



## Product



## Modified SF-1250 Clutch

## Application

## Mobile Aircraft Air Conditioning Unit

## Highlights

- 2,000 ft.lbs. static torque
- Economical, compact package fits within tight space limitations
- Designed for easy field install/replacement

A major manufacturer of ground support equipment used at airports around the world needed an electric clutch for one of their mobile air conditioning units (ACUs) which provide heating and cooling in parked aircraft cabins. In response to their customer requests, the OEM required a field-retrofit clutch solution that could replace an existing coupling so that users could easily disengage the ACUs rotary screw compressor from the 8-cylinder diesel engine when cooling wasn't needed.

Warner Electric was called to help solve the problem based on their reputation for providing exceptional technical support. Since this was a retrofit application, one of the most significant challenges was that the clutch had to fit in an existing 4.6" space between two axially-aligned 2 in. diameter shafts.

Function and operation, especially static or low speed dynamic engagements, can have an effect on torque on friction clutches. The clutches need to be aggressively engaged periodically to condition the friction surfaces so they can carry the required load when needed. It is always a challenge to maintain rated torque with limited or lower load engagements.

Warner engineers worked closely with the customer's engineering team to review the clutch torque and performance requirements. While the original specification called for 500 ft.lbs. of torque, Warner supplied a modified SF-1250 clutch that provided 2,000 ft.lbs. of static torque (4x safety factor) and fit within the tight space limitation. The clutch was mounted to a dampener which was connected to the engine flywheel.

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