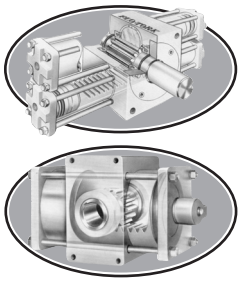
MOOG
FLO-TORK



# Application Bulletin

AP 332
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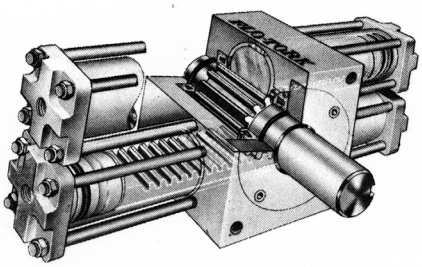
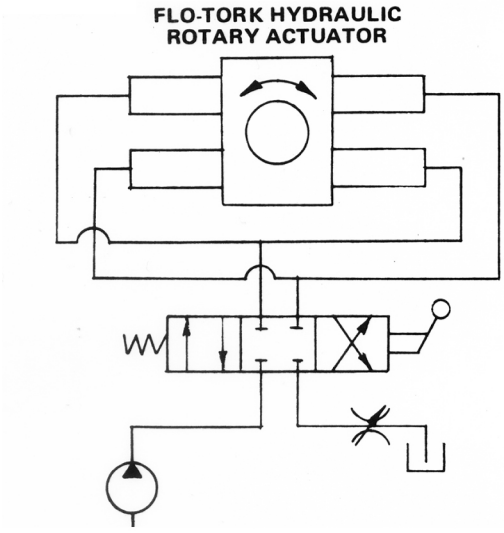
# HYDRAULIC ROTARY ACTUATOR SIMPLIFIES LARGE FOUNDRY ROLLOVER



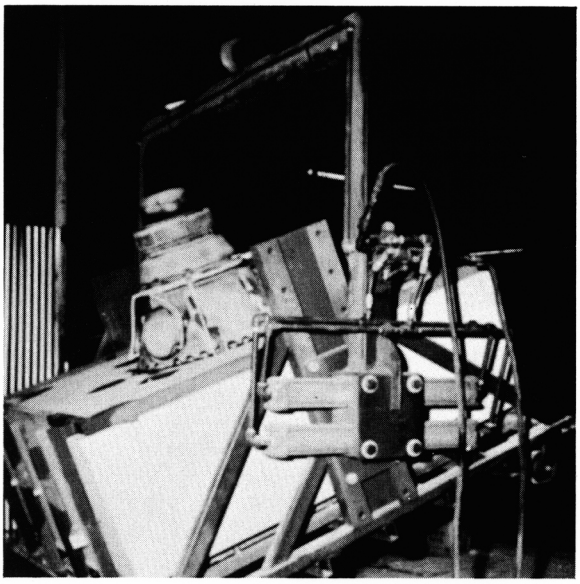
## The Actuator

The two units on each installation are standard Moog Flo-Tork Hydraulic Rotary Actuators, Model 150000-180-00-ET-MS13-RKS-N. Each actuator is equipped with Timken tapered bearings, floating pistons, heat treated steel racks and one-piece heat treated pinion and shaft.




## How It Operates

Each unit is designed to produce 150,000 lb-in torque with 3000 psi of hydraulic fluid through 180$^{O}$ rotation with 169.26 cu. in. of hydraulic displacement.



## The Application

The fixture, designed by Vince Jacobson of Hitchcock Industries, Minneapolis, Minn., rotates this 8000 pound cope for assembly into the drag. Each Moog Flo-Tork Hydraulic Rotary Actuator is capable of an overhung shaft load of eight tons. The two Moog Flo-Tork units completely eliminate the need for additional bearings. The entire fixture is supported from an air operated hoist during the roll-over operation and can then be lowered for movement on rollers. The Moog Flo-Tork units become the roll-over support. A small portable hydraulic power unit supplies the flow through a manually operated 4-way valve. The finished magnesium casting is used on large government helicopters.

## Advantages

1. Smooth handling is imperative because of the intricate core involving 33 core boxes. Any jerking motion could jar a core loose. This is prevented by the smooth hydraulic control of the Moog Flo-Tork actuator.
2. The Moog Flo-Tork bearing capability simplified the construction to allow for roll-over design, fabrication and completion within 2 weeks.
3. The completely enclosed design protects all moving parts from the foundry contaminants.

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