

Green Initiative at Automotive Transmission Gear Manufacturer Reduces Total Operating Cost & Environmental Impact

The Most Advanced, Automatic,
Non-Disposable Liquid Filtration System



ZGF Maggie MG2600, with Smart Drum PLUS (SD+) fluid recovery system



Internal View of Maggie shows ferrous scale and fines captured by the powerful magnets

Customer Challenge

Steel bars (i.e. bar stock) are fed into a machine at room temperature, and hot forged parts emerge at the other end. The bar stock is rapidly heated to temperatures in excess of 1200°C using high powered electric induction coils. The bar stock is sheared into blanks and then formed. The hot forged parts and dies are then cooled and quenched in water. A significant amount of scale is generated as a direct result of the induction heating process. Scale removal was costly and labor intensive.

ZGF Solution

Zero Gravity Filters (ZGF) installed a Maggie automatic magnetic separator and a Smart Drum PLUS fluid recovery system. The ZGF Maggie system is designed to remove scale on a continuous basis from the quench water with virtually no operator involvement.

Results

- Reduced water consumption by over 80%
- Maintained established quality requirements
- Virtually eliminated direct operator interface, providing safer work environment
- Eliminated the need to landfill disposable filter media
- Reduced cooling requirements thereby reducing heat load to cooling towers
- **Reduced direct operating expense by over 90% (not including reduced heat load)**