

# Improving & Maintaining Engine Performance

Ron St.Laurent  
NMRA NCR 2011 CONVENTION -- *Lansing Legacies*  
Hosted by Division 5

November 5, 2011

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## Presentation Outline

- Remove shell
  - “reserved strength”
  - Internet resources
- Remove trucks
- Clean truck components
- Dry truck components
- Lubricate and reassemble trucks
- Reassemble engine

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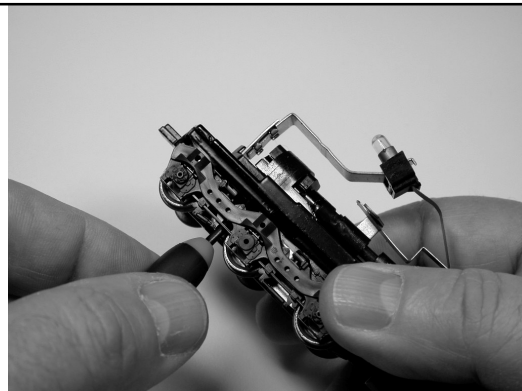
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## Engine Disassembly

- Remove shell
  - “reserved strength”
  - Internet resources
- Remove trucks

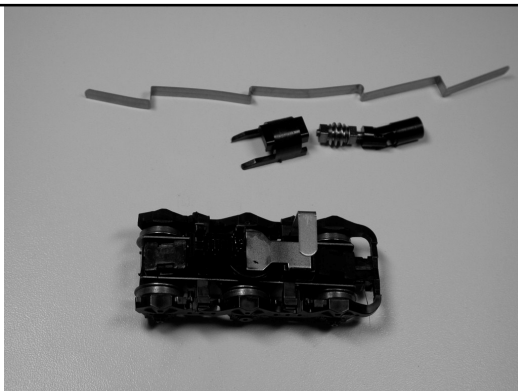
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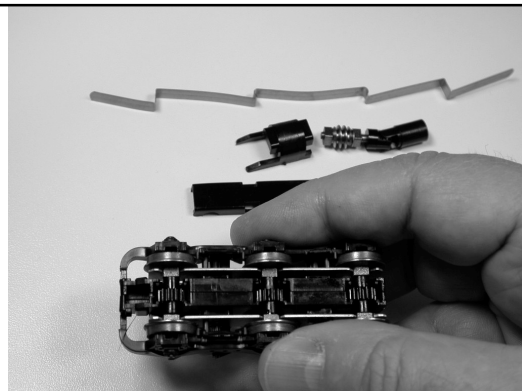
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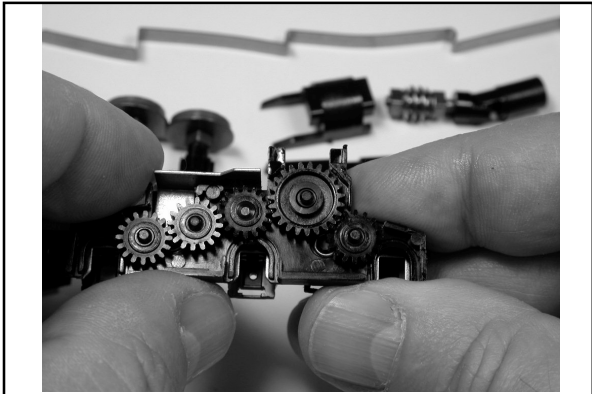
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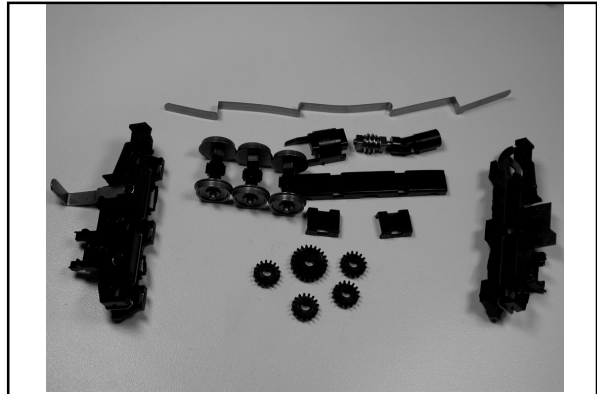
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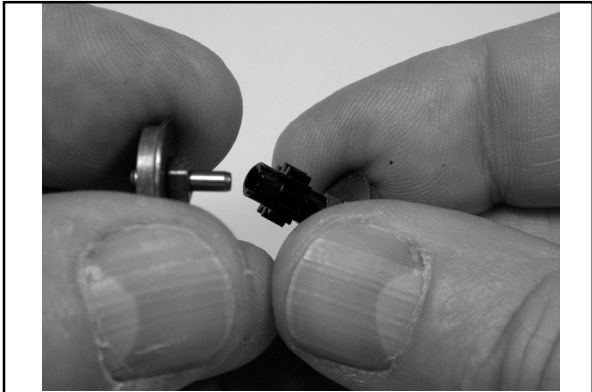
Rev 311, Lesson 3114.00



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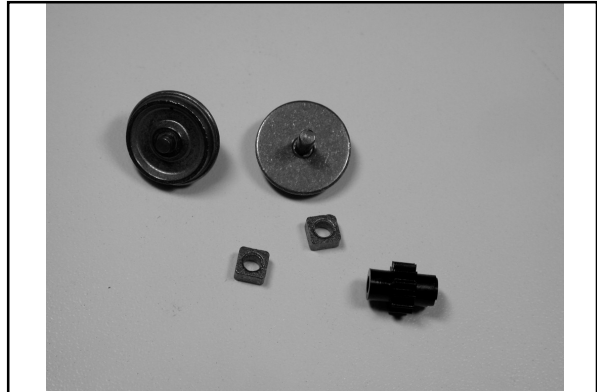
Rev 311, Lesson 3114.00



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Rev 311, Lesson 3114.00



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Rev 311, Lesson 3114.00

## Engine Disassembly

- Remove shell
  - “reserved strength”
  - Internet resources
- Remove trucks
- Clean truck components

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Rev 311, Lesson 3114.00



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Rev 311, Lesson 3114.00

## Engine Disassembly

- Remove shell
  - “reserved strength”
  - Internet resources
- Remove trucks
- Clean truck components
- Dry truck components

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## Reassemble Engine

- Lubrication
  - Gears & bearing surfaces
  - A “drp” (not a drop) of oil



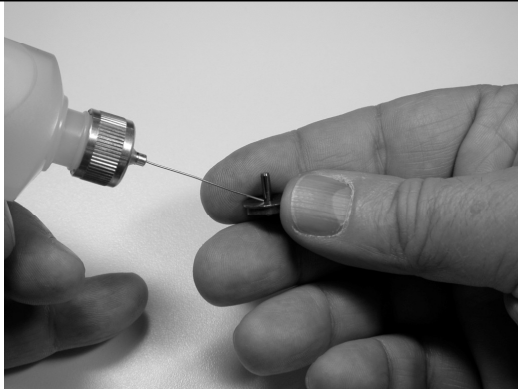
\$18.98 fskidmoreproducts.com



\$32.95 at Walthers

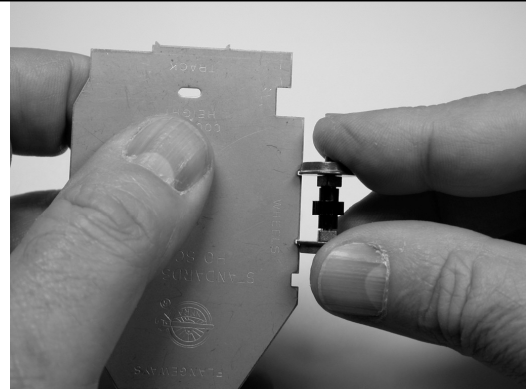
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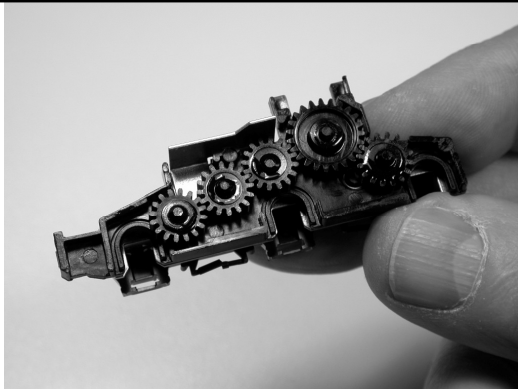
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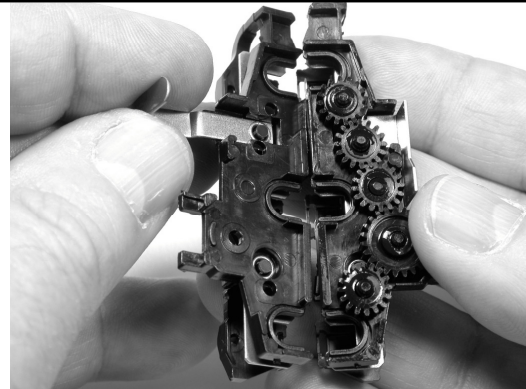
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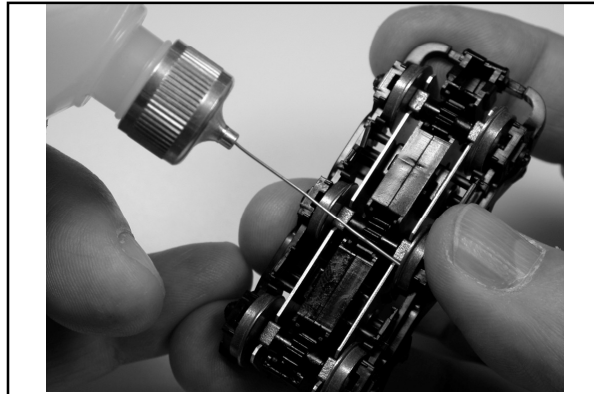
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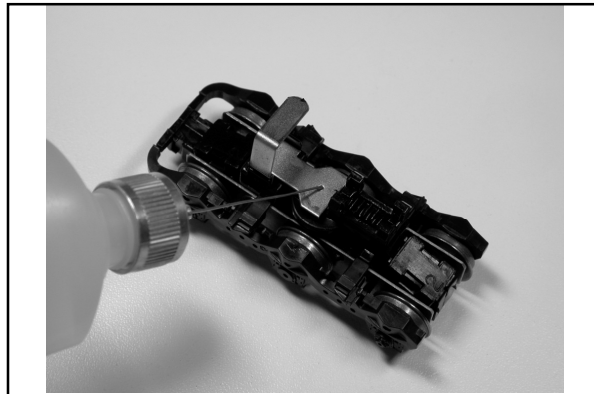
Rev 3-11, Lantech 3/14/09



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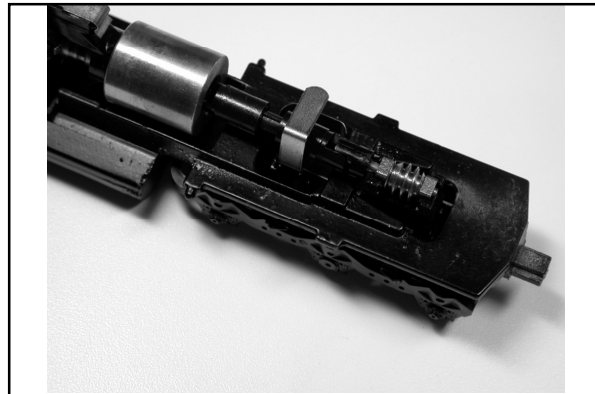
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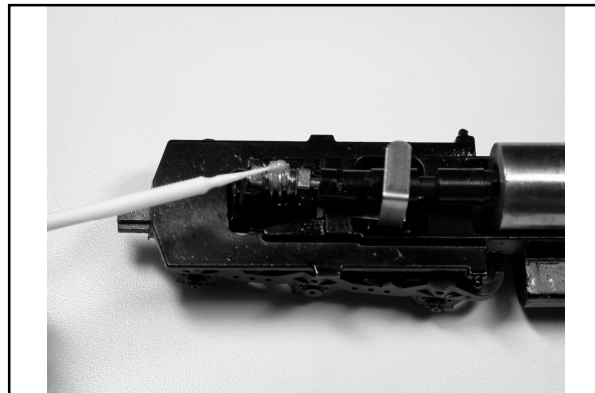
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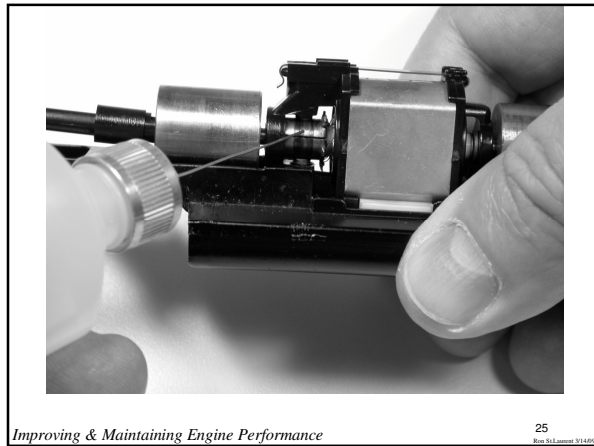
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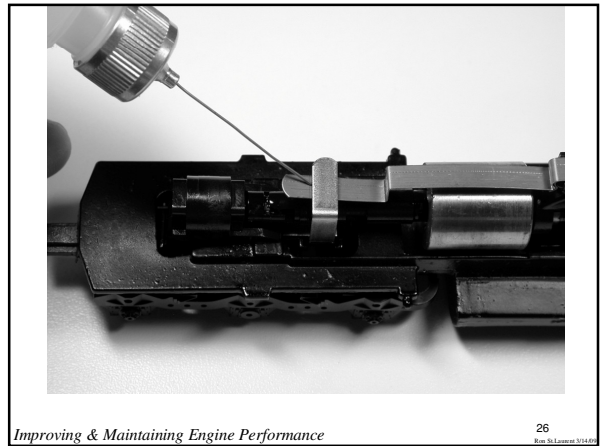
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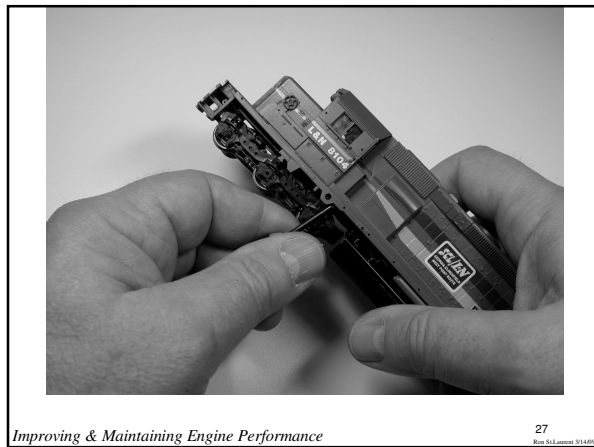
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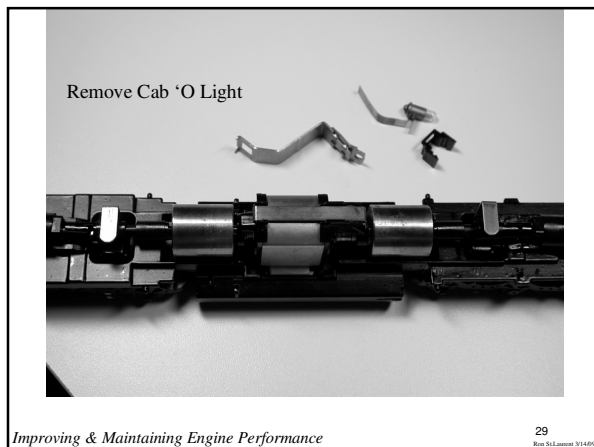
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### Performance Improvement Electrical Path

- NEGATIVE LEAD (Fireman's side)
  - track to wheel
  - wheel to bronze bearing
  - bearing to side frame
  - side frame to main frame
  - main frame to lower motor clip
  - lower motor clip to motor
- POSITIVE LEAD (Engineer's side)
  - track to wheel
  - wheel to bronze bearing
  - bearing to side frame
  - side frame to top metal pick-up strip
  - pick-up strip to upper motor clip
  - upper motor clip to motor

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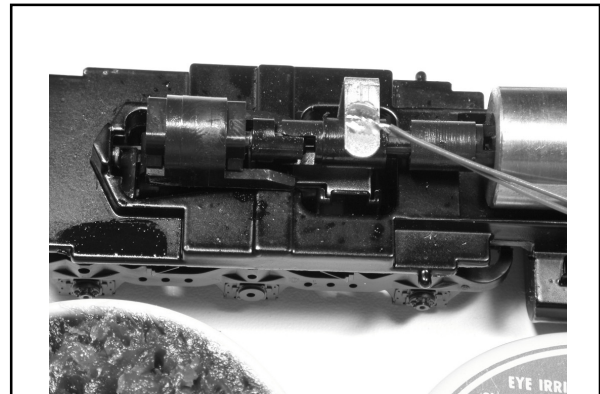
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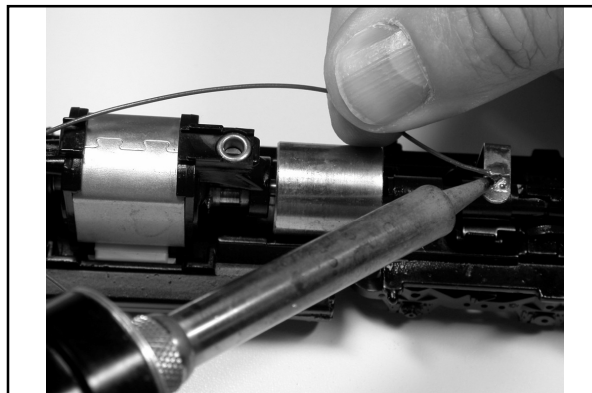
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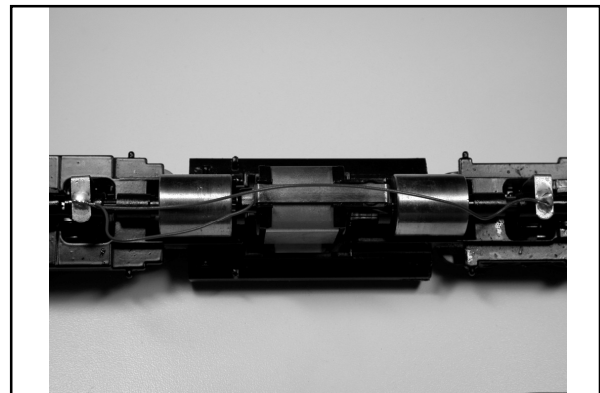
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## Performance Improvement

- Won't turn an Athearn into a Kato
- Will improve start resistance
  - slow speed
- Will improve rolling performance
- Will quiet the drivetrain
- Will improve current path
- Will improve your enjoyment of the engine

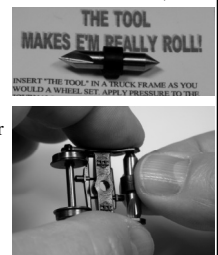
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## Rolling Stock

- Side frame reamer (60° per NMRA standard)
  - Remove truck from car
  - Remove wheels from frame
  - Spread frame and insert reamer
  - Apply side pressure with thumb and forefinger while turning reamer
  - Reposition reamer to do other side
  - Apply “drp” of oil in cups
  - Reassemble truck

<http://www.reboxx.com/Tools.htm>



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