



Product

Model FSO Overrunning Clutch

Application

Roller Coaster

Highlights

- FSO grease-lubricated clutch
- 27,000 lb.ft. (36,720 Nm) torque capacity
- Requires no adjustments or controls

A large, Midwestern theme park needed a replacement overrunning clutch for use on one of their most popular inverted roller coasters. The ride begins with a lift hill that ascends 137 ft. (42 m). Trains are pulled up by a 9,000 lb. chain lift before moving through various climbs, dives and corkscrews while reaching a maximum speed of 57 mph (92 km/h).

Formsprag Clutch was specified based on years of exceptional reliability and long-lasting performance on many other coasters at the park. To meet the ride's requirements, Formsprag supplied a grease-lubricated, 15" diameter FSO-1027 clutch with a 27,000 lb.ft. (36,720 Nm) torque capacity. All FSO automatic backstopping clutches feature a high torque density and require no adjustments or controls.

As with most coasters, the ride's drivetrain is located at the base of the initial lift hill. For this backstopping application, the FSO clutch has a torque arm mounted to the outer race and is positioned on the gearbox's double extended input shaft, on the opposite side of the gearbox from the motor. The gearbox output shaft drives the chain lift sprocket. The clutch prevents reverse rotation of the chain lift to keep the attached loaded train cars from sliding backward down the steep lift hill in the event of a power failure.

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