

## November 2009

### CONTACT INFORMATION

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## TECHNOS HOT TIP #20

### WELDING PROCEDURES

Technos Corporation recommends using standard AWS specifications for QC welding procedures on rotating and static equipment.

#### AWS-D14.6/D14.6M:2005

Specification for Welding of Rotating Elements of Equipment. This specification applies to the fabrication, by welding, of wrought or cast material used to manufacture rotating elements of equipment such as fans, pumps, compressors, and centrifuges for power generation, propulsion, and material processing.

#### AWS D1.1/D1.1M:2008

Structural Welding Code – Steel. This code contains the requirements for fabricating and erecting welded steel structures. The following important areas for steel construction are covered comprehensively: design of welded connections, prequalification of welding procedure specifications, qualification procedures and personnel, fabrication, inspection qualification and acceptance criteria, stud welding and strengthening and repairing existing structures.



## *Vibration Analyses and On-site Balancing will save you time & money*

Vibration analyses on your equipment can detect and many impending machinery problems. At Technos Corporation, our experience with diagnosing vibration problems has shown that over 70% were due to equipment misalignment and/or rotor unbalance.

A fan can suffer from a variety of unbalance problems; fan blade wear, rotor damage, and/or material build-up, to name but a few. This unbalance can lead to excessive vibration which can cause rotor, bearing, or motor failure.

Field balancing is the most economical method to correct unbalance in a completely assembled machine and takes the actual operating conditions into consideration. Most fans can be balanced on site with our state of the art balancing equipment which saves disassembly labor & time and transportation costs. A Technos field service team will balance your fan wheel to the correct manufacturer's tolerance specification and provide a balance report for your records.

Technos Corporation has field service crews dedicated to field fan balancing, solving field vibration problems, assisting with fan start up, and field installation services. Our service technicians are experienced in analyzing fan vibration problem signatures which, if left alone, can lead to bearing failure or catastrophic fan damage.

If you have any questions or concerns regarding your equipment, please contact our Field Service Manager, Derrick Dowden. He can be reached directly at 210-865-8234, or at [ddowden@technosfans.com](mailto:ddowden@technosfans.com).



## ENGINEERING SUPPORT

Our Engineering Department has the expertise to perform the most thorough analysis using cutting-edge computer technology.

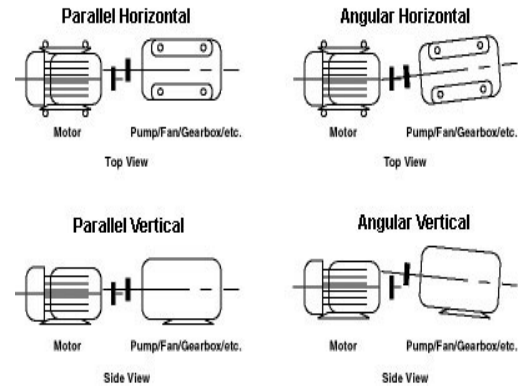
- Natural Frequency Testing
- Finite Element Analysis (FEA)
- Shaft Critical Prediction
- Wear Control Improvements
- Metallurgical Analysis

## FIELD SERVICE DEPARTMENT

- Emergency Repairs
- Laser Alignment
- Field Balancing
- Wheel Replacement
- Bearing Repairs
- Epoxy Grouting
- Liner Installation

## PRODUCTS AVAILABLE

- Complete Custom Fan Assemblies
- Chrome Carbide Liners
- Dampers
- Expansion Joints
- OEM Projects
- Fan Housings
- Spare Wheels
- Screw Conveyors
- Coal Hoppers
- Shaft Seals
- Separators
- Shafts
- Classifiers
- Ducting



## *Technos offers Laser Alignment on Rotating Equipment*

Precise shaft alignment reduces bearing and seal damage, minimizes energy loss, and reduces production downtime. Laser alignment offers the potential for much greater accuracy than dial indicators and is typically quicker as well. Some of the laser alignment benefits include:

- Reduced axial and radial forces to insure longer bearing and seal life.
- Minimize the amount of wear in the coupling components.
- Maintain proper internal motor rotor clearances.
- Lowered vibration levels in machine casings, bearing houses, and rotors.

Our Technos Field Service Technicians use the Optalign V laser alignment equipment which is built to rugged industrial standards for shock and water resistance. It features an LCD display and allows the technician to store coupling alignment values and generate alignment reports.

## Technos Corporation Capabilities

In Texas, Technos Corporation Fan Services is located on 10 acres five miles northeast of San Antonio with two large state-of-the-art facilities fully equipped with multiple welding machines, CNC cutting machine, positioners, lathes, press brake, mills, and precision balancing equipment. Our Technos facility in Alabama is located in Bessemer and is equipped to handle your fan manufacturing and repair needs as well.

Technos Corporation Fan Services has the expertise to design, fabricate, and install all types of industrial fans; including wheels, shafts, housings, dampers, expansion joints, and wear-resistant liners specifically designed for your requirements.

Technos Corporation Fan Services field crews are full-time employees certified and trained in all phases of fan repairs and safe installation. We respond to your emergencies and work safely to complete the job. Technos Corporation Fan Services never uses any temporary laborers.

Technos Corporation Fan Services offers the most competitive in-shop and field service rates in this business and we are ready to fulfill all of your industrial fan needs at a moment's notice.



### From the **TECHNOS** tailgate: Laredo Lynn's Mexican Soup

Brown 1 chopped onion with 2 lbs. ground meat (your choice) and combine with 3 cans pinto beans, 1 can chopped black olives, 3 cans Rotel tomatoes, 1 can chopped green chilies, 2 cups water, 1 package taco seasoning, and 1 package Ranch dressing. Cook mixture on medium heat for 45 minutes.

***Soup best served with grated cheddar cheese, a dollop of sour cream, sliced avocado, and your favorite cornbread!***