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Aluminum Impellers Dresser-Rand (D-R) is a worldwide leader in the manufacture of centrifugal compressors used in the oil and gas business.

Dresser-Rand is currently planning to build several centrifugal impellers for use in their new sub-scale development rig. To minimize the cost of this test program, they have a target cost of \$10,000 per impeller. At present, the impellers are being single-piece machined from aluminum or are 2-piece welded in steel. The 2-piece welded construction significantly reduces the cost, but the steel versions of the impellers are much heavier and can lead to rotordynamic difficulties in the rig.

Problem: Can they meet the target cost and eliminate the rotordynamic concerns and develop a process for constructing a 2-piece aluminum impeller. The solution must be cost & time effective.