

**APPLICATION**  
Rear End Housing

# Racer Extends Life of Rear End Housing

**CUSTOMER TESTIMONIAL**  
Jeremy Petty Incorporated (JPI)

## CHALLENGE

Excessive wear in rear end housing, resulting in need to rebuild or replace

## SOLUTION

Monolec® Syn All-Climate Gear Lubricant (9919)

## RESULTS

- Saved \$2,000 by avoiding rebuilds & replacements
- Dramatically reduced wear
- Cleaned up and prevented carbon deposits

## Customer Profile

Owner Jeremy Petty established the Jeremy Petty Incorporated (JPI) racing team in 2008 after having raced one year in the ARCA Remax Series. During the 2009 season, JPI placed 13th in points, even after missing the first race of the season in Daytona. JPI switched gears in 2010 for a first-ever career start in the NASCAR Camping World Truck Series at the famed Lady in Black Darlington Raceway in Darlington, S.C. Despite being new to the series, JPI finished in the top 20. Since 2011, JPI has returned to dirt track racing, piloting both a dirt modified and dirt late model.

## Application

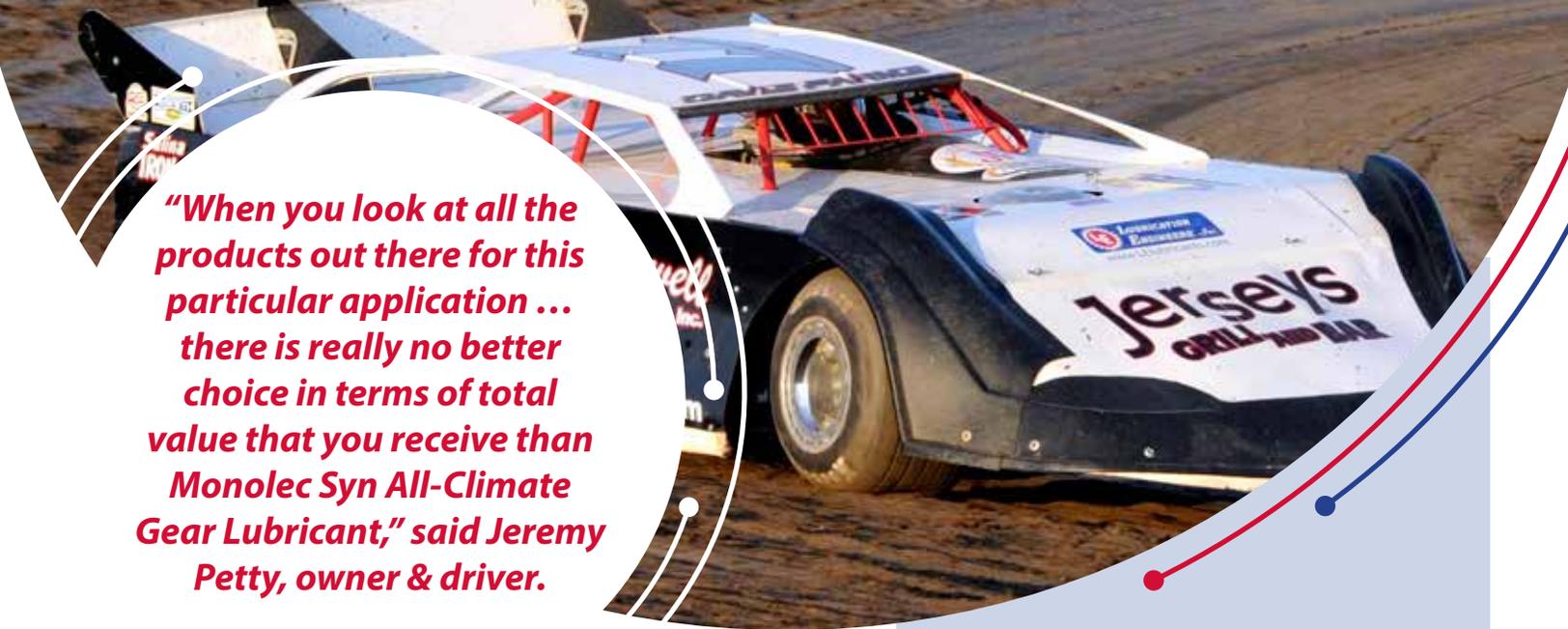
JPI uses a Frankland quick-change rear end housing to convert power output from the engine and transmission to the rear wheels via a set of gears. In this particular application there is no differential. The two axles are connected by a “spool” that creates a solid connection between the left and right rear wheels. It is designated as “quick-change” because the gear ratio can be changed rapidly by replacing a set of gears easily accessible through a cover located on the backside of the gear housing. It has a 1-gallon sump for the lubricant. There are no clutches or friction plates inside the rear end housing; thus a limited slip additive is not necessary for the gear oil to perform.

## Results

Throughout Jeremy’s racing career, he has used a wide range of lubricants – including major brand names – for lubricating the rear end housings in his race vehicles. Monolec Syn 9919 impressed him.

“I’ve been racing my current car for two years, and the rear end housing needed to be replaced after just one year of use due to excessive binding, high wear-related contamination, and unsightly carbon deposits,” Jeremy said. “Instead of replacing the rear end, I replaced the existing lubricant with LE’s Monolec Syn All-Climate Gear Lubricant and I was immediately impressed! We have seen dramatically reduced wear. The lubricant helped clean up the old carbon deposits left behind by the

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***“When you look at all the products out there for this particular application ... there is really no better choice in terms of total value that you receive than Monolec Syn All-Climate Gear Lubricant,” said Jeremy Petty, owner & driver.***

### **Challenge**

For the past several years, JPI racing vehicles had experienced deposits in low-flow areas, high wear-related contamination – including both ferrous and non-ferrous particles – and shortened life of the rear end housing.

“The car was very hard to push around, which indicated to me a binding of the rear end housing, which was very disappointing,” Jeremy said. “At the pace we were headed and before using LE, I would have had to replace or rebuild the rear end housing in my dirt late model once a year.”

### **LE Solution**

Jeremy turned to LE Monolec® Syn All-Climate Gear Lubricant (9919) at the suggestion of Casey Budd, a chemist who works in LE’s R&D laboratory. Budd recommended this synthetic lubricant because of its ability to resist shearing and maintain viscosity in service, preventing the formation of carbon deposits while protecting the gears from wear, especially when heavy loads and shock loading condition are present.

### **Results (cont.)**

previous inferior lubricant and is not leaving new carbon deposits.

“The rolling resistance of the car has also decreased, making it easier for the crew to push around the car. In my short time using LE, the lubricant has already saved me \$2,000 dollars on rear end rebuilds or replacements,” he continued. “I look forward to a continued relationship with LE in the coming years.

“When you look at all the products out there for this particular application, and many of which I have used before, there is really no better choice in terms of total value that you receive than Monolec Syn All-Climate Gear Lubricant. When you are on a tight budget, like most racers are these days, getting the most value out of every dollar you spend is critical.”

*Thank you to Jeremy Petty, owner and driver, and to LE’s Casey Budd, chemist (pictured), for providing the information used in this report.*

