

Winch Cable Tensioning | Enidine Air Spring Application

By: Jim Sickles

Situation Overview

In typical winch applications, it is important that the cable lays flat against the spool as it is wound. If the cable is loose and becomes tangled, it places stress on the motor driving the winch, preventing smooth operation and increasing machine wear. The manufacturer of the winch device was using two coil springs to place tension against the cable on the spool.

Application Opportunity

The coil springs used on the winch mechanism had two shortcomings. They did not provide adequate compressive force against the cable. The coil springs needed to be replaced frequently, which was a difficult and expensive process. The manufacturer wanted a simple, low maintenance solution that provided the proper compressive force against the cable.

Product Solution

ITT Enidine Inc. provided two small sleeve-type air springs to replace the coil springs. The air springs were incorporated side by side into the winch tensioning mechanism. An air supply was already available to provide the necessary actuation. The air springs inflate to a preset internal pressure, forcing an arm down on the winch cable to keep the cables in place.

Project Results

The air spring winch cable tensioners have proven to be reliable and easy to use. The small sleeve type units were easy to install. The air springs are much more versatile than the coil springs because they can precisely generate the necessary compression forces to hold the winch cable by changing the internal air pressure. The air springs have been in satisfactory service for more than two years with no replacement required.



Air Springs

