

## APPLICATION STORY

# Amusement rides install Ogura's mechanical clutch for trouble free rides

**W**e all know Ogura as the leader in electro-mechanical clutches and brakes, but did you know that Ogura also makes mechanical clutch/brakes? Well, we do! No electrical power required!

Here is a fun application with unique challenges met by using Ogura's DS-354-TG mechanical clutch.

On an amusement ride, there are many "cups" with saucers (not unidentified flying) that act as seats (or cars) that spin on an axis. The riders gripping and pulling against a stationary steering wheel in the seats center control the speed and direction of the spin. All this, of course, while the base of the ride spins on its own axis. Sometimes teenagers can really get this ride spinning wildly. We all know someone who lost his or her lunch as a result!

Since the cups could still spin without power, the customer needed a way to stop the rotation and hold the spinning cups in place when the cup door was

opened. (Remember, it's free to spin on its own axis and bearings.) Although several methods, including electrical, were considered, the best solution was an Ogura mechanical clutch brake.

To leave the ride, the door to the cup opens inward. As soon as someone tries to open the door to leave, it activates the clutch yoke that compresses the friction disks that then absorb the rotating energy to stop and hold the load. Based on the torque required, Ogura's DS-354-TG

and UG-35 coupling were selected to clutch (brake) the spinning cups to its stationary axis.

The reasons for the selection of this clutch were:

The sliding yoke allows for 360° rotation of the actuating lever. (Clutch can engage



Teacup ride

regardless of door position or cup speed.)

Unit works in any orientation. (Some devices do not operate well in the vertical position.)

High Reliability. Unit is

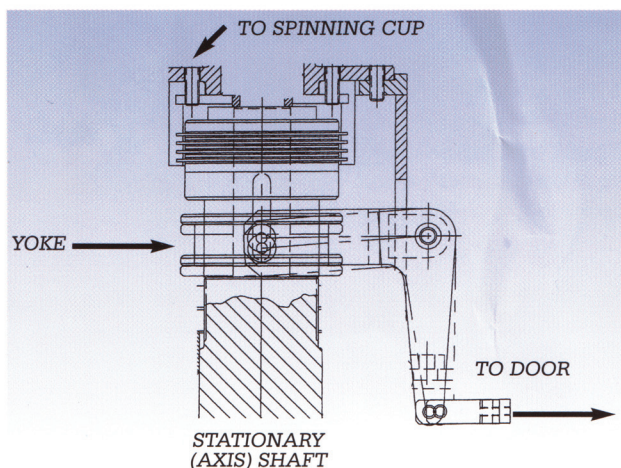
designed for tens of millions of cycles. That's a lot of trouble free rides!

Low cost for its torque and size, the DS-354 saved money over other engineering options.

So, there you have it. The next time you visit a major amusement park, check out the rides. Maybe you can't see it, but you may be using

Ogura's DS-354-TG clutch/brake! Please pass the barf bag!

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Ogura multiple disk mechanical clutch with linkage