

# Pre-empting failures

**A self-help guide  
to what, why & how to do**



# Are your machine running hot and/or noisy?

## Temperature

Check the actual bearing temperature and notice if it's changing



Use an [infrared thermometer](#)

## Visual inspection & vibration

Apply vibration reading for the bearings



traffic light indicates condition

Check the amount of grease in bearing housings.



## Noise & Vibration

Change in the running of the machine (extra noise, vibration, smell) should prompt further investigation.



Use a [QuickCollect \(Pulse sensor in USA\)](#)

## Oil check

Deteriorating condition of the oil, in e.g gearboxes can lead to failures. Examine the cleanliness and condition of the oil.



Use an [Oil check monitor](#)

# Wondering if power transmission (system) will survive the production run?

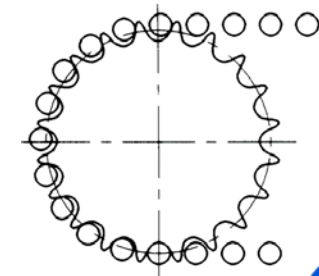


Use a [stroboscope](#) to visually freeze the motion of a machine to allow couplings, belts and pulley to be inspected.



## What to look out for and why

- if pulley is moving at an angle
- identify signs of wear/crack of belt & pulley, looseness, depth of belts into pulley groove.
- signs of coupling wear/crack on hubs, integrity of metallic/elastomeric element fastening of locking nuts
- are hubs synchronous or not?
- do chain look dry on the linkage and is it oval in shape?
- do chains kink, or not ride smoothly over sprocket?



# Other visual inspection on the run – operators & maintenance

## Ultrasonic

Check air for compressors and potential gas leaks for refrigeration units



Use an [Ultrasonic leak detector](#)

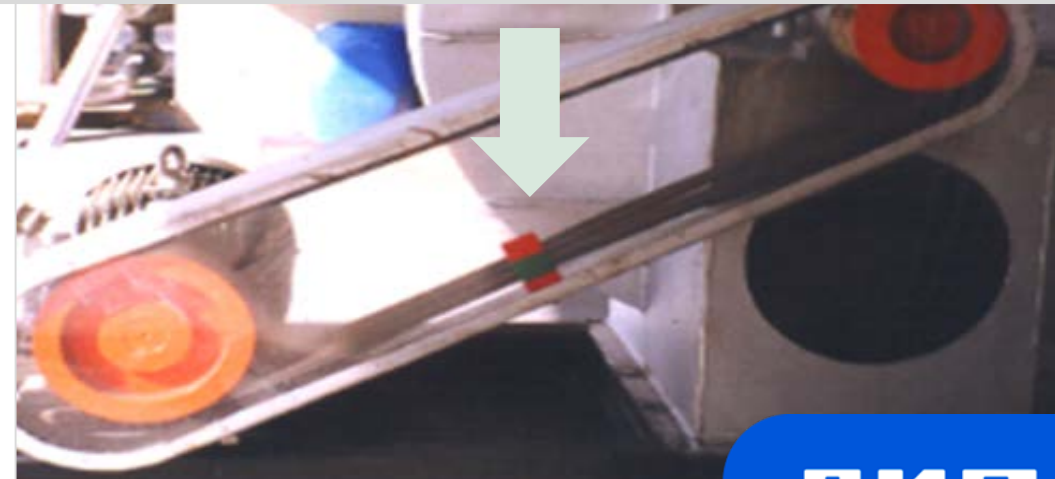
## Thermal imaging

Detect (from distance) overheated motors/ bearings housings, electrical faults... differential temperatures in general.



## Centerlines

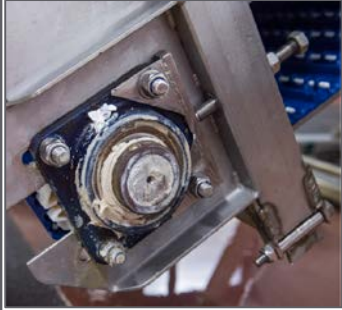
In general, observe deviations from defined visual centerline and set up centerlines that are needed only.





# Lubrication control

## Over greasing – thinking it will last longer



Consider [relubrication-free bearing technologies](#)

## Lack of lubrication



## Automated lubrication



[Chain lubrication system](#) – simple installation



[Automatic lubricators](#)

## Manual lubrication:



Use a [grease meter](#) or [grease gun](#)

Use [DialSet](#) to establish the right grease amount & lubrication intervals

## Lubricant cross contamination, wrong grease

Use lubricant [tags and caps](#).



Check if you are using the right grease based on application conditions:  
[LubeSelect](#)

## Lubricant contamination in handling



Use a [pump to fill the grease gun](#)

# How to verify back-up equipment works properly before setting into production

QUICK  
TIPS

In case of long period of stand still, components can deteriorate or get damaged such as:

- Grease/oil can lose key properties
- Inducted vibration can damage bearing
- Belts rubber/compound can age or lose tension
- Coupling elastomeric element can age
- Coupling hubs can be rusty or corroded and compromise mechanical performance

- ✓ If possible, refresh lubricant and or [change](#) it
- ✓ Re-check [belt](#) condition, [alignment and tensioning](#)
- ✓ Re-check [coupling](#) condition and shaft alignment
- ✓ Start-up the machine and check overall vibration accordingly to ISO standard



# Maintenance (wrench time) saving tips

## Worn shaft – quick fix

If worn shafts cause continuous seal leaks – use a [Speedi Sleeve](#) for quick fix instead of grinding the shaft



## Mounting/dismounting

[Hydraulic pullers](#);  
3 jaw instead of 2  
jaw puller



[Induction  
heater](#) instead  
of mechanical



[Fitting tool](#)  
instead of  
hammer &  
pipe



## Machined seal

When needing special sealing piece(s) or few only, consider customized [machined seals](#)

Ready in 1-2 days



## Alignment

[Shaft alignment](#)



[Belt alignment](#)



[Ready made shims](#)

