

Electromagnetic Clutches & Brakes

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General Purpose

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Potential Problem

Pinging or scraping noise noticed when

Noise from pulley bearing.

clutch is disengaged

Noise from field bearing.

If clutch is able to move on the shaft.

Check center bolt and washer to make sure it is tight. If it is tight, make sure that the shaft is not too long. Clutch shaft should end before the end of the clutch to allow some deflection in the center holt and washer to keep clutch on

Possible Reason

tiahtly. (Example)

Check if bearing feels rough. Check belt load to make sure pulley and bearings are

not over loaded.

High temperature can be caused by either operating environment or due to slippage. If slippage, clutch should be discolored. Refer to slippage section for potential reasons.

Air gap too close. (Example)

Surface is heavily galled.

Check to see if the clutch is discolored to Refer to slippage section. see if it shows signs of slippage.

Check for damage to both the outer race Replace clutch. and inner race of the bearing. Make sure key is not too tight forcing pressure on the inner race. In the outer race area,

check for marks or damage that could have caused the clearances to close up. (Example 1, Example 2, Example 3)

is mounted to verify that it is under 300°.

Check torque tab or backing plate to make sure that there is freedom of movement of 1/16 of an inch axially and radially. Check to see if any marks are evident that would indicate axial forces applied.

(Example)

Noise is evident when the clutch is first

1. Possible causes are bolts holding the field are not tightened down properly.

2. Key in key way is not seated properly. This could cause the clutch to cock to one side.

3. Lead wire is pinched between mounting face and field bracket cocking field assembly.

4. If set screw version, this could be because of improper air gap between pulley/armature and field.

5. Mounting face in not concentric with shaft.

Check to see if projection wells are broken. If they are check to see if rotor strike has occurred. Possible misalignment in combination of belts and side load can break projection wells. (Example)

Solution

Retighten center bolt or change spacer or shaft length.

Reduce belt load.

Reduce the heat or eliminate slippage.

Increase air gap.

Re-burnish the clutch.

Check temperature of shaft where clutch Reduce reason for the high temperature overloading on the engine.

> Loosen torque tab to make sure it has freedom of movement both axially and radially.

1. Tighten bolts

2. Remove rotor assembly and reset key way.

3. Loosen the bolts, remove the wire and retighten the field mounting bolts.

4. Push together, then back off .1 inches and retighten set screw.

5. Remachine mounting holes or switch mounting face (by switching you are able to verify if mounting holes on the clutch are the problem or the mounting holes on the face are the problem.)

Replace the clutch

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installed and rotated by hand.

Mounting bracket has come loose from

the back of the field assembly.

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