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Title: Crankshaft Chroming

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The purpose of this CFR News Bulletin is to inform customers of the problem with chroming crankshafts. In providing service, we have found several locations where the crankshaft journals have been resurfaced with chrome that has resulted in damage to unit bearings and other components. Waukesha Engine does not endorse or support this practice since the crankshaft tolerances and component specifications are considered critical in the design of the CFR unit.

We have found the following problems when dealing with chromed shafts:

- Flaking of the chrome from the journal surfaces and embedding in the bearing surfaces.
- Chromed journal surfaces found to be oversized or out of round from standard Waukesha crankshaft journal specifications.
- Excessive bearing wear, component damage, and shortened crankcase life.
- Chrome and bearing debris in the oil sump.
- Excessive repair cost for the customer.

Crankshafts are listed under section A2.2 "Critical Equipment" under Test Methods D2699, D2700, and D613. The crankshafts, as well as other unit components listed under this section, are also considered critical so that each respective unit conforms to the precision statement of each respective method. Deviation from critical component specifications can often cause unit damage, variances in rating precision, and unnecessary repair cost.

The journal surface of a standard crankshaft is engineered and maintained to strict manufacturing tolerances (surface hardness, hardness depth, steel quality, journal diameter dimensions, and journal finish) all of which play a crucial role in providing the performance and longevity of the CFR unit. Chrome, although a hard metal, is brittle and can cause variances in wear between the journal and bearing surfaces that directly impact bearing life, journal life, and unit rating performance.

Waukesha Engine recommends only Genuine Waukesha Parts for replacement of critical components to ensure conformance to each respective test method. Journal surfaces that are found to be undersized, damaged (scored), or outside the Waukesha Engine recommended wear tolerances should be replaced with a new OEM shaft.

Waukesha offers complete field services direct or from an authorized CFR distributor for rebuilding existing crankcases using Genuine Waukesha Parts. Waukesha also offers a crankcase shaft kit (P/N G-807-25) if you wish to perform your own crankcase overhaul. You may also order each shaft individually. Genuine Waukesha Parts come with a full year warranty against parts defects in material and workmanship. This does not cover damage to new bearings or parts caused by chromed crankshaft journals.

If you have any questions or would like further information, please contact Waukesha Engine's CFR Department at (262) 549-2915 or your local authorized CFR distributor.

