

## 车辆底盘集中润滑系统智能监控仪的研制

### Research and development of intelligent monitor in centralized grease lubrication system for vehicle chassis

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英文关键词: intelligent monitor; vehicle chassis; centralized lubrication system; single chip microprocessor; pressure sensor

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中文摘要:

针对国内现有车辆底盘集中润滑系统控制方法及技术存在的不足, 提出了基于单片机技术的系统自动加脂及故障检测方法。通过监控仪进行加脂间隔时间和监控时间的设定, 通过压力开关检测主油路工作压力, 并对油泵的工作时间进行自动调节, 实现系统的定时自动加脂与故障报警功能。以PIC单片机为核心设计了控制系统的硬件电路和软件流程。性能检测与应用试验表明, 该监控仪工作可靠, 性能稳定, 可满足车辆底盘集中润滑系统智能监控的需要。

英文摘要:

In view of the shortcomings of the control method and technology for chassis centralized lubrication system, the principles of automatic greasing and fault detection based on single chip microprocessor technique were presented in this paper. The greasing interval time and monitoring time are set by using the monitor, the pressure in main lines is detected and the pump operating time is adjusted by using the pressure sensor in order to carry out auto-greasing timing and fault alarm function for lubrication system. The hardware circuit of control system and the flowchart of main control program for software were designed by using PIC single chip microprocessor. The results of performance test and practical application of the system indicate that the monitor has higher reliability and stability. It is significant to develop intelligent monitor in centralized lubrication system for bus chassis.

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