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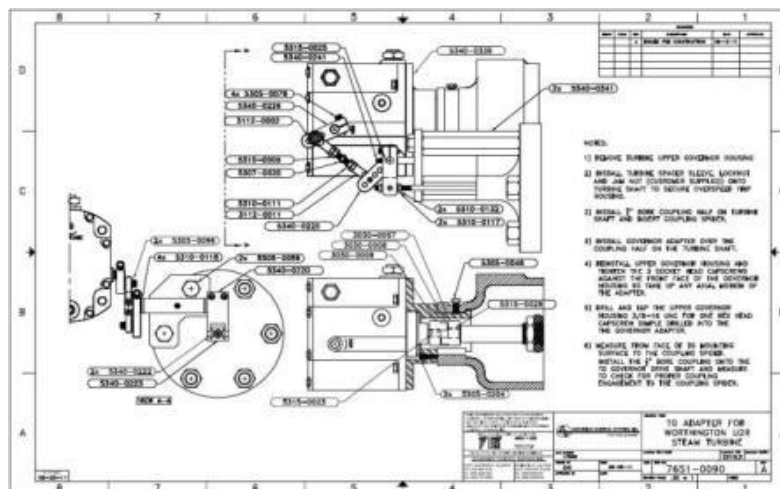
Collaborate with a Service Leader

GCS supports our products with comprehensive technical assistance and services for the power generation, petrochemical, industrial and marine industries. Scheduled maintenance and overhaul service ensures continued safe operation of your prime movers, avoid unnecessary plant malfunctions and expensive down time. Emergency, on-site service is available 24/7.

Engineered Designs

Engineered Designs Enhance Control System Operations

GCS mechanical engineering team designs solutions to enhance the life cycle of industrial equipment and machinery.



Using the latest computer-aided technology and 3-D modeling designs, GCS engineers develop custom mechanical hydraulic designs to interface with electronic controls. GCS offers replacement parts for Gerhardt adapters and other similar designs.

Maintenance

Routine Maintenance Service – Your Best Protection

Catastrophic failures can be prevented. Routine maintenance is critical to keep equipment operating at peak performance, minimizing downtime.

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Governor Maintenance

Our Woodward authorized service facilities and factory-trained technicians ensure your Woodward Governors meet manufacturer maintenance recommendations. Repair costs can be excessive when units are operated beyond the hours of recommended maintenance.



Woodward governor/actuator recommended maintenance schedule:

- Change governor/actuator oil between 3,000 and 5,000 running hours
- Ensure the use of proper oil
- Perform overhaul and calibration between 20,000 and 25,000 running hours
- Repair of auxiliary equipment is also recommended

Actuator and Valve Repairs

Steam valves, gas valve, or liquid fuel valves need routine maintenance to ensure turbine reliability, availability, and safe operation.

Gas Turbine Valve Maintenance Recommendations

An overhaul of the component should be completed when the unit reaches either the Operating Hours or Years in Service interval, whichever comes first. Recommendations are based on normal operating conditions, fuel quality, past maintenance and environment.

On-site Field Service

GCS technicians are available 24/7, worldwide for on-site Woodward mechanical and electronic services. Specializing in control and actuation repairs and system troubleshooting.

- Electrical and Mechanical Control Systems
- Complete On-site System Troubleshooting
- Close OEM cooperation
- 24/7 worldwide service and support
- Emergency services

Electronic Control Service

From Netcons to modern Micronet controls, GCS engineers know the core software to service and evaluate your equipment. Our applications engineers replace outdated devices with modern, integrated electronic controls to:

- simplify maintenance
- improve reliability
- significantly reduce costs

Experience

Evaluating Your Needs

We custom engineer control systems to replace antiquated controls. A modern control system improves plant safety, increases system redundancy and simplifies communications via HMI Monitoring system.

GCS has the depth of knowledge to evaluate your existing equipment to support your current and future requirements. Our application and service engineers have unsurpassed Woodward experience.

- Control / Actuation Repairs
- Programming Solutions
- System Design and Integration
- Technical Consultancy
- On site Trouble-shooting
- Technical Expertise to Identify Failures



Managing Controls Life Cycle

10-15 years is the average life cycle of many OEM controls. GCS applications engineers replace outdated devices with modern highly integrated controls that provide critical information to help you make key decisions.

- Meet emissions regulations
- Simplify maintenance
- Maximize output; Improve reliability
- Reduce operating costs
- Increase plant safety

The GCS Engineering Services team specializes in control, monitoring and protection system modernizations and programming solutions. Our design and application engineers have decades of experience developing and supporting engineered system solutions to a wide range of

industries: marine, offshore, utility/power generation, pulp & paper, chemical processing, refinery, pipeline, and wastewater treatment.

From off-the-shelf products to custom software, GCS engineers develop and support your project from initial site visit to installation, testing, commissioning, and training.

Technical Training

Be prepared with Hands-on Training



Scheduled training and custom classes tailored to your equipment and location cover application, installation, operation and troubleshooting of Woodward, Schaller, and Basler products.

GCS offers the largest comprehensive **Woodward** authorized training program for specific Woodward products, designed to give you a better understanding of product operations, maintenance, troubleshooting and repair. Attendees are eligible for CEU credits or Professional Development hours. Whenever possible, standard classes may be geared to customers' specific requirements, covering everything from basic theory through applications to hands-on experience.



Turbocharger Service

MSSH meets the demands for authorized turbocharger repair solutions from strategic locations in South Florida and the Gulf of Mexico. Fully equipped with factory-trained engineers, **MSSH Turbocharger Services** include OEM spare parts and the experience to provide 24/7 service worldwide.