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FFCA 2007

Tier 3 Nonroad Engines and Beyond

February 27, 2007

MotivePower, Inc. "MPI"

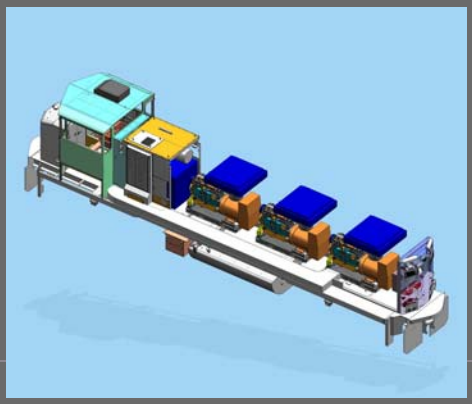
- Formed in 1972 under Morrison-Knudsen
- Approximately 2,500 freight & passenger locomotives
- Custom locomotive manufacturing – design and build customer-specific solutions
- 650+ employees
- Engineering expertise with a long history of locomotive experience
- Major manufacturing facility

Environmental Solutions

- Multi-engine (genset) diesel locomotives
- Tier 2 remanufactured and new locomotives
  - Passenger locomotives
  - Freight locomotives
- DOC emissions control module
- Locomotive emissions test lab (1 of 4 in the North America)

Multi-engine Locomotives

Model	HP	Service	Engines x HP
MP21B	2,100	Yard / Local	3 x 700 hp
MP14B	1,400	Yard	2 x 700 hp



MP21B
Basic Layout

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Multi-engine Locomotive Benefits

- Powered with ***clean*** Tier 3 nonroad engines
- Operate largely in and around communities
- Idle reduction:
  - Integrated start/stop system in warm and cold weather
  - One small clean engine idles instead of one large engine
- Fuel savings of 25-40%
- Proportional Green House Gas reductions
- Further PM emission reductions with DPFs

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Nonroad Engine Emissions Benefit

New Nonroad Engine Standards vs New Locomotive Standards (g/bhp-hr)		
	Tier 2 Locomotives	Tier 3 Nonroad Engines
NOx*	8.1	2.85
PM	0.24	0.15
HC*	0.6	0.15

* NOx and HC emission levels are estimated from a combined standard: 3.0 g/bhp-hr for Tier 3

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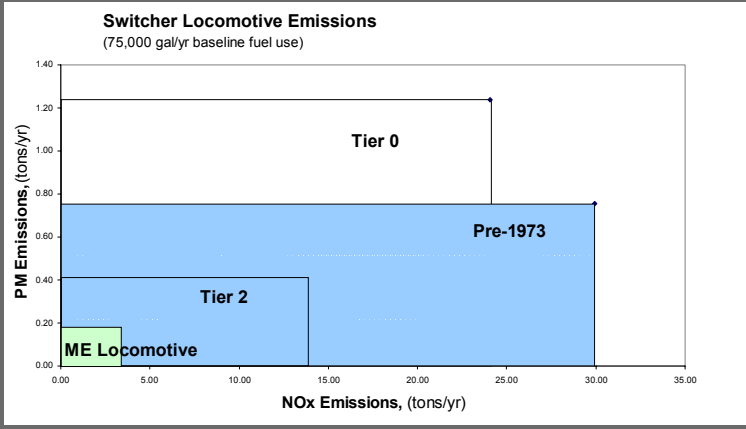
Switcher Locomotive Emissions



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New Tier 2 Locomotives

- 27 locomotives for Go Transit with EMD 16-710 Tier 2, 4300 bhp
- 16 locomotives for PHL with MTU 12V4000 engines, 2250 bhp
- 13 locomotives for UP with CAT 3516C engines, 2350 bhp

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MPI T2R Engine Upgrade Package

Engine	HP	Service
16-645F3B	3,600 turbo	Passenger – Line Haul
16-645E3B	3,000 turbo	Freight – Line Haul

- Emissions upgrade to Tier 2 levels
  - NOx: ~60% reduction 13 ⇒ 5.5 g/bhp-hr
  - PM: ~40% reduction 0.32 ⇒ 0.20 g/bhp-hr
- Upgrade package includes
  - Electronic fuel injection
  - Enhanced cooling system
  - Timing adjustment
  - DOC module
- EPA certification for an F3B engine upgrade is currently in progress

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Diesel Oxidation Catalyst Module

Engine	HP	Service
Locomotive Engines	All	All

- ~25% reduction in PM
- Does not change locomotive envelope
  - Replaces existing silencer
  - Mounts to turbo output flange
- Depending on duty cycle, AESS and microprocessor control module may be needed
- Highly cost-effective - $1500-$2500 / ton PM reduced
  - 3 yr project
  - Line haul application burning 175K gallons / yr
- Pursuing EPA / ARB technology verification
- Durability testing is planned

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DOC Module

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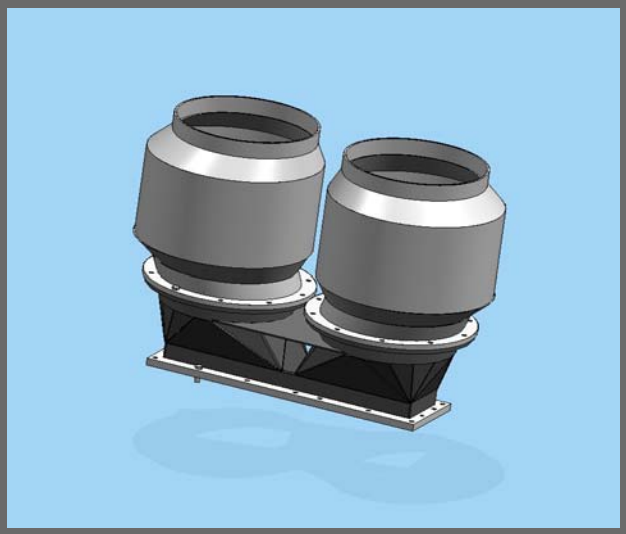

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Emissions Test Lab

- Motive Power develops emission reducing technologies and obtains certifications using test lab data
- 1 of 4 test labs equipped for locomotive EPA FTP
- EPA in-use testing services
- Certification and component verification testing for clients

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Into the Future

- Customer driven company
- Provide economic solutions to rail industry challenges
- Focus on development and testing of new technologies to reduce emissions

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