

## Restarting Systems after an Unplanned Shutdown

### Overview

The purpose of this document is to provide instructions to restart an idled metalworking central system. Use this technical bulletin as a general guideline in creating a plan to return equipment back to service. In the event of malfunctioning equipment, consult the equipment manufacturer.

### Metalworking Fluids-Water Soluble, Central Systems

Ideally central systems were programmed to circulate during periods of down production. If not, before any operation, it is a necessity to circulate for several hours or days, pending the system size. Listed below are additional steps to perform before production resumes.

1. **Index filter media-** removing chips and fines that have settled ensuring the filter system is running properly.
2. **Examine tooling-** systems with high water hardness may have build-up on tooling surfaces that dried during this period. If residues are present, flush coolant across these surfaces to remove any build-up.
3. **Heat Exchangers-** “Y” strainers, filter bags, etc. may need to be cleaned out and replaced. Ensure the fluids are brought to the proper operating temperature before machining resumes.
4. **Cooling Towers-** must be running with the proper water flow prior to operation to maintain coolant temperatures. Consult OEM directions if this equipment was idled.
5. **Examine work area-** humidity build-up may have caused corrosion on fixtures, tooling, and other surfaces. Inspect these surfaces to ensure tolerances can be maintained.
6. **Mist collectors-** circulate and change any filters that are on system.
7. **Air fans-** need to be circulated.
8. **Check coolant concentration-** coolant must be within the operating range (control plan parameters) recommended for your application.
9. **Coolant addition-** add a small amount of coolant (~1%) prior to resuming production. This allows coolant additives to be replenished.
10. **Sample system-** send system sample into Castrol LabCheck for analysis. If no sample can be submitted before production resumes, we recommend performing a dip slide test for bacteria (such as Sani-Check BF Dip Slides).

Lastly, many central systems operate from memory powered by a small battery. As your facility resumes production, now is a good time to check the status and replace if necessary. Ensure proper coolant parameters are installed to avoid alarms.

### Castrol LabCheck Sample Analysis

Knowing the condition of the fluid is key to maintaining performance. Fluid systems are dynamic in nature and performance can change during unplanned idle periods. It is important to sample the fluid before restarting and continue sampling at regular intervals.

For water-based metal working fluids, the following tests are performed as part of our routine analysis:

- Concentration
- pH
- Bacteria/Fungus
- Hardness

- Chlorides
- Dirt
- Other critical product components as needed

For neat oil metal working fluids and lubricants, the following tests are performed:

- Elemental product components
- Wear metals
- Atmospheric contaminants
- Elemental contaminants
- Viscosity
- Water contamination
- TAN
- Particle Count

By taking the time to check on these conditions, you help ensure that the product in use is operating at its full potential.

### Sampling, Submitting, Testing

Once you have pulled a system sample, you can now send the sample to the lab for testing.

Below is a quick step by step guide:

- Pull system sample to be tested
- Properly label sample bottle with Customer Name, Customer Location, System/Unit Name, Product Name, Date Sample Pulled
- Tape the sample bottle lid and obtain the SDS for the product
- Fill out sample submittal form to submit with the sample
- Package up the sample, the SDS, and the sample submittal form and send to:

Castrol Industrial LabCheck  
2450 Hassell Road  
Hoffman Estates, IL 60169

Once the package has been received, a Castrol Technologist will contact you to finalize the sampling process and create an ID in our LabCheck sample analysis website. Once the sample tests are finished, you will receive a customized report in LabCheck emphasizing the results to the tests referenced above.

[www.labcheckonline.net](http://www.labcheckonline.net)

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