

BRAINSTORMING IDEAS

What Could Be Done To Improve ECU?

- Create a list of 50 things which could be implemented on the ECU to improve operation.
 - Ideas do not need to be possible to implement (failed ideas can breed fresh thinking)
 - Ideas must improve the existing version of the ECU
- Divided in Priority, Secondary, and Implausible Ideas
 - Primary ideas should be completed before end MSD II
 - Secondary ideas should be considered and at least attempted
 - Implausible ideas should be ignored
- 40 out of the intended 50 design ideas were recorded
 - 11 ideas were considered Primary
 - 8 ideas were considered Secondary
 - 21 ideas were considered Implausible

Ideas to Improve ECU

Primary Ideas

(Ideas to Implement Before Project Completion)

1. Working Voltage Start-Up
2. Write Document On How ECU Operates
3. Add Code Defining When Engine is Off
4. Diodes Added to Op-Amp to Prevent Burn-Out
5. "Better" Op-Amp to Prevent Burn-Out
6. Heat Resistant
7. Vibration Resistant
8. Waterproof
9. Well Written, Detailed Bill-of-Materials
10. Adjust Hole Sizes for Pins on PCB
11. New PCB Layout

Secondary Ideas

(Ideas to Consider Before Project Completion)

1. O2 Sensor
2. Graphical User Interface (GUI)
3. Robust Switches
4. Remove R2 & R6 from PCB Layout
5. Fix Fuse Blowing Problem
6. Add Traces for Unused Pins on μ PC
7. Write up a Standard Test Procedure
8. Add Status LED's for Board Failure Detection

Implausible Ideas

(Ideas too Difficult to Add to ECU)

- Backup System
- RoHS Compliant
- Automatic Threshold Adjustment
- Save/Record Sensor Data