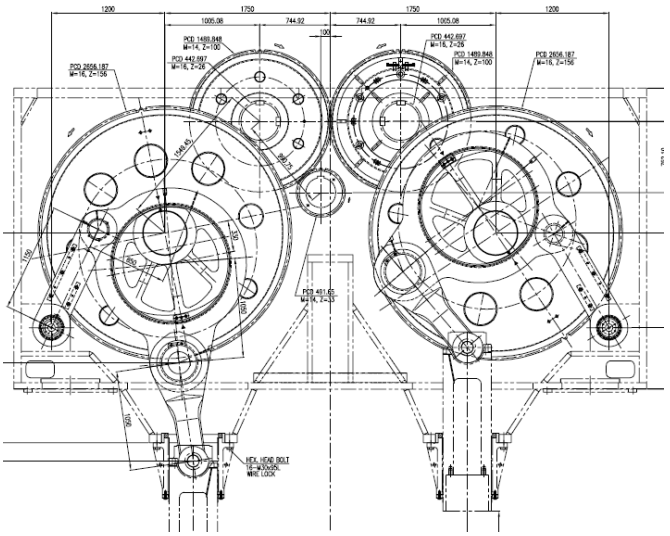
STAMPING PRESS CROWN

MACHINE HEALTH SOLUTION FOR AUTOMOTIVE

THE PROBLEM:

Tucked away at the top of the stamping press are arguably the most critical components. Inside the crown, you will find an assortment of gears, bushings, and linkage used to operate the slide of a press. Due to the remote and enclosed nature of the press crown, developing issues cannot easily be tracked by plant personal. Failures of crown components take weeks to months to repair. Consequently, costly logistics are kicked into overdrive to try and keep the affected assembly plant in operation.



COST OF ASSET FAILURES	INDUSTRY SAVINGS POTENTIAL
$800,000 / hour	**$3,000,000 in Savings** Avoiding One Failure Per Year

ASSET BLIND SPOTS:

There are several inherent challenges related to monitoring Press Crowns.

Challenge #1: Due to the enclosed and remote nature of the crown, developing faults will not easily be visually or audibly noticed.

Challenge #2: Most sites currently have no monitoring in place or at best have a monthly or quarterly route. This monitoring schedule not only results in large blind spots but also only captures a narrow range of potential operating conditions across all dies.

Challenge #3: Without a continuous monitoring solution in place, accurately and reliably gauging and trending the health status of the press crown is not feasible.

A NEW APPROACH TO MONTORING PRESS CROWNS

Waiting for renderings

Top : IoT Hub
Bottom Left: Accelerometer junction box
Bottom Middle: Interconnect
Bottom Right: IEPE adapter

Most newer stamping press lines have been outfitted with embedded accelerometers to help facilitate with monitoring press crown vibration and health. However, these accelerometers are commonly wired to junction boxes which require route based monitoring with a handheld unit.

The implementation of an IoT Hub allows for all embedded accelerometers to be trended and monitored remotely - 24/7. Additionally, the IoT Hub combined with a triggering cable enables vibration samples to repeatably be captured at the same point in the press stroke cycle. This results is the most accurate trending, alarm generation, and fault detection.

HARDWARE

- One IoT Hub per crown
- 7 IEPE piezoelectric accelerometer adapters
- Interconnect Junction Box Accessory Kit
- 24VDC or 110/120VAC power supply
- Trigger cable and service

SOFTWARE

- Work order generation in CMMS
- Plant/Asset level dashboard
- Set alarm levels
- Text and Email alerts
- Continuous monitoring with real time trends
- Access software from any device with a browser and internet connection

REAL-TIME DATA

- Constant monitoring by mobius certified vibration analysts
- Email callouts sent out at the first sign of a fault condition on a fan or filter
- Rapid response to any inquires or questions on monitored equipment

TRAINING

- Sentry
  - Quarterly site visits
  - In-person training
  - Sentry reports and report reviews
- Free KCF Academy Courses
- Customer training/handbooks

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