



# ***CARLYLE JOHNSON***

Over a Century of Clutch, Brake and Power Transmission Manufacturing Excellence.

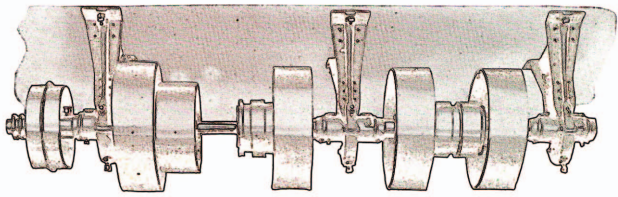


Clutches & Brakes



## Finding the Solution

At the beginning of the twentieth century, Moses Carlyle Johnson saw the need for a quick, safe way to disengage individual machines from the factory line shafts that ran them. The innovative clutch design that Johnson produced allowed his company to become an industry leader.



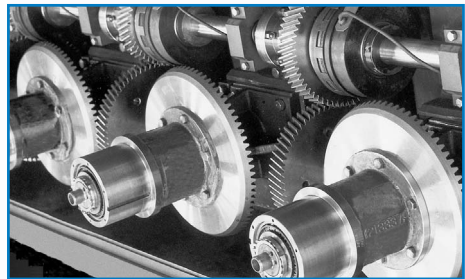
Since then, The Carlyle Johnson Machine Company has evolved into a major supplier of engineered power transmission solutions to meet the ever changing needs of its customers. Our engineering staff combines innovation, experience, creativity, and state-of-the-art computer technology to meet twenty-first century requirements.

We have technical expertise in clutches, brakes, electromagnetics, transmissions, metallurgy, electrical controls, and electronics. Our production staff of highly skilled technicians average 20 years of experience in the manufacture of power transmission products.

For over one hundred years, we have solved the technical challenges of our customers. The Carlyle Johnson Machine Company is better prepared than ever to meet the unique technical requirements of the industries we serve.

## Product Highlights

The Carlyle Johnson Machine Company produces single and multiple disc clutches and brakes; jaw clutches and brakes; torque limiters; overload release clutches; fail-safe brakes; and power take-off packages using four basic methods of actuation: • **Electrical** • **Mechanical** • **Pneumatic** • **Hydraulic**



**These clutches and brakes provide the following unique capabilities:**

- Highest torque in smallest space
- Exceptional reliability and durability
- Operation in oil or dry applications
- Custom configurations for special applications
- Positive engagement/disengagement at any rated speed

## Service and Support

Carlyle Johnson offers technical assistance beyond the simple selection process of clutches and brakes. Our engineers have a broad range of experience in the power transmission field. We regularly assist in our customers' research and development projects as well as prototype development and proof-of-principle modeling. Projects such as gearbox and motor integration and control, positioning and indexing are handled frequently. We can offer you a complete solution to your power transmission problems, be it a one piece project or a long-term program.

## Reliability

The Carlyle Johnson Machine Company products are known for their day-to-day dependability and extremely long operational life expectancy. The average life of our clutches and brakes is 15 years, with some products lasting 50 years or more. Since 1903, we have earned a reputation for producing meticulously designed and engineered clutches and brakes. Our standard products as well as our innovative custom designs make us a leader in this industry.



## Applications

Our products are used in space applications, by cable laying robots 15,000 feet below the surface of the sea, and everywhere in-between. We have produced clutches and brakes for hundreds of thousands of applications over the last century.



Our products serve a wide variety of markets including aerospace, military, communications, food processing, machine tools, metal forming, medical equipment, mining, oil exploration, packaging, power generation, grid shifting, printing, robotics, pumping, entertainment, vehicle equipment and textile industries.

## Expertise

Engineering expertise is our most significant asset. Our management team consists almost exclusively of degreed engineers, covering the disciplines of metallurgy, chemical, mechanical and electrical engineering. Our engineering team is available to assist customers in solving power transmission problems. In addition, we partner with the most prestigious national research laboratories and major universities in addressing extremely complex technical issues. We frequently receive referrals from our competitors when particularly difficult custom engineered solutions are required in the power transmission field.

- Do you need to close and lock the breech on an artillery cannon, which can fire shells at the rate of 10 rounds per minute at targets 25 miles away? Carlyle Johnson has solved the problem.
- Do you need to capture a flywheel spinning at 40,000 RPM in outer space when its magnetic bearings are not capable of enduring the stresses of lift-off, docking and atmospheric re-entry? Carlyle Johnson has solved the problem.
- Do you need a modulating clutch to cycle a large cooling fan for hundreds of hours of continuous duty? Carlyle Johnson has solved the problem.



## Facilities and Equipment

We utilize several dynamic test stands, which offer the capability of testing clutches and brakes from 1 to 7,000 RPM, with dynamometers capable of transmitting up to 250HP. We regularly run accelerated tests on completed products to measure their endurance performance.



We can offer hydraulic, mechanical, and electrical clutch and brake performance testing, with limited environmental tests in accordance with MIL-STD-810. We have full machining capabilities. We can design, manufacture, and test your products completely within our facility. We have operated under MIL-I-45208 since 1980 and are ISO 9001:2008 certified. We are an approved facility for production and repair of aircraft, automatic pilot and slat/flap actuation clutches and brakes.

In 1999, Carlyle Johnson consolidated all of its operations in a new addition to its existing Metronics facility in Bolton, Connecticut, improving workflow and reducing lead times. Our engineering staff is on site to solve technical issues immediately; this results in improved efficiencies that benefit our customers.

## From Our President

For more than a century The Carlyle Johnson Machine Company has proudly produced reliable clutches and brakes. We are dedicated to meeting the needs of our customers, and continuously strive to exceed expectations. We make commitments to our customers and we meet those commitments. We have done this by supplying standard products, engineered custom products, and research and development services to them. Our customers demand a high-quality, reliable product that is reasonably priced. We have met this demand and lived by this philosophy for 100 years. We will remain true to this principle for the next 100 years as well.

*"Records are  
much better  
than Promises"*

From a 1912  
Carlyle Johnson  
Brochure

Technology has changed significantly in the last century, and so has Carlyle Johnson. Through innovation we have remained at the forefront of our industry. The use of advanced materials, processes, and electronics have enabled us to stay ahead of our competition. Our engineering team has developed both simple and extremely unique products to solve specific power transmission problems.

Today's products and engineered solutions from Carlyle Johnson represent the latest technology – but you can be assured that they are based on sound principles that are tried and true.

Michael E. Gamache  
President

 **CARLYLE JOHNSON**

[www.cjmco.com](http://www.cjmco.com)

291 Boston Turnpike, Bolton, CT 06043 • Main Phone: 860-643-1531 • Fax: 860-646-2645

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