



# Case Study

## NYE LUBRICANTS SUCCESS STORIES

**CONFIDENTIAL**



**Industry:** Automotive

**Application:** Actuator Motors in Lumbar System

**Component:** Gears

**Time Period:** 4th Quarter 2014 - 4th Quarter 2015

### BACKGROUND

An automotive OEM that manufactures lumbar supports approached and presented Nye with a new lumbar assembly in late 2014. The new lumbar design is to become 'the next generation' of lumbar support assemblies for their operations. The company needed a grease to lubricate the internal components (gears) of the small actuator motors that adjust the lumbar and bolster supports on high end power front driver and passenger seats.

**For more information, contact our technical expert.**

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2-Way Power Lumbar

### CHALLENGES



Can a high viscosity grease provide good low temperature torque while reducing cabin noise from the actuators?

### SOLUTION



1. The company sampled products in the 360s family: specifically 362F, 363F, 365F, 368F and 361F.
2. Tests were run on each product, including full environmental life cycle testing (60,000 overall adjustment cycles - 'in and out position' to the lumbar assembly) and acoustic verification (noise) throughout the life cycle tests.

Lubricant Properties		Rheolube® 365F	Test Method
Base Oil		PAO	
Thickener		Lithium Soap	
Temperature Range		-50 to 125°C	
Kinematic Viscosity	40°C	100 cSt	ASTM D-445
	100°C	14 cSt	
Viscosity Index		349	ASTM D-2270
Low Temp Torque	Starting Torque (-40°C)	1210 g/cm	ASTM D-1478
	Running Torque, 10 minutes	584 g/cm	
	Running Torque, 60 minutes	204 g/cm	
Oil Separation (24 hr, 100°C)		2.4	ASTM D-6184
Evaporation (24 hr, 100°C)		0.15	NYE CTM

### RESULTS



The company settled upon Rheolube® 365F as it provided them sufficient performance at both low and high temperatures and an overall reduction in NVH. Full implementation of Rheolube 356F occurred in late 2015 with actual program life extending until 2020.