

# APPLICATION PROFILE

# INDUSTRIAL HYDRAULICS

## Automotive

Challenge: **PROPORTIONAL CONTROL OF FRICTION WELDING UNIVERSAL END CAPS ON DRIVE SHAFTS**

Location: **MICHIGAN**

Flodraulic's RHM group was selected by a tier one automotive supplier of drive shafts to provide hydraulic systems for its plant expansion in Michigan.

The OEM RHM was told to work with is an internationally acclaimed manufacturer of friction welding machinery.

The hydraulic system itself was a 120gal reservoir with two motor-pump sets, one for each end of the driveshaft, each side running independently. Pumps were Eaton PVM series pumps capable of 21gpm maximum flow and 2000psi. Each pump side also had a valve manifold for several auxiliary functions, as well as, a proportional valve manifold mounted on each cylinder.

With the use of Eaton proportional valves and a Delta Computer motion controller, RHM was able to simultaneously supply a precise amount of pressure and flow to both ends, while the drive shaft is rotating, to friction weld the universal joint caps to the aluminum cylinder. This gave us excellent repeatability which increased productivity and lowered scrap count.

RHM and Eaton technical help in the field was a key influencing factor in the customer's decision to award this project to Flodraulic's RHM Division.

