

Cooper Standard



Ford F53

Global Y & Z Axis Positions
(Bounce & Sway Analysis)

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- September 27, 2005

Objectives

- Instrument Ford F53 RV
- Measure Bounce & Sway (Low Frequency Vertical & Lateral Motion: 0-2 Hz)
- Quantify Bounce & Sway Reduction with E-Z Cruise Installed

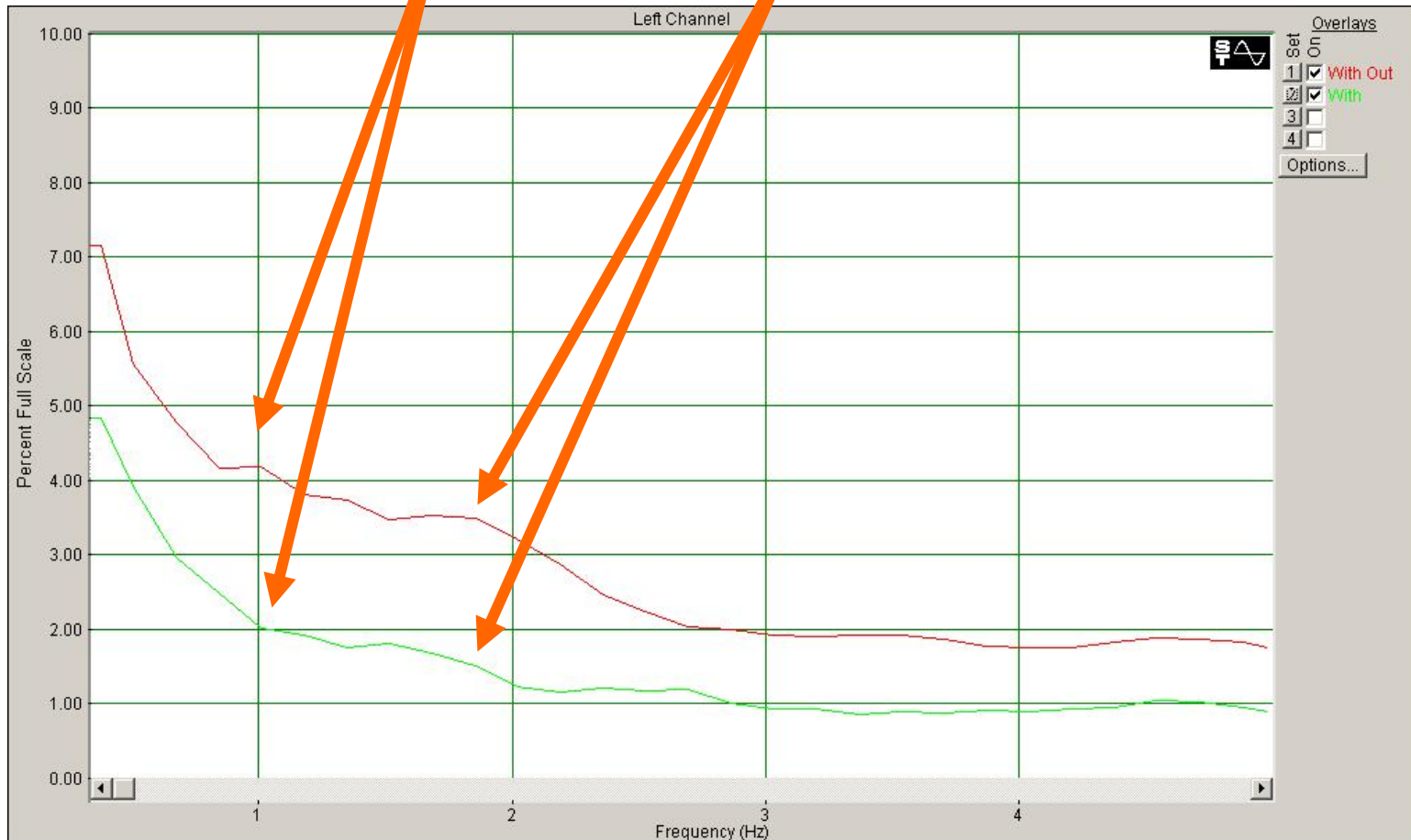
Methods

- Accelerometers installed on interior passenger side above axles
- Vertical Bounce & Lateral Sway accelerations (Z & Y axis) to be measured
- Road course of ~22 minute drive containing multiple road/driving conditions

Averaged Lateral Direction City Driving (start/stop, turns)

52% Reduction

57% Reduction



Averaged Vertical Direction City Driving (start/stop, turns)



38% Reduction

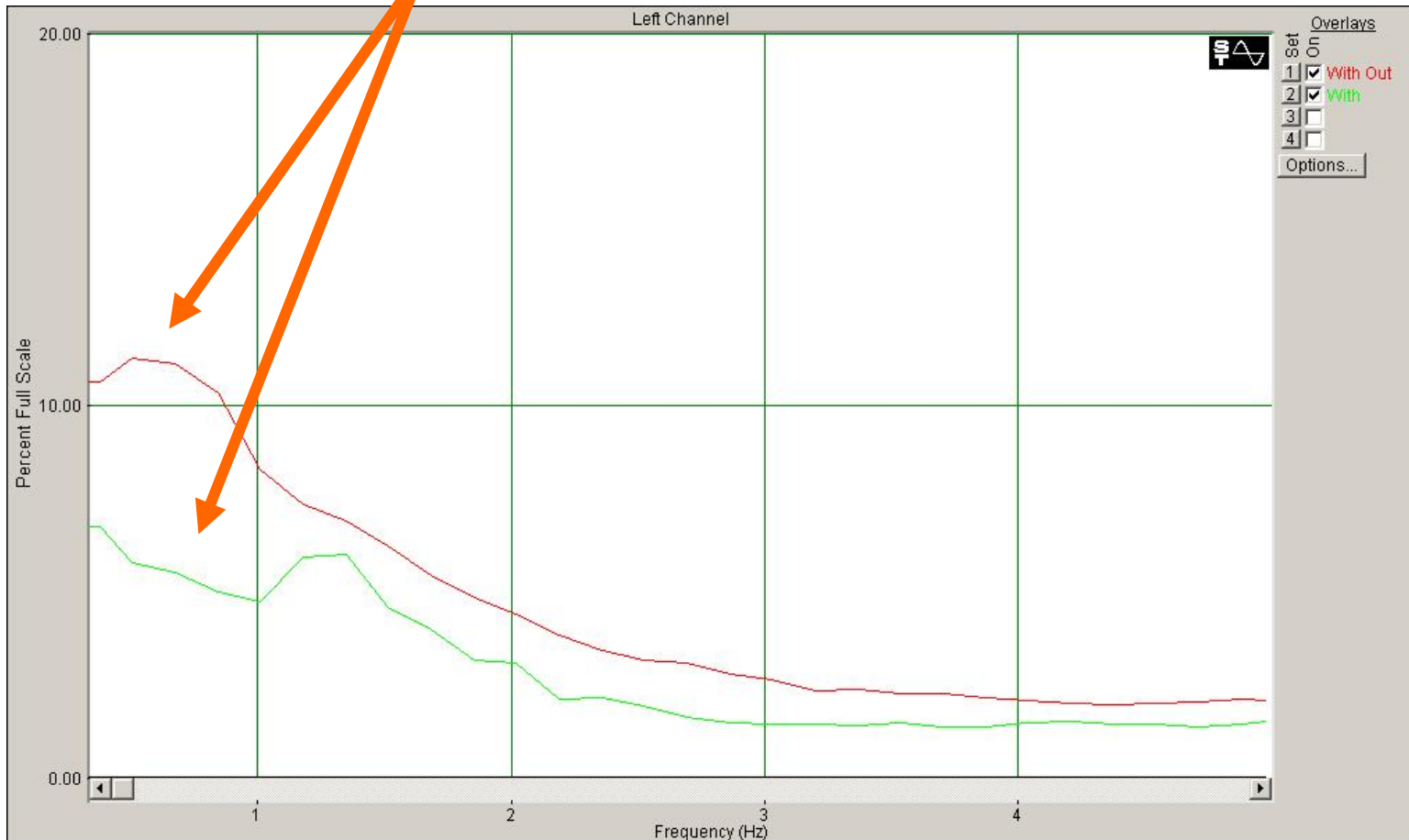
17% Reduction



Averaged Lateral Direction County Road Driving (multiple irregular surfaces)

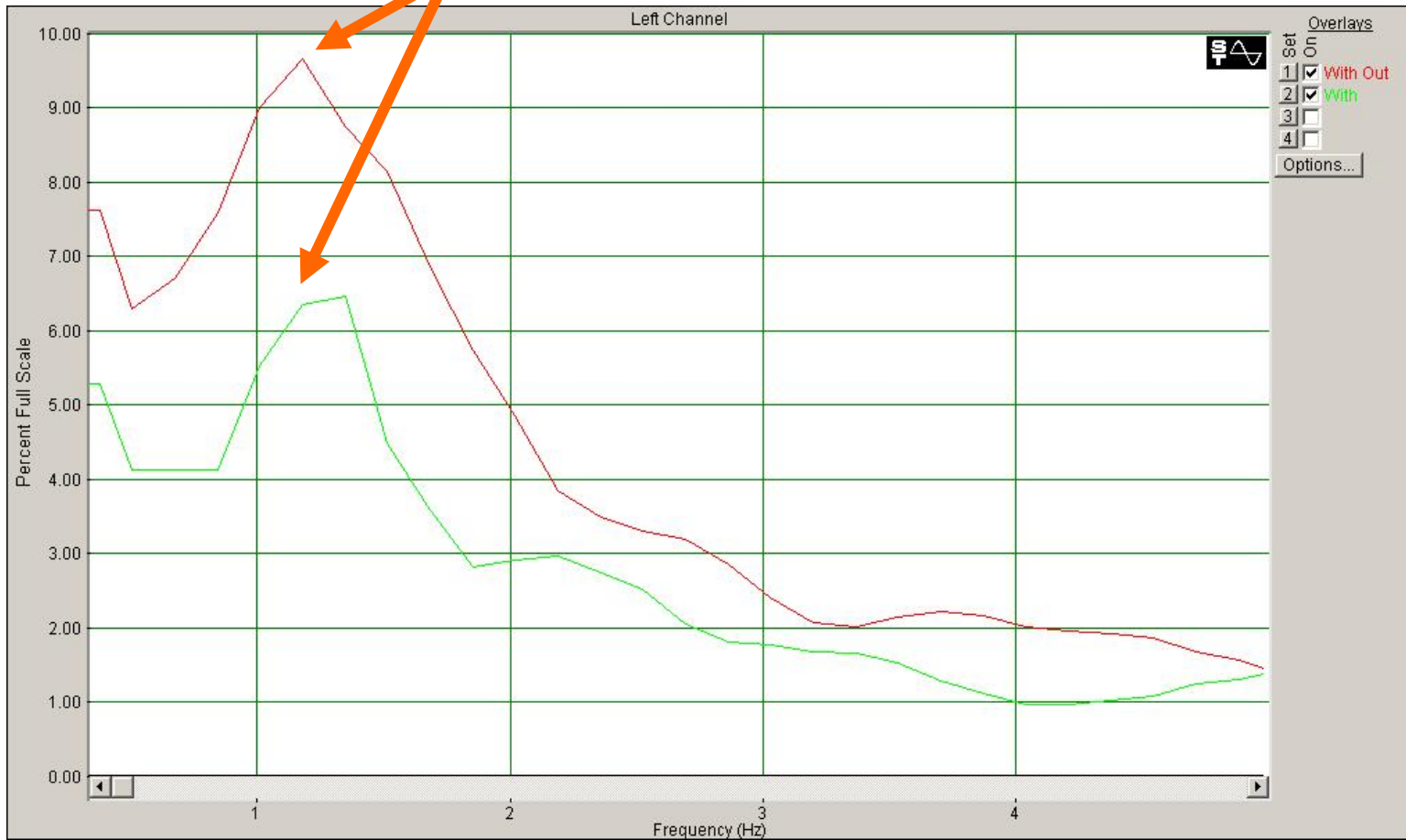


45% Reduction



Averaged Vertical Direction County Road Driving (multiple irregular surfaces)

40% Reduction



Averaged Lateral Direction Highway Driving

35% Reduction



Averaged Vertical Direction Highway Driving

35% Reduction



F 53 Evaluation

Conclusions

- **The E-Z Cruise System Provides a Much More Stable Ride With Respect to Bounce & Sway**
- **Data Shows Up to 40% Reduction in Peak Bounce Magnitude for Certain Events**
- **Data Shows Up to 57% Reduction in Peak Sway Magnitude for Certain Events**