. Mild overheating may only show up as a loss of hardness.



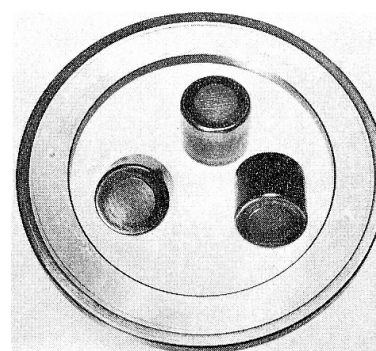
SMEARING

Characteristics

Scuff marks, discoloration and metal transfer on non-rolling surfaces. Usually some loss of hardness and evidence of deterioration of lubricant. Often found on the ends of rollers and the corresponding guide face on the flanges.

Causes

Heavy loads and/or poor lubrication.



ABRASIVE WEAR

Characteristics

Dulling of the working surfaces and the removal of metal without loss of hardness.

Causes

Abrasive particles in the lubricant, usually non-metallic.