EMC Services for DC Motors

Jastech EMC Consulting LLC
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System Engineering Approach to EMC

- First, understanding the electromagnetic environment of the DC motor & the required emissions performance should occur at the beginning of a design cycle.
  - Typical approach is to concentrate only the mechanical requirements.
  - EMC requirements are considered at the end of the design cycle.
- By identifying the EMC environment and emission requirements at the beginning, mechanical options can be considered early that impact both EMC and mechanical performance.
  - Many times mechanical trade offs are minimal.
  - No additional cost is incurred.
  - EMC performance is greatly improved.
- Addressing EMC performance while considering mechanical performance early reduces the over-all design cycle time and cost by reducing 11th Hour EMC “fire drills” that have expensive stop gap measures.
Jastech EMC Consulting as a company has over 25 years of EMC experience with over 10 years of specialized EMC experience with DC motor suppression.

We have worked with over 100 different DC motor manufacturers domestically and internationally training engineers and program managers on cost-effective EMI motor suppression techniques.

Additionally we have successfully suppressed and analyzed hundreds of different types of DC motors in the following industries: automotive, consumer electronics, aerospace, military, industrial, robotics & medical.

1. Bound System for EMC
2. Identify Sources of Requirements
3. Discover & Understand Requirements
4. Create Alternatives
5. Select Best Solution
6. Validate Best Solution
In-House Training for DC Motors EMC

Jastech EMC Consulting has developed the following training seminar for EMI suppression in DC Motors:

“COST EFFECTIVE EMI SUPPRESSION TECHNIQUES FOR DC MOTORS”

- A short list of topics include: grounding, components, filters, antennas, shielding, measurements
- To view entire seminar outline or set-up in-house training: http://www.jastech-emc.com/motor_course_outline.htm
Developing a functional EMI suppressed motor takes the average engineer a minimum of 3-12 weeks and requires 3-15 days of EMC lab time.

Jastech EMC Consulting has the depth and experience to reduce this phase of design to 3-5 days with better EMC performance at a fraction of the cost.
Jastech EMC Consulting has the capability to interface with OEM, module supplier & motor manufacturer to:

- Reduce timing, cost & resources
- Prevent & solve problems
- Offer alternatives to fit manufacturing capabilities
- Improve reliability, quality & performance

Customer sends concept prototype motor for certified EMC Testing

Jastech Services
- Refer certified EMC Lab (if needed)
- Review or write EMC test plan
- Lab interface
- Review test data and EMC performance
- Work with customer on production
  - Refer filter supplier (if needed)
  - Review manufacturing process
  - Offer alternatives to reduce cost
  - Design Validation (DV)
  - Production Validation (PV)
  - EMI filter FMEA

Customer builds pre-production motor
Contact Information

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