

APPLICATION NOTES

IMPACT Solutions for Metal Fabrication Industry Stamped Part Component and Feature Verification

An Integrated Inspection Station



This stand-alone component inspection station is designed for a company who manufactures a wide variety of metal parts in varying sizes and shapes. The components attached to the parts may be weld nuts, brackets, studs or other objects. Features on the parts may include holes, slots, or weld marks. The vision system is required to verify the presence of the attached components and to inspect the various features.

This inspection station is equipped with standard components and custom operator interface to accommodate a variety of part types. Included are a 4' long conveyor, vision camera, a lighting/optics housing to be mounted above the conveyor, a flat panel display, light tower, and various electronics and electrical components. Each part to be inspected is configured in advance, and selected prior to that type of part being run. Once the parts are hand loaded onto a conveyor, they are transported on a continuous motion conveyance system. A sensor triggers the camera to take a image as each part nest enters the field of view. The conveyor stops if a bad part is detected, while good parts continue to the end of the conveyor and are captured either in a customer supplied bin, or routed onto a customer supplied conveyor. A homogeneous diffused LED dome light is used to illuminate the parts, which can be presented at any angle of rotation with the target features facing the camera.

Application Description

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Application Highlights

- Verify component features such as holes, slots and weld marks
- Fully integrated stand-alone inspection station with conveyor system
- Custom interface designed to accommodate various part types
- Includes a diffused dome light to illuminate the part
- A mobile station that can be moved among production lines

