FEM SIMULATION AND EXPERIMENTAL VALIDATION OF 
FLASH-LESS COLD FORGING FOR PRODUCING 
AUV PROPPELLER BLADE

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Abstract—Manufacturing of the Autonomous Underwater Vehicle (AUV) is a challenge for 
researchers because of the hazardous ocean environment. The propeller is the most complex part in 
AUV because of its elaborately shaped blade designed to increase the thrust. The selection of the 
manufacturing process, flash-less cold forging die design and optimization of the work-piece are 
the major issues to reduce the overall cost of the propeller. Numerous investigations have been