

Mine Equipment Bearing Failure Inspection

1. inspection before bearing operation

When people install bearings, in order to ensure the smooth operation of [bearings](#), attention should be paid to the inspection of bearings before operation. For small machinery, people can directly rotate their bearings by hand to see if they can work smoothly. In daily inspection work, people often run bad phenomena are: because of foreign bodies, scars and indentation caused by poor operation; because of the installation is not in place, resulting in poor operation; because of too small clearance, there is a large installation error and other causes of torque too large, resulting in poor operation of bearings. If the abnormal results are not found after careful examination, the bearing can be operated for the next step. For large-scale machinery, people can not rotate manually, but can carry out inertial operation by stopping power in time after starting without load, and then carefully observe the vibration of bearings, noise and the actual contact of the rotating parts, to determine that there is no abnormality before the next dynamic rotation. Turn the stage. The dynamic rotation usually increases from the low load stage to the rated speed. During the test run, it is important to check whether the bearing has abnormal sound, whether there is lubricant leakage and whether the bearing has large temperature rise. If abnormal occurs during the commissioning stage of the bearing, it should be stopped.

Check the bearing and check the bearing if necessary. The temperature rise of the bearing can usually be obtained by inspecting the bearing housing, but the temperature of the bearing outer ring can also be directly inspected by means of the filling hole so that the inspection result can be more accurate. Mine machinery bearing temperature, generally starting from the operation of the bearing gradually increased, usually rose to a certain temperature after the bearing temperature will tend to be stable. If the bearing is not installed properly, it may cause the bearing temperature to rise sharply and abnormal temperature rise. In addition, excessive lubricant, small internal free clearance, serious wear and tear of the ball, high-speed rotation, etc. will also lead to the bearing temperature rise phenomenon.

2. [inspection of bearings in operation](#)

As far as the maintenance of bearing equipment is concerned, it is found that with the increase of the operating life of the bearing, it is more and more important to pay attention to the inspection of the running state of the bearing and the formulation of the maintenance plan for the prevention and control of the bearing running fault. Although there are many systems and instruments on the market for bearing monitoring, but many of these instruments are based on vibration measurement, and not all bearing equipment are suitable for the use of these instruments for inspection operations, which requires the relevant maintenance personnel must attach great importance to the bearing "fault signal", such as attention should be paid. Observe the temperature of the bearing, listen to the noise of the bearing and the vibration of the touch bearing. Make full use of the three common maintenance methods of "listening", "touching" and "observing" to better prevent and cure the bearing failure.

2.1 listening

Listening method is a common method to identify irregular operation by means of hearing. For example, electronic stethoscope and mechanical needle are used to analyze bearing noise. This kind of method is used by experienced maintenance personnel. If the bearings are in good working condition, the general sound is a lower whine. If the bearings make a sharp hiss, squeak or some other irregular sound, it indicates that the bearings are in bad working condition. This sharp squeak may be due to inadequate lubrication, and improper bearing clearance may lead to. At the same time, the groove on the track of the outer ring of the bearing will also cause vibration and make a smooth and crisp sound. Knock marks produced during installation will also make the bearing produce motion noise, which generally varies with the speed of the bearing. If there is intermittent noise when the bearing is running, it may be the damage of the bearing rolling parts, the damaged surface is rolled out of date will generally produce such noise. In daily production, although people can use hearing to judge the damage of bearings, but usually at this time the bearings will also be in need of timely replacement stage, so the better way is to use electronic condition monitor to pre-diagnose the actual operation of bearings, this method and the old method (supported by a wooden stick) On the bearing box, the other end and the ear close) compared to the actual operation of the bearing can be more accurate prediction.

2.2 touch

Bearing temperature is also an important indicator to judge whether the bearing fault exists. If the running bearing temperature is too high, it indicates that the bearing has been abnormal, and high temperature will also affect the service life of the bearing lubricant. If the bearing is running at high temperature for a long time, the service life of bearings will be greatly shortened. In actual production, it is found that insufficient lubrication of bearings, transition lubrication, impurities in lubricants, excessive running load, insufficient running clearance, etc. are easy to cause the phenomenon of excessive bearing temperature. Once the bearing temperature is too high, the normal service life of the bearing will be greatly reduced. In this regard, people must pay attention to long-term continuous monitoring of the operating temperature of bearings, in the actual monitoring work, people can use the thermometer to accurately measure the temperature of bearing components. Whether the bearing itself or some other important parts, when the operating conditions of the bearings are more stable, the temperature of these parts changes dramatically, indicating that the bearing may be about to break down. In addition, for some important bearings, because they are damaged, may pose a serious threat to the safety of equipment production, it is best to install such bearings with thermometers. Normally, bearings will be provided after the bearings are lubricated and re lubricated.