



adget Freak James Kinney was looking for a way to take the pressure off the back end of a tow truck when it's carrying a heavy load. If you can equalize the pressure of the truck bed so all the weight is not on the back end, there will be less stress to the truck's suspension system. Kinney developed the air suspension system, called the Mechatronic Microcontroller, in his mechatronics' class at Colorado State University. The gadget uses a resistive touchscreen from an electronic Sudoku game to select the ride height of the tow truck's bed to make it level, thus spreading the stress of the towing weight evenly across the truck's Check out the Mechatronic Microcontroller in action at suspension. esignnews.com/GadgetFreak.

ARE YOU A GADGET FREAK? Design News and Allied Electronics would like to send you a check for \$500 to spend on Allied's website at www.alliedelec.com/gadgetfreak or anywhere you please. Design News will pay an additional \$100 if you camcord your backyard invention and supply us with the video file. E-mail Design News your proposed project (must incorporate electronic components and involve sensing, motion, timing and/or networking elements) to elizabeth taurasi@reedbusiness.com, along with a description of how it works and a parts' list. If your project is selected, you'll receive a \$500 check from Design News and will be featured in an upcoming issue of the magazine with your invention.

| "NO PRESSURE TOWING" | | |
|----------------------|-----------------------|---------------|
| Amt | Part Description | Allied Part # |
| 3 | PIC16f88 | 383-0496 |
| 9 | NPN Transistor TO-92 | 568-0292 |
| 4 | NPN Transistor TO-3 | 935-8099 |
| 4 | NPN Transistor TO-220 | 935-7007 |
| 10 | 1K Ω Resistor | 648-0149 |
| 3 | 5k Potentiometer | 522-0044 |
| 9 | 10M Ω Resistor | 296-6163 |
| 5 | 330Ω Resistor | 296-4698 |
| 2 | 5V Regulator | 288-0479 |
| 10 | 0.01 uF Capacitor | 507-0721 |
| 1 | 7-Segment Display | 670-0033 |
| 1 | 20 x 4 Character LCD | 355-0019 |
| 2 | Speaker | 623-2146 |
| 1 | Operational Amplifier | 288-0544 |
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