

WE HAVE A 50-YEAR HERITAGE IN MOTION SYSTEM TECHNOLOGY

## Service & Refurbishment

Is your system still within specification?  
Our performance verification services can let you know.

What is the impact of unscheduled downtime on your business?

Our preventive maintenance services and concepts can minimize these occurrences.

Do you need independent verification of your calibration measurements?

Our equipment is traceable to the National Institute of Standards and Technology.

Our experience covers the maintenance and refurbishment of IGTS and HWIL equipment of ACUTRONIC, CARCO, Contraves and Benton products.

ACUTRONIC is the sole legal owner of all legacy intellectual property of CARCO Electronics, Contraves and Benton.

Please call (412) 926-1200 for a service consultation.



- Preventive Maintenance
- Performance Verification
- On-site Calibration, Support & Training
- Troubleshooting & Repair
- Controller Upgrades
- System Refurbishment
- Factory Service & Repair
- Factory Training



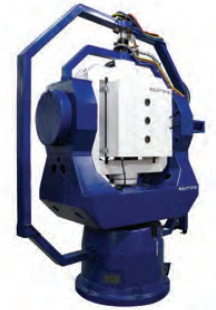
# Refurbishment of an old Contraves System

- Typically, the legacy structures are extremely durable. ACUTRONIC has the expertise to refurbish your old, unreliable system and restore it to original or better performance.
- We can upgrade the controller, power amplifiers, and temperature controllers to the state of the art.
- Also, the motors, bearings, and sliprings can all be replaced and/or refurbished as needed.
- Problematic brush type motors can be replaced with brushless technology to increase reliability and dynamics.
- If your old system doesn't quite meet the needs of your new program, we can add temperature chambers or reconfigure gimbals.
- Extensive reconfiguration to be done at the ACUTRONIC facility.

Before



After



## ON-SITE SERVICE

### Performance Verification

- Position accuracy
- Position repeatability
- Inertia scaling
- Rate accuracy
- Rate stability
- Acceleration
- Bandwidth
- Slipring noise
- Temp chamber slew rate
- Temp chamber stability

### Preventive Maintenance

- Slipring testing and failure prediction
- Slipring cleaning

### System Calibration

- Position offsets
- Inertia scaling

### Power Supply Voltages

- Verify if within tolerance
- Check for noise and ripple

### Encoding Adjustments

- Check error corrections
- Minimize encoding errors

## Hydraulic System Evaluation

- Fluid sample for analysis by an independent testing facility
- Filter replacement
- Servo valve balancing
- Pressure transducer calibration
- Range of travel calibration
- Actuator overhaul

## Repair Service

- Troubleshooting and repair of systems and components
- Teleconference support

## FACTORY SERVICE

### Component Repair

- Servo controllers
- Power amplifiers
- Temp chamber controllers
- Circuit cards
- Slipring refurbishment by the vendor

### Complete Refurbishment

- Replace motion servo controller
- Replace power amplifiers
- Replace temp chamber controller
- Replace position transducers
- Replace bearings, motors, sliprings, etc.

- Refinish gimbals
- Application control software training

## TRAINING

Attend an ACUTRONIC workshop and get the most out of your ACUTROL®3000e and IGTS or HWIL system

- Basic system overview
- ACUTROL®3000e basic operation
- ACUTROL®3000e programming interface
- Encoding system
- Power system
- Temp chamber controller
- Troubleshooting
- Preventive maintenance

## SERVICE TEAM

- More than 40 years experience with systems from ACUTRONIC, CARCO, Contraves IGTS, and Benton
- Offices in USA and Europe
- Global service partners
- ACUTRONIC is the sole owner of the intellectual property of CARCO, Contraves and Benton