



## HIGHLIGHTS

- FSO 500 clutches feature a torque capacity of 1,175 lb.ft. (1621 Nm)
- Grease lubricated and equipped with steel labyrinth seals
- PCE sprags with Formchrome® and Formsprag “Free-action” retainers

## Application Success Story



## Model FSO-500 Overrunning Clutches

### Ski Lifts

#### PROBLEM

A major Colorado ski resort required reliable overrunning clutches for use on their chair lifts. The resort has more than 20 ski lifts with a combined lift capacity of more than 30,000 riders per hour. The lifts feature a wide range of vertical rises up to 1,700 ft. (518 m) and ride times of up to 11 minutes. Several of the lifts remain in operation during the summer months to transport mountain bikers and hikers up to specially-prepared trails. Some of the larger lifts accommodate four riders per chair and can simultaneously carry more people than a Boeing 747 jumbojet.

The lifts typically run close to capacity for seven hours/day from mid-November through the end of April. The rigorous operating schedule, along with the heavy passenger loads, put significant wear and tear on the lift's drive components. Routine drivetrain inspections and maintenance keep all lifts operating safely throughout the long seasons.

#### SOLUTION

Formsprag FSO 500 overrunning ball bearing clutches were selected for use on the resort's lifts due to their exceptional reliability and long-lasting performance – a 6-year service life is typical. The FSO clutch is positioned between the motor and gearbox within the lift drivetrain which is usually located under the large-diameter bullwheel that drives the primary lift cable. The clutch prevents reverse rotation of the bullwheel to stop the suspended chairs from sliding backward down the mountain in the event of a power failure. Due to the importance of the backstopping function, Formsprag worked directly with the resort for more than five years gathering annual clutch wear data as part of the design development.

Model FSO 500 clutches were supplied with a torque capacity of 1,175 lb.ft. (1621 Nm). Units are grease lubricated with steel labyrinth seals and feature PCE sprags with Formchrome® and Formsprag “Free-action” retainers.

US (Application Assistance)

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