

## Key Benefits

- Eliminates mechanical cam plates and complex operating mechanisms
- Eliminates obsolete analog or digital 3D Cam systems
- Standardized design can be easily installed in any cabinet actuator
- In-kind replacement for existing digital or analog control systems
- Electrohydraulic control valve manifold
- Gate and Blade Position Transducers
- Customer Supplied 3D Cam curves
- Open-source code
- Standard hardware

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# MERCURY GOVERNOR

## Digital 3D Cam Kits

### Summary

If you are still running the “3D Cam” blade control system that came with your governor, chances are you can improve efficiency and/or avoid costly downtime by retrofitting your legacy system with a PLC-based system from Mercury Governor.

Our Digital 3D Cam Kit is a complete, drop-in replacement for your original mechanical cam plates or early analog/digital controllers. The basic kit is suitable for analog/digital upgrades.

The PLC will come pre-loaded with the Gate/Blade curve data you provide to maximize unit operating efficiency.

Your on-site crew can install the Digital 3D Cam Kit themselves (requires only journeyman mechanical and electrical skills) or you can schedule one of our trained Governor Specialists to perform the Demo and Install supervision at your site. Note: your existing net head sensor or headwater/tailwater level sensors (4-20mA) will be re-used.

### Digital 3D Cam Kit includes:

- 3D Cam PLC Controller mounted in a NEMA 12 enclosure
- 10” HMI mounted on enclosure door
- New electrohydraulic control valve manifold
- New Gate Position feedback transducer (4-20mA)
- New Blade Angle transducer feedback (4-20mA)
- Four (4) Interposing Relays

### Special Functions Include:

- Net Head Input Signal Failure detection
- HMI manual input function for Net Head values
- Independent Blade positioning control
- Blade Tilt and Blade Lock logic
- Up to 2 Cam Curves pre-programmed (field adjustable)
- Control Failure relays pre-wired to terminal blocks

### Applicability

- All legacy mechanical and analog Kaplan hydro governors: Woodward, Pelton, Allis-Chalmers, Voith, Neyrpic, GE.