Remanufacturing - Sustainability for the 21st Century

SUSTAINABLE DEVELOPMENT
OUR FOCUS & COMMITMENT

Dick Snodgress
Reman Commercial Manager
Caterpillar Inc.
Discussion Topics

1. What is Remanufacturing?

2. What are the benefits of remanufactured products?

3. What concerns are being voiced about trade in reman goods?

4. What modernization of trade laws are we seeking?

Reduce  Reuse  Recycle
Caterpillar is Making Progress Possible

Leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. The company also is a leading services provider.

Caterpillar Total Sales and Revenues 2011: $60.138 billion
Caterpillar Total Employees 2011: 125099 full-time

Cat Reman:
- 17 facilities worldwide
- 2.5M ft² of manufacturing (230k m²)
- >4.100 employees dedicated to reman
- Leverage Cat R&D spend

Remanufactured Products
- 2.2M units (161M lbs/73M kg) recovered in ‘11
- 6000+ different products
- Full line servicing Cat engines & machines
- Remanufacturing services for 3rd party OEMs
  - Auto, truck, rail, military
**Remanufacturing:** The process of returning an end-of-life, broken or blemished product to “same-as-new” condition in a manufacturing environment.

Help customers lower owning & operating costs and realize their machine/engine value.
The Reman Business Model...

End-of-life Material → Advanced Recycling Technology → New Material → Assembly & Test

1. Remanufactured Products are brought back to original condition
2. Remanufactured Products have “Same-as-New” quality & reliability
3. Remanufactured Products are not “Used Goods”
4. This is an exchange business
Remanufacturing... sustainability benefits

<table>
<thead>
<tr>
<th>Cylinder Head*</th>
<th>Reman vs. New</th>
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</thead>
<tbody>
<tr>
<td>GreenHouse Gas</td>
<td>61% less</td>
</tr>
<tr>
<td>Water use</td>
<td>93% less</td>
</tr>
<tr>
<td>Energy use</td>
<td>86% less</td>
</tr>
<tr>
<td>Safety</td>
<td>82% advantage</td>
</tr>
<tr>
<td>Material use</td>
<td>&gt; 99% less</td>
</tr>
<tr>
<td>Landfill space</td>
<td>&gt; 99% less</td>
</tr>
</tbody>
</table>

This is an Exchange Business
Remanufacturing Benefits

Less

Green House Gases
Raw Material Use
Landfill Waste
Energy Use
Water Use
Cost to Customer

More

Value to Customer
Recycling
Jobs
Sustainable Industry Profitability
Affordable Development
Controlled Industrial Processes
## Reman – Trade Concerns

### Existing laws for new parts apply to remanufactured parts

1. Consumer safety
   - Existing consumer protection laws apply

2. Dumping of used goods
   - Reman core recovery (1-for-1 exchange)

3. Intellectual Property
   - All existing Intellectual Property laws apply

4. Labeling
   - Truth-in-labeling laws apply
   - Unique Reman part numbers & labeling

5. Product quality
   - Same-as-New warranty
   - Recognised by ISO, IMO, multiple Free Trade Agreements

### No Multilateral common reference for remanufactured parts

1. Available freely to customers in most countries

2. Too many countries still impose tariff and non-tariff barriers on remanufactured goods
   - Classified as « used » goods
   - Import prohibited
   - Core export prohibited
   - Heavy bureaucratic processes
What are we seeking?

**Trade law modernization...**

- Removal of Non-Tariff Barriers on remanufactured products in India, China, Turkey, Brazil, ....
- Recognition of remanufacturing as environmentally friendly
- Equal treatment for both new & remanufactured goods
- Free flow of returned cores to facilitate entire process

Best achieved through a WTO multilateral approach
APEC Pathfinder Agreement
Remanufacturing…

Good for Customers

Good for Business

Good for the Environment
For more information about our company, visit
www.caterpillar.com