

Presenter Notes

This presentation is designed to give you an overview of the Cummins ReCon® products that we offer and what makes them a great value compared to your other engine repair options.

Thank you for meeting with me to let me tell you about our line of ReCon products.

Let's start by talking about your business and the equipment you have. Does your equipment have all the power you need? Is the engine running as smoothly as you would like? If not, what can you do about it? You may not have considered that you can exchange it.

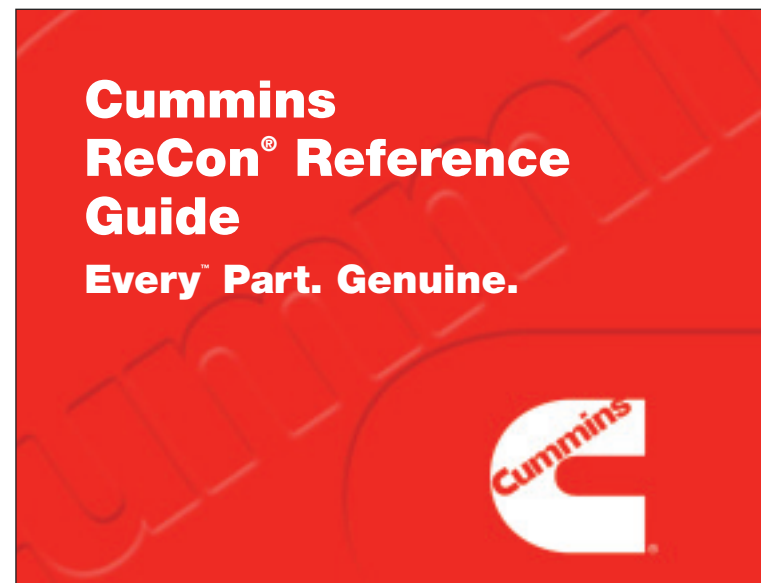
If your engine runs, it has value to you...actually it has value to us and even if it does not run, it may still have value to us. I'll tell you how to exchange your worn engine or component for a fully remanufactured Cummins ReCon engine or component that is backed by Cummins warranty and service network.

Your worn engine or component is the "core," which is the raw material we start with when we remanufacture ReCon products. Following our documented core inspection process, a Cummins professional can visually inspect your worn engine or component and immediately tell you the exchange value, or the value Cummins will give you for your old Cummins product, when you purchase a ReCon product.

Cummins ReCon products are remanufactured, not just repaired or rebuilt, and we back them with the best warranty in the business.

In the presentation I will point out distinct features of our processes and products that allow us to deliver on our promise of superior quality and great value for our customers. I'll tell you how our ReCon strategy keeps waste out of landfills and allows us to remanufacture many products using up to 85% less energy and resources than it takes to produce new.

Built to Cummins specifications, ReCon products truly are "the next best thing to new."



Cummins ReCon[®] Reference Guide

Every[™] Part. Genuine.



Presenter Notes

To demonstrate the superior quality and value you get when you purchase a ReCon® product, I will begin by explaining the difference between simply repairing or rebuilding a product and remanufacturing the product following the Cummins process.

I'll explain the Cummins remanufacturing process and talk about the care we take to conserve natural resources and deliver the best quality remanufactured products.

I'll tell you about the broad range of components and engines we remanufacture and talk with you about how Cummins ReCon products give you real value for your money while supporting environmental responsibility. I'll explain our exchange policy and tell you how to turn your old or broken component or engine (referred to as a core) into value you can apply toward the purchase of the remanufactured item that best fits your need.

Finally, you needn't worry about service for Cummins ReCon products after the sale. They are covered by the best warranty in the business and are supported by the world's largest parts and service network.



RECON® ENGINES AND COMPONENTS

- The difference between repair, rebuild and remanufacture
- Overview of Cummins ReCon remanufacturing process
 - Producing quality products and conserving natural resources
- Cummins ReCon components
- Cummins ReCon engines
- Protect your productivity and profitability with Cummins warranty and service network



RECON[®] ENGINES AND COMPONENTS

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Presenter Notes

To appreciate the value of Cummins ReCon® products, you must first understand the difference between repair, rebuild and remanufacture.

Note to presenter: *Read the definitions on the front.*

The correct repair depends upon the type and severity of engine failure. Cummins has certified technicians who have the best diagnostic tools and latest service bulletins and will give you the information you need to make the right repair choice.

As you can see, remanufacturing is the highest-quality repair. Choosing a remanufactured product reduces downtime, allows you to incorporate new technology into your repair, and turns your discarded item into a valuable product.



REPAIR, REBUILD AND REMANUFACTURE

- Repair – To fix by replacing or adjusting only the part of the component or engine that seems broken. The person making the repair determines the quality standard
- Rebuild – To fix by replacing all parts that seem to be broken or worn. It generally requires disassembly and repairing or replacing many parts before reassembling. Often the technician does not follow a defined work process, and recommended tools may not be available. The person doing the work makes a judgement as to which parts are acceptable for reuse
- Remanufacture – To completely disassemble every part; clean, inspect and restore to factory specifications; replace worn and rejected parts with Genuine Cummins new parts. All work is performed in a factory environment by Cummins certified technicians who follow validated processes and use the right tools

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**RECON* REMANUFACTURING
PROCESS**



RECON[®] REMANUFACTURING PROCESS

Presenter Notes

Let me tell you about each step of the Cummins remanufacturing process.

The first step in remanufacturing begins with your current engine or component. When a customer is unsure about whether to choose a ReCon® product, a Cummins representative can examine your engine or component and recommend the best repair value.

When a ReCon product is the recommended option, a Cummins representative visually inspects the customer's worn or damaged engine or component and, by following documented core acceptance standards, tells the customer the value they will receive for it. Through this simple visual inspection the customer knows how much money the core is worth and needn't worry about an unexpected core billback. Collecting good cores as we perform repairs provides raw material for the remanufacturing process and reduces waste that would otherwise end up in a junkyard or landfill.

Approved cores are transported to a Cummins factory where each component is completely disassembled, cleaned and thoroughly inspected using the latest high-tech equipment and procedures.



RECON® REMANUFACTURING PROCESS

- Customer gets information to make an informed repair decision
- Core acceptance/rejection is determined by a simple visual inspection
- Customer knows the value of their core based on documented visual inspection standards
 - No worries about unexpected billbacks
- Remanufacturing makes good use of worn items and helps to protect our environment



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Presenter Notes

Cummins has one of the world's largest remanufacturing operations, with facilities in every corner of the globe.

We have a tremendous investment in our plants and our people.

Every factory is certified to meet tough quality standards:

- TS-16949 in North America
- ISO (International Standards Organization) certification everywhere else in the world

Cummins is dedicated to providing the highest-quality remanufactured products in the industry.



RECON[®] REMANUFACTURING FACILITIES

- Memphis, Tennessee
- El Paso, Texas
- Juarez, Mexico
- San Luis Potosi, Mexico
- São Paulo, Brazil
- Cumbernauld, Scotland
- Scoresby, Australia
- Pune, India



Presenter Notes

Upon arrival at the factory, cores enter a remanufacturing process designed to create ReCon® products for use in lasting, reliable equipment repairs.

Every component is completely disassembled and cleaned, using sophisticated cleaning technology designed to remove debris without removing metal.

Once clean, parts are inspected, using high-tech equipment and processes to ensure every part meets Cummins exacting standards.

Appearances can be deceiving, so Cummins uses trained people, controlled processes and sophisticated equipment to ensure the quality of each part before allowing it to enter the remanufacturing process.

A thousandth of an inch in variation from the standard may be all that separates a good part from a bad part. That slight difference may be enough to cause the part to fit poorly or fail prematurely.

**RECON® REMANUFACTURING
PROCESS**



- Cores are completely disassembled
- Individual parts are cleaned using a process that removes debris without removing metal
- Parts are inspected using certified test equipment
- Critical attributes are measured against Cummins specifications, using computer-controlled equipment



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Presenter Notes

After cleaning and inspection, parts that don't meet Cummins specifications are evaluated to determine whether they must be scrapped or whether they can be remanufactured to bring them back to Cummins specifications. Worn parts are replaced with new Genuine Cummins Parts. While Cummins goal is to reuse parts where possible, we will not compromise on quality.

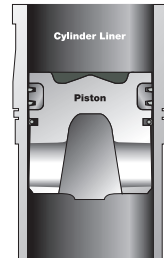
Components are reassembled in a factory setting, where trained Cummins technicians follow documented and fail-safe processes. Whenever possible, the latest design changes, material improvements and performance upgrades approved by Cummins new product research and development engineers are incorporated into ReCon® products. ReCon components and engines give you real value for your money and are an environmentally responsible choice. You get the latest technology upgrades, often providing better fuel economy and cleaner emissions. On average, remanufacturing a part using your old product as core takes up to 85% less energy and natural resources than producing the same part new.

Cummins remanufacturing processes guarantee the highest-quality parts because they are completely restored and qualified in a factory environment. Components and engines undergo testing in test cells like those used in Cummins new product manufacturing facilities. Every ReCon product is fully tested on the assembly line – not in the customer's equipment!

Built to Cummins specifications, ReCon products truly are “the next best thing to new.”

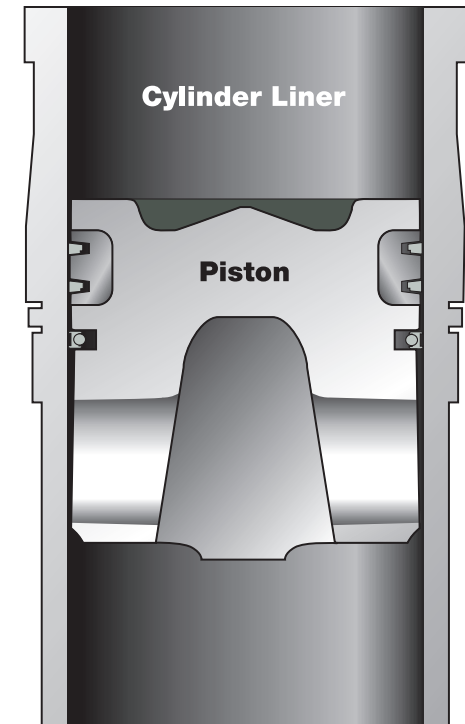
**RECON® REMANUFACTURING
PROCESS**

- Worn or defective parts are replaced with 100% Genuine Cummins Parts
- Upgraded components/materials are substituted where appropriate
- Components are reassembled by factory-trained technicians using fail-safe processes
- Assembled parts are tested under simulated operating conditions to check for internal defects and to ensure optimum performance, reliability and durability



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Presenter Notes

When you buy a Cummins ReCon® product, it has been remanufactured with 100% Genuine Cummins new or ReCon parts. Plus, you have absolute assurance that you're getting parts that meet your engine's specifications. As a result, they work better, last longer and cost less – in the long run.

Cummins ReCon Guarantee = Total Confidence

- 100% parts
- 100% labor
- Consumables
- Progressive damage

Non-genuine parts don't live up to Cummins standards.

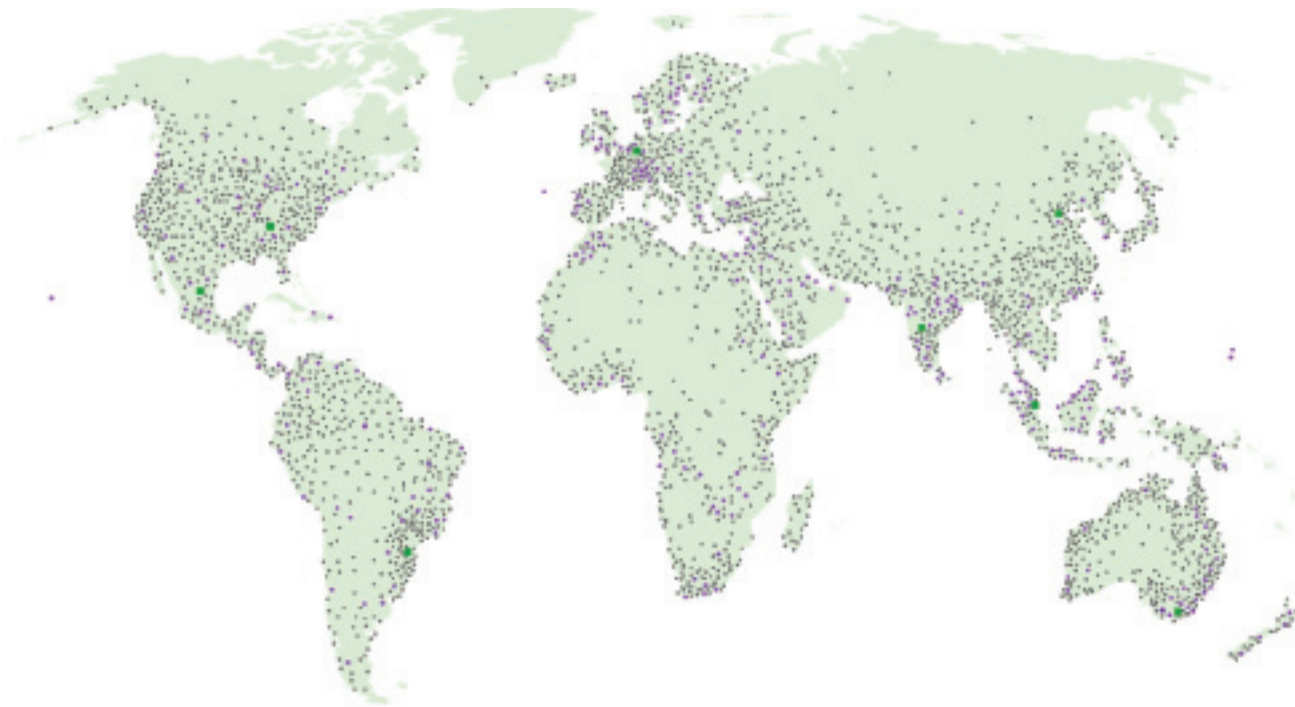
CONFIDENCE IN THE PROCESS

- Covered by our unmatched Cummins warranty – 100% parts and labor, progressive damage, markup and consumables
- Backed by the world's largest independent parts and service network with over 5,500 authorized locations



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RECON[®]
COMPONENTS

Presenter Notes

Cummins ReCon® parts are available for virtually every major component found in a Cummins engine.

Note to presenter: Read list; ask listener if any specific items are of special interest. If so, determine whether to jump to specific component or continue with presentation. Following the parts listing, discuss the policy regarding core returns.

Cummins makes it easy. If the core passes a simple visual inspection, full core value will be given regardless if there is hidden damage or not.

However, unusual circumstances such as fire damage, excessive rust, disassembled components or damage during removal will disqualify the core.

Details on core return are product-specific. Check with Cummins service department prior to beginning the service event.

Note to presenter: Stress the advantages of Cummins core return policy:

It's quick, easy and the customer always knows what the total cost will be up front. There are no surprise "billbacks."

RECON® COMPONENTS

- Accessory drives
- Air compressors
- Connecting rods
- Cylinder heads
- Electronic control modules
- Fuel pumps
- Injectors
- Lube oil pumps
- Rotating electrics
- Turbochargers
- Water pumps
- Actuators





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Presenter Notes

We recommend replacing the accessory drive at the time of a major overhaul or rebuild. You may choose to replace the accessory drive during a scheduled maintenance event and you will certainly need to replace it if it becomes damaged.

Are you aware that accessory drives are available as ReCon® products? As with all ReCon products, when you purchase a ReCon accessory drive, you can receive value for your old part (core), provided it meets our easy-to-understand core acceptance guidelines.

You get a quality part. Accessory drive remanufacturing standards include new bushings, thrust bearings and new plugs for the gallery pipe. All gears, shafts and housings are inspected and replaced as necessary. Every part within the accessory drive is re-qualified for reuse before the drive is reassembled, and then the entire drive is tested for functionality.

Accessory drives are available for

- | | | | |
|--------|---------|---------|--------|
| ■ L10 | ■ ISM | ■ NT855 | ■ K19 |
| ■ GL10 | ■ QSM | ■ N14 | ■ QSK |
| ■ M11 | ■ NH855 | ■ K6 | ■ GK19 |

ReCon accessory drives are backed by our standard component warranty

- MidRange: B, C and ISC and ISL Series = 6 months/unlimited miles (km) or hours
- Heavy-Duty and high-horsepower: N Series, L10, M11, ISM and ISX, K6, K19, QSK, GK19 = 12 months/100,000 miles (160,935 km) or 3,600 hours, whichever comes first

**RECON®**
ACCESSORY DRIVES

Recommended replacement

- Engine rebuild/midlife overhaul
- Planned service intervals
- Mounting flange damage can cause oil leaks

Remanufacturing includes

- New bushings
- New thrust bearings
- New plugs for gallery pipe
- Gears, shafts and housings replaced if they do not meet rebuild specifications



ReCon accessory drives are backed by a Cummins warranty and the world's largest independent parts and service network

RECON®

ACCESSORY DRIVES

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- New bushings
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Presenter Notes

We recommend replacing the air compressor at the time of a midlife overhaul or rebuild. Symptoms that indicate the need to replace your air compressor include an insufficient volume of air being pumped and excessive oil in the air system. You may choose to replace the air compressor during a scheduled maintenance event and you will certainly need to replace it if it becomes damaged.

ReCon® air compressors are available for most engines and as with all ReCon products, when you purchase a ReCon air compressor, you can receive value for your old part (core), provided it meets our easy-to-understand core acceptance guidelines.

Compressor remanufacturing standards include genuine pistons, connecting rods, new rings, gaskets, O-rings and new springs, snap rings and wear plates.

ReCon air compressors are available for the following engines

■ 4B	■ QSL	■ K6
■ 6B	■ L10	■ K19
■ ISB	■ GL10	■ QSK
■ QSB	■ M11	■ GK19
■ G6B	■ ISM	■ V12
■ 6C	■ QSM	■ V28
■ ISC	■ NH855	■ QST30
■ QSC	■ NT855	■ K28
■ G6C	■ N14	■ KV12
■ 6D	■ ISX	■ K50
■ ISL	■ QSX	■ KV16

RECON®
AIR COMPRESSORS



Recommended replacement

- Engine rebuild/midlife overhaul
- Planned service intervals
- Insufficient air volume
- Excessive oil in air system

Remanufacturing includes

- Genuine pistons
- Connecting rods
- New rings, gaskets, O-rings
- New springs, snap rings and wear plates



RECON®

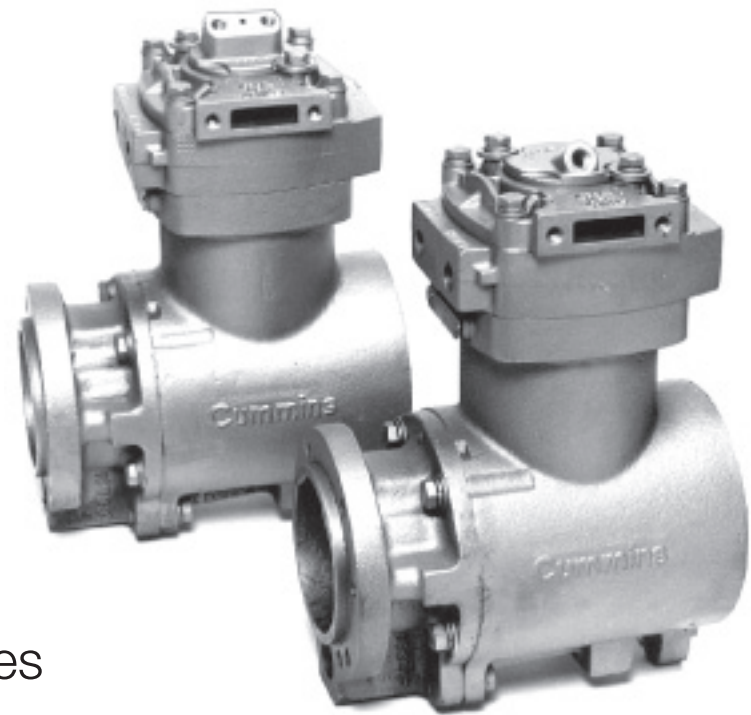
AIR COMPRESSORS

Recommended replacement

- Engine rebuild/midlife overhaul
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- Insufficient air volume
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- Genuine pistons
- Connecting rods
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Presenter Notes

Expect to see improved performance from a newly installed ReCon® air compressor. Your engine will get optimum airflow for more efficient combustion, greater power and better fuel economy.

ReCon air compressors are backed by the best warranty in the business.

- L10, M11, ISM, N Series and ISX = 12 months/100,000 miles (160,935 km) or 3,600 hours, whichever comes first
- B, C and ISC and ISL Series = 6 months/unlimited miles (km) or hours

RECON®
AIR COMPRESSORS



Features and benefits

- Reliable, durable performance provides optimum air supply to engine
- Fuel consumption is minimized; power is optimized by reducing pumping time and engine load
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours



RECON[®]

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Presenter Notes

Connecting rods are critical parts. They are under constant high-pressure stress. The slightest mismatch between just one connecting rod and cap can cause catastrophic engine failure. That's why the ReCon® remanufacturing process ensures that matched pairs are kept together and that they meet exacting tolerances. (Only matched sets are accepted as core.)

Connecting rods can “look good” even when they have miniscule cracks that are not visible to a technician.

Before entering the ReCon remanufacturing process, every rod and cap is crack-tested using a special procedure. Unlike a competitor's cursory visual exam or physical testing which may allow defects to pass unnoticed, the ReCon procedure detects even the smallest defect.

During the remanufacturing process, caps and connecting rods are kept in matched pairs; worn bolts, dowels and bushings are replaced; cap and rod surfaces are machined to ensure flatness; the crank bore is honed to specification; and the piston bore is re-bushed and bored to size.

RECON®
CONNECTING RODS



Recommended replacement

- Engine rebuild/midlife overhaul

Remanufacturing includes

- Every rod and cap crack-tested to meet Cummins standards
- Caps and connecting rods kept in matched pairs from disassembly to completion
- Worn bolts, dowels and bushings replaced
- Cap and rod surfaces machined to ensure flatness
- Crank bore honed to specification
- Piston bore re-bushed and bored to size



RECON[®]

CONNECTING RODS

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Presenter Notes

Remanufactured ReCon® connecting rods meet tough Cummins standards and when installed in your engine, will deliver outstanding performance, reliability and durability.

Unlike a local machine shop, where an operator works on whatever job is available each day, ReCon plants have trained technicians, remanufacturing processes, work stations, and sophisticated test equipment dedicated to remanufacturing specific components.

We believe that you can't compare the quality and availability of connecting rods re-machined at a local shop to Cummins ReCon connecting rods, and our products are backed by the best warranty in the business.

ReCon connecting rods are available for

■ 4B	■ ISC	■ ISM	■ ISX	■ V12	■ K38	■ KV16
■ 6B	■ QSC	■ QSM	■ QSX	■ V28	■ KV12	■ QSK45
■ ISB	■ G6C	■ NH855	■ K6	■ QST30	■ K50	■ QSK60
■ QSB	■ L10	■ NT855	■ K19			
■ G6B	■ GL10	■ N14	■ QSK			
■ 6C	■ M11	■ V903	■ GK19			

Note to presenter: *It is a good idea to know the local competition. What is the average turnaround time for parts sent to a machine shop? What is the reputation of the local machine shop(s)? What kind of warranty is available for parts that are machined locally and who stands behind them? Is it easy to get warranty coverage when you need it? Does the local warranty cover labor as well as parts and will it cover progressive damage?*

**RECON®**
CONNECTING RODS

Features and benefits

- Outstanding performance, reliability and durability
- No delay waiting for parts to be repaired and returned from a machine shop
- Reduced risk of premature failure
- A full Cummins warranty covers 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours



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Cummins recommends replacing the heads at the time of overhaul. For your service convenience, Cummins includes heads in many overhaul kits. Your service technician will check your engine at regular service intervals and will advise you of any evidence of leaks or other indications of damage to a cylinder head. (Consult Owners Manual for recommended maintenance intervals.) When overhauling or rebuilding an engine, trust only Genuine Cummins cylinder heads. Our ReCon® heads are competitively priced and are available for nearly every engine.

■ 4B	■ ISC	■ L10	■ NT855	■ K19	■ V28	■ K50
■ 6B	■ QSC	■ GL10	■ N14	■ QSK	■ QST30	■ KV16
■ ISB	■ G6C	■ M11	■ V903	■ GK19	■ K38	■ QSK45
■ QSB	■ 6D	■ ISM	■ ISX	■ V12	■ KV12	■ QSK60
■ G6B	■ ISL	■ QSM	■ QSX			
■ 6C	■ QSL	■ NH855	■ K6			

You may be able to purchase a “will fit” or a rebuilt head, or you may have the option of having your original engine head repaired by a local rebuilder or machine shop. Only ReCon cylinder heads meet strict Cummins remanufacturing standards.

Remanufacturing includes state-of-the-art machining and replacement of wear parts, including valve guides, injector sleeves, collets, and fuel manifold plugs/kits. Cups are replaced with new stainless steel cup plugs. The lower conical area is reamed before sleeves are installed. Castings are pressure-tested to ensure no internal casting defects in water or fuel line jackets, and every valve is vacuum-tested to ensure proper seating and no leaks. The integrity of each ReCon cylinder head is verified before being installed on your equipment.

RECON®
CYLINDER HEADS



Recommended replacement

- Engine rebuild/midlife overhaul
- Planned service intervals

Remanufacturing includes

- State-of-the-art machining
- Replacement of valve guides, injector sleeves, collets, and fuel manifold plugs/kits
- Cups replaced with new stainless steel cup plugs
- Lower conical area reamed before sleeves are installed
- Castings pressure-tested to ensure no internal casting defects in water or fuel line jackets
- Every valve vacuum-tested to ensure proper seating and no leaks



RECON[®]

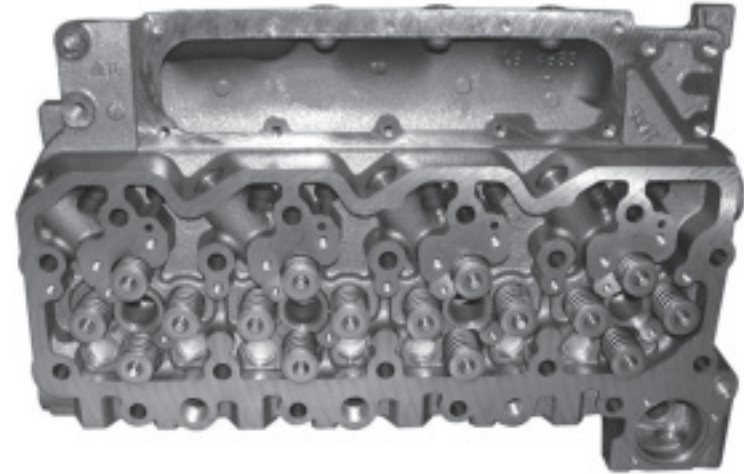
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Time is money. When you choose a ReCon® cylinder head you won't lose time waiting on a machine shop repair.

Advantages of Cummins ReCon cylinder heads include increased performance and improved fuel efficiency and, as always, our ReCon cylinder heads are backed by Cummins superior warranty.

RECON®
CYLINDER HEADS



Features and benefits

- No waiting for machine shop repair
- Improved performance and fuel economy
- Optimum durability and reliability
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours

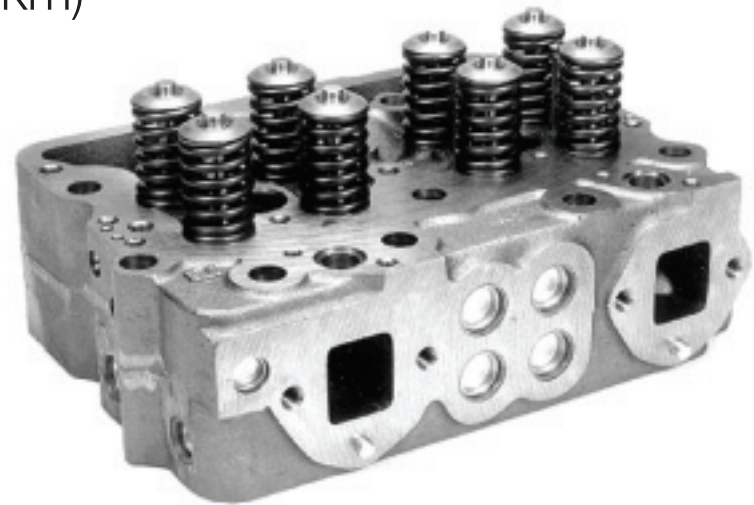


RECON[®]

CYLINDER HEADS

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Presenter Notes

The ECM is the brain of an engine. It processes thousands of bits of information every second to keep your engine running smoothly and efficiently. Replace the ECM when you rebuild the engine or when your certified repair technician diagnoses a malfunction.

The ReCon® remanufacturing process includes

- Diagnostic testing using the latest equipment
- 100% replacement of out-of-spec components
- All upgrades incorporated
- Parts approaching end of life span proactively replaced to avoid unexpected downtime

Other companies sell reconditioned ECMs but they don't have access to the latest upgrades or to historical data to know when to replace parts that are nearing the end of their expected life. As a result, they either replace parts that are still good or leave in parts that will wear out. Either way, it costs you money.

- All ECMs are subjected to environmental stress screening and “overstressing” in a special test cell. To check reliability and durability, we overstress the Electronic Control Module, subjecting it to extremes in temperature and vibration
- Before approving the part for shipment, we validate all ECM functions to ensure you get the best possible product

**RECON®**
ELECTRONIC CONTROL MODULES

Recommended replacement

- Engine rebuild or as required, based on diagnosis

Remanufacturing includes

- Complete disassembly and 100% analysis/diagnosis of all circuits
- Replacing failed or out-of-spec components with new, updated or upgraded components
- Checking seals and mounts
- Testing to ensure reliability includes environmental stress screening
- Recalibration of ECM to latest Cummins performance/emissions standards



RECON®

ELECTRONIC CONTROL MODULES

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- Checking seals and mounts
- Testing to ensure reliability includes environmental stress screening
- Recalibration of ECM to latest Cummins performance/emissions standards

Presenter Notes

The electronics on your engine are complex. Only Cummins has access to the best equipment, latest technology and most current calibration codes. When you purchase an ECM and have it installed by a Cummins certified distributor or dealer, you know you are getting a genuine ECM that meets Cummins specifications, calibrated to ensure optimum engine performance in your application.

A Cummins ReCon® ECM is a cost-effective alternative to buying a new ECM, and it comes with the full Cummins warranty.

ECMs are available for

■ 4B	■ 6C	■ ISL	■ ISM	■ ISX
■ 6B	■ ISC	■ QSL	■ QSM	■ QSX
■ ISB	■ QSC	■ L10	■ NH855	
■ QSB	■ G6C	■ GL10	■ NT855	
■ G6B	■ 6D	■ M11	■ N14	

RECON®

ELECTRONIC CONTROL MODULES

Features and benefits

- Remanufactured to deliver optimal engine performance
- Comprehensive testing ensures reliable ECM performance
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours



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Presenter Notes

Fuel pump failure may occur gradually over a long period of time as seals and components inside the fuel pump wear, causing your fuel pump's performance to decline. You may notice a change in the responsiveness or a decline in fuel economy.

Ordinary service technicians may not notice a drop in engine performance or fuel economy caused by inefficient fuel pumps. With our sophisticated diagnostic equipment, Cummins certified service technicians can analyze engine history to detect symptoms that indicate degradation of fuel pump performance.

When you invest in a major overhaul or rebuild, you expect top performance from your engine. Cummins recommends changing the fuel pump to ensure you get the top efficiency and performance you expect, and a ReCon® fuel pump is a great option.

Cummins remanufacturing process includes complete disassembly, cleaning and inspection of the pump body and all parts. We ensure a matched fit of governor, plunger and barrel (PT pumps) and replace all critical-wear parts. The rotary fuel pump governor is replaced with the latest design, and we use only new Genuine Cummins bearings and seals to ensure leak-free operation. Our remanufactured pumps undergo functional testing in computer-controlled equipment and each is recalibrated to the latest Cummins performance specifications. Calibration to the latest Cummins standards is important because exact fuel pump operation is critical to performance, fuel economy and emissions control.



RECON® FUEL PUMPS

Recommended replacement

- Engine rebuild/overhaul
- Planned service intervals
- When engine performance indicates the need
 - Power lagging
 - Fuel consumption increased

Remanufacturing includes

- Complete disassembly, cleaning and inspection
- Matched fit of governor, plunger and barrel (PT pumps)
- Replacement of all critical-wear parts
- New Genuine Cummins bearings and seals
- Calibration to Cummins specifications



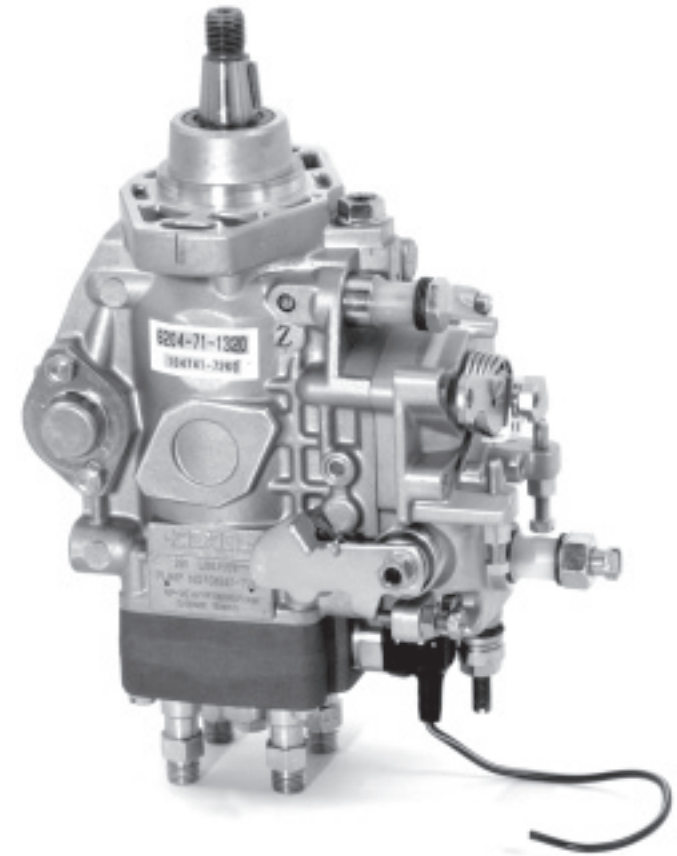
RECON® FUEL PUMPS

Recommended replacement

- Engine rebuild/overhaul
- Planned service intervals
- When engine performance indicates the need
 - Power lagging
 - Fuel consumption increased

Remanufacturing includes

- Complete disassembly, cleaning and inspection
- Matched fit of governor, plunger and barrel (PT pumps)
- Replacement of all critical-wear parts
- New Genuine Cummins bearings and seals
- Calibration to Cummins specifications



Presenter Notes

With a ReCon® fuel pump, you don't just get a replacement, you get an upgrade.

The fuel pump is a critical element in meeting emissions regulations. Cummins ReCon fuel pumps have the correct calibration and are fully restored to meet Cummins specifications so your engine will again meet all local and national emissions regulations.

Our total confidence in the improved quality and performance of a Cummins ReCon fuel pump is reflected in the warranty.

ReCon fuel pumps are available for

■ 4B	■ 6D	■ NT855	■ V12
■ 6B	■ ISL	■ N14	■ V28
■ ISB	■ QSL	■ V903	■ K38
■ QSB	■ L10	■ ISX	■ KV12
■ G6B	■ GL10	■ QSX	■ QSK45
■ 6C	■ M11	■ K6	■ QSK60
■ ISC	■ ISM	■ K19	
■ QSC	■ QSM	■ QSK	
■ G6C	■ NH855	■ GK19	

**RECON®**
FUEL PUMPS

Features and benefits

- Optimum performance and fuel economy
- Unsurpassed reliability and durability
- Every technical improvement/update incorporated
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours



RECON[®] FUEL PUMPS

Features and benefits

- Optimum performance and fuel economy
- Unsurpassed reliability and durability
- Every technical improvement/update incorporated
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine components
 - 6 months/unlimited miles (km) or hours

Presenter Notes

There are several different injector designs. One of the more complex designs is the Cummins CELECT™ injector. It is a perfect example of why you should rely on only Cummins remanufactured ReCon® injectors to maintain optimal engine performance, fuel efficiency and compliance to emissions standards.

Injectors constantly work under intense pressure (up to 28,000 psi) to keep Cummins engines running smoothly. Restoring a CELECT injector to original specifications is far more complicated than restoring an ordinary injector.

Cummins has the equipment and the expertise to remanufacture injectors to Cummins factory specifications. Our remanufacturing process includes replacement of all critical-wear parts with only new Genuine Cummins Parts. The barrels are honed to restore geometry and finish, and the barrels and plungers are matched to fine tolerances. Cups are replaced with new as needed, and every injector is individually tested for leaks and compliance to specifications. It takes specialized equipment to remanufacture and then test injector performance – equipment that most local shops can't afford. Cummins not only validates the injectors, we calibrate our testing equipment frequently.

ReCon injectors are available for

■ 4B	■ 6D	■ NT855	■ V12
■ 6B	■ ISL	■ N14	■ V28
■ ISB	■ QSL	■ V903	■ K38
■ QSB	■ L10	■ ISX	■ KV12
■ G6B	■ GL10	■ QSX	■ K50
■ 6C	■ M11	■ K6	■ KV16
■ ISC	■ ISM	■ K19	■ QSK45
■ QSC	■ QSM	■ QSK	■ QSK60
■ G6C	■ NH855	■ GK19	

**RECON®
INJECTORS**



Recommended replacement

- Engine rebuild/overhaul
- Regular service intervals
- As indicated by performance

Remanufacturing includes

- Replacement of all critical-wear parts
- Barrels honed to restore geometry and finish
- Barrels and plungers matched to fine tolerances
- Cups replaced with new as needed
- Every injector individually tested for leaks and compliance to specifications
 - Test equipment calibrated and closely monitored for accuracy

RECON[®] INJECTORS

Recommended replacement

- Engine rebuild/overhaul
- Regular service intervals
- As indicated by performance

Remanufacturing includes

- Replacement of all critical-wear parts
- Barrels honed to restore geometry and finish
- Barrels and plungers matched to fine tolerances
- Cups replaced with new as needed
- Every injector individually tested for leaks and compliance to specifications
 - Test equipment calibrated and closely monitored for accuracy



Presenter Notes

Cummins recommends changing a complete set of injectors at the same time. The most obvious reason for this is that if one is not performing properly, it may affect the others. Changing them all at once is a proactive step to prevent future maintenance events, and it costs less in labor and downtime to replace all the injectors at once.

Second, replacing a set of worn injectors with Cummins ReCon® injectors can improve performance and fuel economy. Besides improving driver satisfaction, you will reduce operating costs and improve emissions.

At Cummins, we give extra attention to critical emissions-related parts such as injectors. We take care to re-qualify them so your engine will meet emissions regulations, reducing the risk of fines.

As with all ReCon products, “core” has value, and our simple inspection guidelines allows us to tell you exactly what your core is worth.

Note to presenter: When available, cover package pricing (such as the 6-for-5 program).

This presentation is specific to PX injectors in the U.S. and Canada – in Mexico, PX injectors come with 24-month/200,000-mile (321,869 km) warranty coverage. RX injectors have a 6-month warranty with used cups.



RECON® INJECTORS

Features and benefits

- Peak performance and fuel economy
- Longer engine life/less expense over time
- Optimum reliability/durability
- Less smoke emission, reduced risk of fines
- Full Cummins warranty covering 100% parts and labor
 - CELECT™ and PX injectors (North America only)
 - 24 months/125,000 miles (201,168 km) or 3,600 hours
 - B and C Series injectors
 - 12 months/unlimited miles (km) or hours



RECON[®] INJECTORS

Features and benefits

- Peak performance and fuel economy
- Longer engine life/less expense over time
- Optimum reliability/durability
- Less smoke emission, reduced risk of fines
- Full Cummins warranty covering 100% parts and labor
 - CELECT[™] and PX injectors (North America only)
 - 24 months/125,000 miles (201,168 km) or 3,600 hours
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Presenter Notes

The lube oil pump is the heart of any engine. Without proper lubrication, an engine will seize up in a matter of seconds.

Timely replacement of the lube oil pump at the first warning signs of failure can prevent unscheduled downtime. Warning signs include slow oil pressure buildup, or not reaching peak oil pressure.

RECON®

LUBE OIL PUMPS

Recommended replacement

- Engine rebuild/overhaul
- Major service event or planned service interval
- When diagnosis indicates sub-optimum performance
 - Oil pressure slow to build up
 - Not reaching previous peak oil pressure

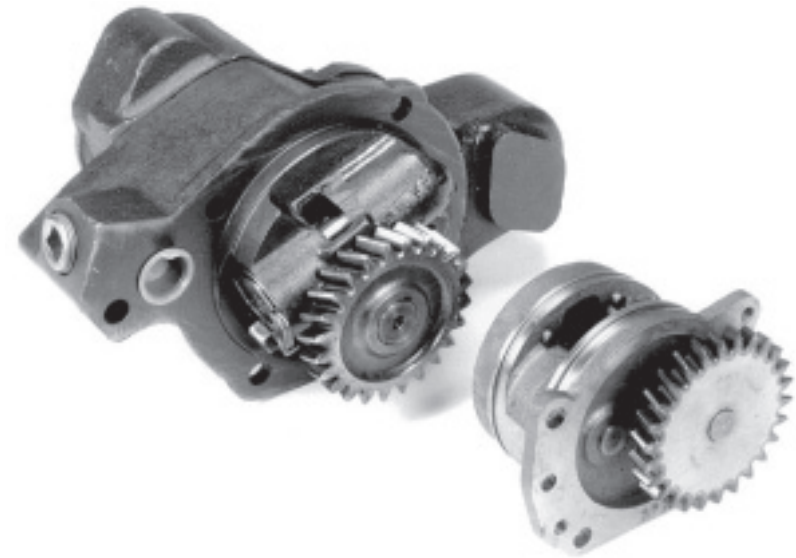


RECON®

LUBE OIL PUMPS

Recommended replacement

- Engine rebuild/overhaul
- Major service event or planned service interval
- When diagnosis indicates sub-optimum performance
 - Oil pressure slow to build up
 - Not reaching previous peak oil pressure



Presenter Notes

The incoming core is inspected to sort reusable bodies and covers from the scrap. During the remanufacturing process, all critical-wear parts are replaced. The 100% replacement of critical parts is a key difference between the Cummins process for remanufacturing and that of rebuilders.

The replacement of bearings, bushings, seals and gaskets ensures leak-free performance at the required operating pressure.

Every ReCon® lube oil pump is tested for functionality before it leaves the assembly line.

RECON®
LUBE OIL PUMPS



Remanufacturing includes

- Thorough inspection of body and cover to ensure compliance for reuse
- 100% Genuine Cummins new bearings, bushings, seals and gaskets
- Full functionality testing after assembly – to ensure performance

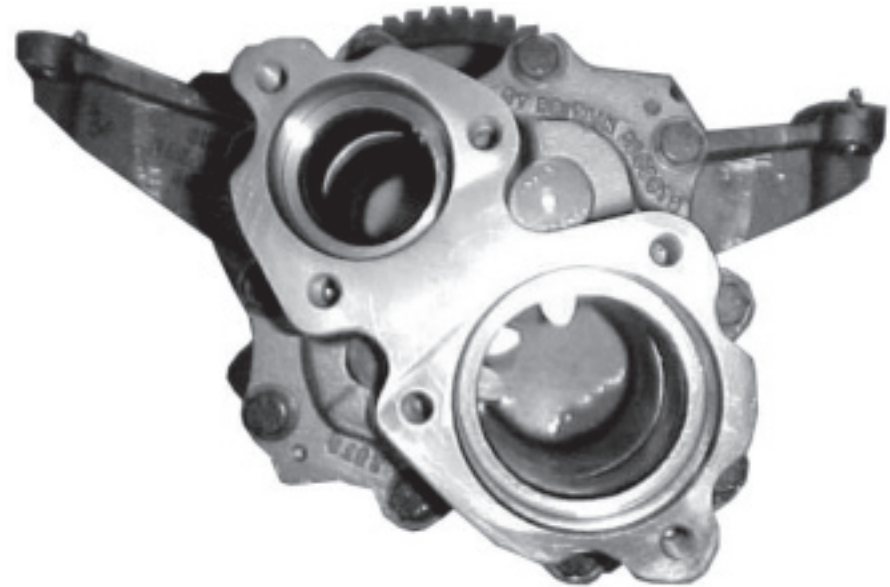


RECON[®]

LUBE OIL PUMPS

Remanufacturing includes

- Thorough inspection of body and cover to ensure compliance for reuse
- 100% Genuine Cummins new bearings, bushings, seals and gaskets
- Full functionality testing after assembly – to ensure performance



Presenter Notes

ReCon® lube oil pumps ensure correct flow and pressure for optimum lubrication of key components which minimizes engine wear.

Our pumps offer leak-free performance, durability and reliability to maximize the life of your engine.

Cummins thorough inspection and testing procedures used in our remanufacturing process ensure reliable and durable performance – that's how we can offer the full Cummins ReCon warranty.

ReCon lube oil pumps are available for

- | | |
|--------|---------|
| ■ ISX | ■ QST30 |
| ■ QSX | ■ K38 |
| ■ K6 | ■ KV12 |
| ■ K19 | ■ K50 |
| ■ QSK | ■ KV16 |
| ■ GK19 | |

RECON®
LUBE OIL PUMPS



Features and benefits

- Correct flow and pressure for optimum lubrication of key components
- Leak-free performance; durability and reliability
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours

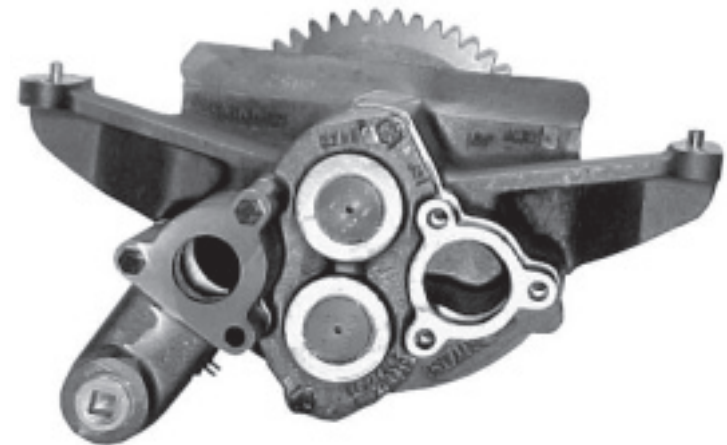


RECON[®]

LUBE OIL PUMPS

Features and benefits

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- Leak-free performance; durability and reliability
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower components
 - 12 months/100,000 miles (160,935 km) or 3,600 hours



Presenter Notes

Rotating electrics include products such as your engine's starter and alternator.

The high compression ratios of diesel combustion require a robust starter. The electrical needs of engines in trucking and other applications demand exceptional generating capacity. Electrical components can be very sensitive to environmental factors like extreme heat and cold.

That's why it makes sense to change your rotating electrics at the recommended intervals or at the first sign of a performance issue such as a slow or unreliable starter motor, or an alternator that won't hold a charge.

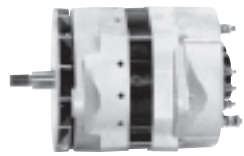
Replacing your electrical components with Cummins ReCon® products does more than restore them to original equipment specifications. It prevents downtime while ensuring optimum reliability. Cummins ReCon electrics offer a cost-effective way to keep your engine and equipment at full charge.

RECON®
ROTATING ELECTRICS



Recommended replacement

- Engine rebuild/overhaul
- Major or planned service intervals
- When diagnosis indicates sub-optimum performance
 - Starter motor slow or unreliable
 - Alternator won't maintain battery charge

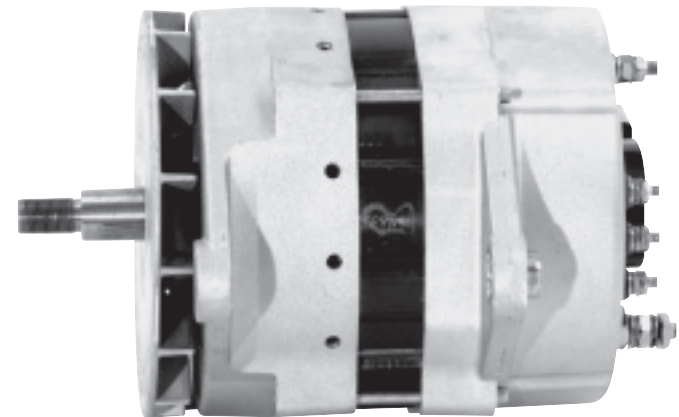


RECON[®]

ROTATING ELECTRICS

Recommended replacement

- Engine rebuild/overhaul
- Major or planned service intervals
- When diagnosis indicates sub-optimum performance
 - Starter motor slow or unreliable
 - Alternator won't maintain battery charge



Presenter Notes

While many local shops rebuild electrical components, it's a safe bet that most don't have the sophisticated inspection and testing equipment used to remanufacture Cummins ReCon® electrics. Few take apart every subassembly and replace everything from solenoid and alternator bearings to brushes, bolts and nuts. The remanufacturing job isn't complete until all the regulators are replaced and every unit is 100% tested for functionality.

Cummins branded electrics have a 12-month warranty good for unlimited miles or hours. Electrical products remanufactured by Niehoff come with a 3-month warranty good for unlimited miles or 1,500 hours of service life.

ReCon electrics are available for

■ 4B	■ ISC	■ L10	■ NT855
■ 6B	■ QSC	■ GL10	■ N14
■ ISB	■ G6C	■ M11	■ ISX
■ QSB	■ 6D	■ ISM	■ QSX
■ G6B	■ ISL	■ QSM	
■ 6C	■ QSL	■ NH855	

Cummins takes the risk out of the core exchange process with a quick visual exam to confirm that damage occurred during normal operation. You will know the total repair cost up front with no surprise billbacks.

RECON®
ROTATING ELECTRICS



Remanufacturing includes

- Solenoid, alternator bearings, external bolts and nuts replaced with new parts
- Brushes fitted and starter commutators machined and polished to ensure proper brush contact
- Shafts and splines gauged to ensure straightness and dimensional integrity
- Starter field coils inspected and electrically tested at the specified voltage
- Alternator diodes electrically tested for voltage drop, leakage and polarity
- Alternator rotors visually inspected, electrically tested and replaced if damaged and all regulators replaced
- All units functionality tested



RECON[®]

ROTATING ELECTRICS

Remanufacturing includes

- Solenoid, alternator bearings, external bolts and nuts replaced with new parts
- Brushes fitted and starter commutators machined and polished to ensure proper brush contact
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Presenter Notes

The turbocharger plays a critical part in the performance of your engine. Turbocharging is used to increase engine power without increasing the size of the engine or adding extra fuel, and in many cases the turbocharger reduces engine emissions.

Turbocharger rotors spin at more than 70,000 rpm. Mile after mile, hour after hour. They are one of the most highly stressed parts in your engine, and smooth operation requires absolute precision in the remanufacturing process.

A drop in fuel economy or engine performance can be an indicator that the turbo needs to be replaced.

If you need to replace your turbo, you will want to stay with a Genuine Cummins ReCon® turbo because no one understands the turbocharger on a Cummins engine better than we do – we manufacture them. Cummins specifically matches the turbo to the intake needs of every engine, which is critical for performance, reliability, durability and emissions compliance. These standards are maintained throughout the remanufacturing process.

RECON®
TURBOCHARGERS



Recommended replacement

- Engine rebuild/overhaul
- Major service event or planned service interval
- Diagnosis indicates a problem
 - Fuel economy drop
 - Engine performance lagging



RECON® TURBOCHARGERS

Recommended replacement

- Engine rebuild/overhaul
- Major service event or planned service interval
- Diagnosis indicates a problem
 - Fuel economy drop
 - Engine performance lagging



Presenter Notes

The thoroughness of the cleaning process and replacement of critical-wear parts make a Cummins ReCon® turbocharger a better value than a rebuilt product.

The list of remanufacturing standards you see is only a partial list with just some of the many steps Cummins uses to ensure that the spooling action operates as smoothly as a Swiss watch. Balance, clearance, shaft straightness and all other critical dimensions undergo close scrutiny to ensure they meet equipment specifications.

Wastegated and Variable Geometry Turbochargers require specialized testing equipment in order to achieve the tight tolerances and calibrations needed. Most independent shops can't afford this equipment.

RECON®
TURBOCHARGERS



Remanufacturing includes

- Full disassembly and thorough cleaning
- Detailed inspection of compressor and turbine wheels to eliminate any wheel contour damage
- Balancing of compressor and turbine wheels
- Complete replacement of critical-wear parts, including seals, bearings and thrust plates
- Detailed inspection of shaft assembly to ensure straightness, surface finish and proper clearance between shaft and bearing
- Testing of wastegated and Variable Geometry Turbochargers using specialized equipment



RECON® TURBOCHARGERS

Remanufacturing includes

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- Testing of wastegated and Variable Geometry Turbochargers using specialized equipment



Presenter Notes

We offer the most complete line of turbos for Cummins engines of any remanufacturer anywhere in the world.

The exacting standards of our inspection, cleaning and remanufacturing process make it possible to offer a full warranty covering parts and labor on every ReCon® turbocharger we build.

ReCon turbochargers are available for

■ 4B	■ ISL	■ V903	■ K38
■ 6B	■ QSL	■ ISX	■ KV12
■ ISB	■ L10	■ QSX	■ K50
■ QSB	■ GL10	■ K6	■ KV16
■ G6B	■ M11	■ K19	■ QSK45
■ 6C	■ ISM	■ QSK	■ QSK60
■ ISC	■ QSM	■ GK19	■ QSV
■ QSC	■ NH855	■ V12	■ QSW
■ G6C	■ NT855	■ V28	
■ 6D	■ N14	■ QST30	

RECON®
TURBOCHARGERS



Features and benefits

- Increased power without the need to increase the engine size or add extra fuel
- Added power with cleaner emissions
- Performance, reliability and durability
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower engine turbochargers
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine turbochargers
 - 6 months/unlimited miles (km) or hours



RECON® TURBOCHARGERS

Features and benefits

- Increased power without the need to increase the engine size or add extra fuel
- Added power with cleaner emissions
- Performance, reliability and durability
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower engine turbochargers
 - 12 months/100,000 miles (160,935 km) or 3,600 hours
 - MidRange engine turbochargers
 - 6 months/unlimited miles (km) or hours



Presenter Notes

The most critical element in a water pump is the seal. This is the most common point of failure.

Cummins ReCon® water pumps feature an updated and improved seal design that virtually eliminates this problem.

While other manufacturers produce water pumps that will fit a Cummins engine, only ReCon water pumps have our patented high-quality unitized carbon seal.

RECON®
WATER PUMPS



Recommended replacement

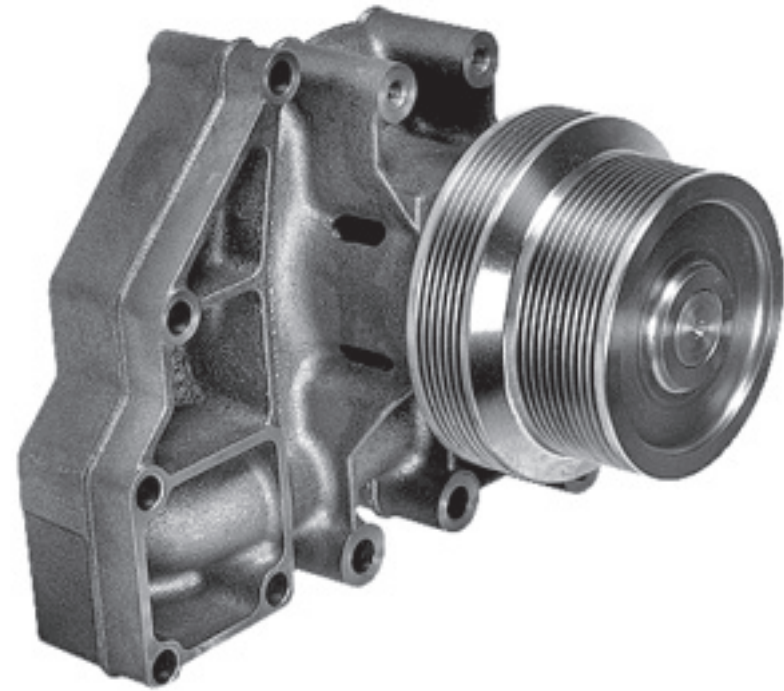
- Engine rebuild/overhaul
- Major service event/recommended service interval
- Diagnosis indicates malfunction or failure
 - Seal leak
 - Weep hole leak



RECON® WATER PUMPS

Recommended replacement

- Engine rebuild/overhaul
- Major service event/recommended service interval
- Diagnosis indicates malfunction or failure
 - Seal leak
 - Weep hole leak



Presenter Notes

When we remanufacture a water pump, the core is received, disassembled and cleaned. Pump bodies are inspected and sorted for reuse. Critical-wear parts are replaced.

ReCon® water pumps feature a patented high-quality unitized carbon seal that virtually eliminates leaks.

Pulleys are checked for straightness and regrooved as necessary to maintain long belt life and smooth operation.

Functionality testing helps to ensure leak-free operation of every unit.

RECON®
WATER PUMPS



Remanufacturing includes

- 100% replacement of critical-wear parts
- High-quality unitized carbon seal designed to resist silicate deposits and leaks
- Inspection of pulleys for straightness
 - Regrooved as necessary
- Computer-controlled machining for consistently high quality
- 100% functionality testing for reliability and durability



RECON® WATER PUMPS

Remanufacturing includes

- 100% replacement of critical-wear parts
- High-quality unitized carbon seal designed to resist silicate deposits and leaks
- Inspection of pulleys for straightness
 - Regrooved as necessary
- Computer-controlled machining for consistently high quality
- 100% functionality testing for reliability and durability



Presenter Notes

Cummins ReCon® water pumps use only top grade facing materials to resist wear and promote durability. The unitized seal design eliminates glue joints, ensuring prolonged service life. Spring tension has been optimized to reduce friction between the seal and the seat.

Plus, you get the installation gaskets and seals with the Cummins ReCon water pump at no additional cost.

ReCon® water pumps are available for

■ 4B	■ ISL	■ V903	■ K38
■ 6B	■ QSL	■ ISX	■ KV12
■ ISB	■ L10	■ QSX	■ K50
■ QSB	■ GL10	■ K6	■ KV16
■ G6B	■ M11	■ K19	■ QSK45
■ 6C	■ ISM	■ QSK	■ QSK60
■ ISC	■ QSM	■ GK19	■ QSV
■ QSC	■ NH855	■ V12	■ QSW
■ G6C	■ NT855	■ V28	
■ 6D	■ N14	■ QST30	

Like the vast majority of our Cummins ReCon components, our water pumps come with full warranty coverage.



RECON® WATER PUMPS

Features and benefits

- Top-grade facing materials resist wear, maximize seal durability
- Unitized seal eliminates glue joints, prolongs service life
- Spring tension between seal and seat optimized to reduce friction
- Installation gaskets and seals supplied at no extra charge
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower water pumps
 - 24 months/200,000 miles (321,869 km) or 7,200 hours
 - MidRange water pumps
 - 6 months/unlimited miles (km) or hours



RECON® WATER PUMPS

Features and benefits

- Top-grade facing materials resist wear, maximize seal durability
- Unitized seal eliminates glue joints, prolongs service life
- Spring tension between seal and seat optimized to reduce friction
- Installation gaskets and seals supplied at no extra charge
- Full Cummins warranty covering 100% parts and labor
 - Heavy-Duty and high-horsepower water pumps
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 - MidRange water pumps
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Presenter Notes

We have many other Cummins ReCon® parts available, including the following

- EGR valves (6B, ISB, QSB, G6B, M11, ISM, QSM, ISX and QSX)
- Horsepower uprate kits (6B, ISB, QSB and G6B)
- Vacuum pumps (6B, ISB, QSB and G6B)
- Aftercoolers (NH855 and NT855)
- Cam followers and tappets (NH855, NT855 and N14)
- Pulleys and hubs (L10, GL10, M11, ISM and QSM)
- Rockers (NH855 and NT855)
- Water pump idlers (NH855, NT855, N14, ISX and QSX)

Our simple visual core inspection policy applies to all. Each part undergoes the same quality inspection, cleaning, and remanufacturing procedures using only Genuine Cummins Parts. All must pass the same rigorous testing to ensure that they meet Cummins specifications. Cummins warranty coverage applies to each part.



RECON® COMPONENTS

Additional Cummins ReCon components

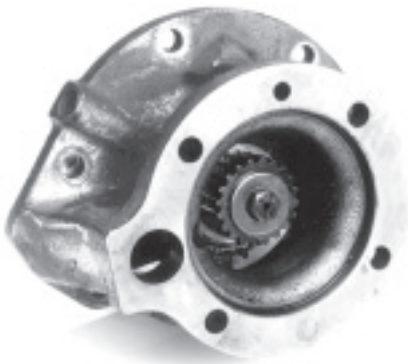
■ EGR valves	■ Rockers
■ Horsepower uprate kits	■ Sea/auxiliary water pumps
■ Vacuum pumps	■ Vibration dampers
■ Aftercoolers	■ Water pump idlers
■ Cam followers and tappets	■ L10 natural gas components
■ Pulleys and hubs	■ Particulate filter



RECON[®] COMPONENTS

Additional Cummins ReCon components

- EGR valves
- Horsepower uprate kits
- Vacuum pumps
- Aftercoolers
- Cam followers and tappets
- Pulleys and hubs
- Rockers
- Sea/auxiliary water pumps
- Vibration dampers
- Water pump idlers
- L10 natural gas components
- Particulate filter



Presenter Notes

There are many more specific parts that I haven't covered, including Cummins ReCon® Particulate Filters that we now clean and provide to dealerships for use with newer emissions systems.

If there are specific parts you want to know more about – let me know and I will provide additional details.

RECON® COMPONENTS ADDITIONAL ITEMS

ReCon is the name that ensures that customers get high-quality remanufactured products for their Cummins engine. Approximately 5,500 Cummins distributors and dealers worldwide offer a complete line of ReCon remanufactured components and engines.

Cummins ReCon Component Product Offering	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB	4B ISB QSB
Accessory Drive																
Alternator																
Air Compressors																
Cam Followers / Tappets																
Connecting Rods																
Alternator / Stators																
Cylinder Blocks																
Cylinder Heads																
ECM Valves																
Electric / ECM																
Fuel Pumps and Components																
Igniter Vibe																
Inverters																
Lube Oil Pumps																
Valve Lift Pumps																
Pistons and Pins																
Pushers																
SeaRise Water Pump																
Interchargers																
Water Pumps																
Water Pump Idlers																

Note: Please use this chart as a general ReCon component guide. 100% component coverage may not be available for each engine family listed (for example, uprate kits are not available for all engines under the "ISB, ISD, QSB, G6B" engine family).



RECON® COMPONENTS

ADDITIONAL ITEMS

ReCon is the name that ensures that customers get high-quality remanufactured products for their Cummins engine. Approximately 5,500 Cummins distributors and dealers worldwide offer a complete line of ReCon remanufactured components and engines.

Cummins ReCon Component Product Offering	4B	6B ISB QSB G6B	6C ISC QSC G6C	6D ISL QSL	L10 GL10	M11 ISM QSM	NH855 NT855	N14	V903	ISX QSX	K6 K19 QSK GK19	V12 V28	QST30	K38 KV12	K50 KV16	QSK45 QSK60	QSV QSW
Accessory Drives					x	x	x	x			x						
Aftercoolers							x										
Air Compressors	x	x	x	x	x	x	x	x		x	x	x	x	x	x		
Cam Followers / Tappets							x	x									
Connecting Rods	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	
Alternators / Starters	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Cylinder Blocks	x	x	x	x	x	x	x	x		x							
Cylinder Heads	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
EGR Valves		x				x				x							
Electrics / ECM	x	x	x	x	x	x	x	x		x							
Fuel Pumps and Components	x	x	x	x	x	x	x	x	x	x	x	x		x		x	
Uprate Kits		x															
Injectors	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	
Lube Oil Pumps										x	x		x	x	x		
Vacuum Pumps		x															
Pulleys and Hubs					x	x											
Rockers							x										
Sea/Aux. Water Pumps	x	x	x	x			x	x			x		x	x	x		x
Turbochargers	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Water Pumps	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Water Pump Idlers							x	x		x							

Note: Please use this chart as a general ReCon component guide. 100% component coverage may not be available for each engine family listed (for example, uprate kits are not available for all engines under the “6B, ISB, QSB, G6B” engine family).





RECON[®]
ENGINES

Presenter Notes

Cummins offers a full lineup of remanufactured engines, long blocks and short blocks.

A ReCon® engine is often the best choice when it's time for a major repair. I'll show you some advantages to replacing your engine with a ReCon engine.

**RECON®
ENGINES**



- Cummins offers a full lineup of remanufactured engines, long blocks and short blocks
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RECON[®] ENGINES

- Cummins offers a full lineup of remanufactured engines, long blocks and short blocks
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Presenter Notes

When you have a well-used engine and multiple components need to be replaced, you should consider a Cummins ReCon® engine.

When purchasing a ReCon engine, your worn Cummins engine has a core value. When you consider the exchange price you will receive for your engine, along with the reduced downtime to replace rather than repair an engine, plus the quality and warranty assurances you get with a ReCon engine, replacing your engine just may be your best choice. Choosing a ReCon engine to repower your equipment may allow you to upgrade power and may provide superior performance, fuel economy, reliability and longevity.

This chart illustrates some points to consider and why Cummins ReCon engines can be an excellent short-term option that gives you long-term value.

Note to presenter: Be familiar with Cummins core acceptance guidelines (QuickServe® Online) so you can advise your customer how to get the most possible value for their old engine.

RECON® ENGINES			
Repair		Replace	
■ Equipment down days/week		■ Equipment down hours	
■ Only broken parts replaced		■ Engine restored to factory specs	
■ Quality of components?		■ Only Genuine Cummins Parts	
■ Inspection/testing equipment?		■ Quality control processes	
■ Technology upgrades?		■ Most current materials/designs	
■ Warranty coverage?		■ Worldwide warranty coverage	



RECON[®] ENGINES

Repair

- Equipment down days/week
- Only broken parts replaced
- Quality of components?
- Inspection/testing equipment?
- Technology upgrades?
- Warranty coverage?

Replace

- Equipment down hours
- Engine restored to factory specs
- Only Genuine Cummins Parts
- Quality control processes
- Most current materials/designs
- Worldwide warranty coverage

Presenter Notes

Over the years, we have learned what is important to our customers. Here are a few situations where our customers tell us that a ReCon® engine is their best business decision.

- Any time you need a complete out-of-frame overhaul you should consider turning in your old engine for the core value and replacing it with a fully remanufactured ReCon engine.
- When you can't afford the revenue loss or impact to your schedule caused by downtime due to engine failure, minimize the downtime and guarantee the reliability with a ReCon engine.
- It takes less time to replace an engine than to rebuild one. With ReCon you get quality assurance and nationwide warranty support from the largest and best independent service network in the world – Cummins.
- If your engine has extensive block damage, the reliability of a repair can be questionable. If you need to replace the block, chances are you will need to replace other components, so we recommend you let us give you a quote for a ReCon engine.
- If your current engine is an older model or you are not satisfied with the power or fuel efficiency, you should consider a ReCon engine. The benefits can include the right amount of power, fuel savings and cleaner emissions, which all add up to help pay back your investment.
- A “mixed” fleet makes it more difficult for your technicians to maintain your equipment and you may need to stock additional spare parts. Our full line of ReCon engines can help you standardize your fleet.

Note to presenter: Cummins ReCon engines are a great option for repowering competitive equipment so while you may need to alter your discussion about the core, you will not want to limit your discussions to only Cummins engine owners.



CHOOSE A RECON® ENGINE WHEN

- Complete out-of-frame overhaul is required
- Revenue loss from downtime needs to be minimized
- A higher-quality repair option than local shops is desired
- Extensive block repair/replacement is needed
- Benefits of upgrade provide rapid payback, especially in fuel savings
- Standardization of engines in fleet is a goal
- Resale value is critical
- Nationwide warranty is desired



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Presenter Notes

Cummins offers many models of remanufactured engines for use in many applications and markets. If you are interested in something you don't see listed, tell me what you are looking for and I will help you explore your options.

Note to presenter: *If you have not already had the conversation with the customer to understand their business needs, now is a good time to let them tell you about all the equipment they have.*

Know what questions to ask a customer in order to help them select the proper engine. Questions are listed in the QuickServe® Online specifying tool. Know how to use the online ReCon® engine specifying tool.



RECON® ENGINES

Every application. Available.	Every model. Available.
■ Automotive	■ 4B, 4BT, 4BTA, 4BTAA
■ Bus	■ 6B, 6BT, 6BTA, 6BTAA
■ Industrial	■ 6C, 6CTA, 6CTAA
■ Construction	■ ISB, QSB, ISC, ISL, QSC, QSL
■ Marine	■ Small Cam, BCI, BCIII, BCIV, N14, ISX
■ Generator	■ L10/M11/ISM
■ Logging	■ K/QSK
■ Agriculture	
■ RV	
■ Pickup truck	



RECON[®] ENGINES

Every application. Available.

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- Bus
- Industrial
- Construction
- Marine
- Generator
- Logging
- Agriculture
- RV
- Pickup truck

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- 6B, 6BT, 6BTA, 6BTAA
- 6C, 6CTA, 6CTAA
- ISB, QSB, ISC, ISL, QSC, QSL
- Small Cam, BCI, BCIII, BCIV, N14, ISX
- L10/M11/ISM
- K/QSK

Presenter Notes

Cummins is the only authorized remanufacturer of Cummins engines.

In the remanufacturing process, the incoming core is completely disassembled down to the last bolt and sorted by part number. Then the individual parts are cleaned, using the latest technology to remove debris without removing any metal. This is important because many remanufacturers use older abrasive cleaning systems that literally eat away the metal.

Every part is inspected using sophisticated equipment. Only parts that can be restored to Cummins specifications are used in the remanufacturing process. Cummins ReCon® engines include a substantial number of Cummins ReCon components. (The same parts that are available for individual sale are used to build ReCon engines, including the camshaft, oil pan, oil pump and ECM.) Parts that aren't made of metal, such as rubber products and components that contain fabric elements, and parts that are worn out are replaced with Genuine Cummins new components. Every ReCon engine is remanufactured using a new cylinder kit. Many ReCon engines are remanufactured in the same plant where new parts and engines are built and assembled.

Our strict adherence to specifications, wear limits and salvage processes produces a remanufactured engine with performance characteristics comparable to a new engine.

THE RECON® DIFFERENCE

Cummins remanufacturing process includes

- Complete disassembly, cleaning and inspection of every part
- Remanufacturing and testing to verify that every engine meets Cummins factory specifications
- Replacing worn parts along with components that have been obsoleted (in materials, design or manufacture) with the latest Genuine new and ReCon parts



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Presenter Notes

The benefits of swapping a Cummins ReCon® engine are self-evident.

Reduced downtime, improved performance and lower operating costs that come with the superior reliability and durability of a ReCon engine make it a great value.

Many ReCon engines include no-cost or low-cost uprates in horsepower.

Cummins core return policy of giving full value based on visual inspection only lets you know immediately what your core is worth.

You don't need to worry about unexpected core billbacks.

Getting exchange value for your core makes a Cummins ReCon engine even more affordable compared to repairing or rebuilding.



RECON[®] ENGINES

Features and benefits

- Reliability and durability are enhanced
- Operating costs are lowered, through product upgrades and reduced maintenance over life of engine
- Upgrades may reduce emissions and improve engine performance
- ReCon engine exchange enhances productivity with rapid equipment turnaround vs. repair or rebuild options
- Remanufacturing utilizes "core" as raw material to optimize recycling and reuse of qualified parts



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Presenter Notes

As you would expect, Cummins ReCon® engines come with a full warranty that's honored at every authorized Cummins service location worldwide. The terms vary according to the application and the engine platform. Our industrial engine warranty includes travel to the repair location.

**RECON®
ENGINES**

- Full Cummins warranty coverage includes parts, labor and progressive damage along with maintenance items consumed as a result of warrantable failure
- Warranty terms
 - Automotive Heavy-Duty engines (ISX and ISM)
 - 12 months/100,000 miles (160,935 km)
 - Automotive MidRange engines
 - 6C/ISC 226 hp+ – 24 months/100,000 miles (160,935 km)
 - 6C under 226 hp – 24 months/unlimited miles (km)
 - 6B – 24 months/100,000 miles (160,935 km)
 - 4B – 24 months/50,000 miles (80,468 km)
 - Industrial* and marine engines**
 - 24 months/2,000 hours

*For industrial applications, if the 2,000-hour limit is exceeded during the first year, coverage continues until the end of the first year.
**Marine industrial travel for warranty covers up to 6 hours only.



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 - Industrial* and marine engines**
 - 24 months/2,000 hours

* For industrial applications, if the 2,000-hour limit is exceeded during the first year, coverage continues until the end of the first year.

** Marine industrial travel for warranty covers up to 6 hours only.

Presenter Notes

The chart is a general reference of the product line. Your local Cummins parts professional or ReCon® specialist can help you determine the exact engine you need.

Note to presenter: As an engine salesperson, you need to understand the difference between a full engine, a long block and a short block. You will want to work with your customers to help them make the best choice and to offer competitive Cummins options.

In some cases price sensitivity may drive the need to recommend a long or short block option. You should also offer these options when a complete ReCon engine is not available as in the case of a special order (non-stock/made-to-order) engine where the customer needs an immediate solution and cannot wait for the order to be filled by the factory.

Familiarize yourself with all the programs and promotions available to your customers. QuickServe® Online features all current programs and promotions.

QuickServe Online now has a convenient tool to assist you in specifying a ReCon engine. It includes complete engine build data: option part detail, special configurations, ReCon and new parts used in ReCon engines, etc.

Parts Professional 35, also located on QuickServe Online, contains information about the tool and instructions to help you use the tool when specifying a ReCon engine. In the event that you want to capture information from the customer and specify the engine later, Parts Pro 35 contains the questions you need to have answered in order to specify an engine.

RECON® ENGINES LONG AND SHORT BLOCKS		
Engine And Block Product Offering		
NH/NT/ISX Automotive Engines ■ ISX/Signature 600 ■ '99 N14 CELECT™ Plus ■ '94 N14 CELECT™ ■ '91 N14 STC ■ '88 Big Cam IV ■ '86/'87 Big Cam IV ■ '85 Big Cam IV ■ Big Cam III ■ Big Cam I ■ Small Cam Industrial/Construction Engines ■ 855 (Big Cam III, Big Cam I, Small Cam) ■ N14 Marine Engines ■ 855 (Big Cam II) ■ N14 Generator Set Engines ■ 855 Military Engines ■ 855 (Big Cam II, Big Cam I, Small Cam) Long Blocks Short Blocks Cylinder Blocks	L10/M11/ISM Automotive Engines ■ ISM ■ '98 M11 CELECT Plus ■ '96 M11 CELECT Plus ■ '94 M11 CELECT ■ M11 Bus ■ '91 L10 CELECT ■ '91 L10 STC PTD ■ L10 OAC External Damper ■ L10 OAC Internal Damper ■ L10 Non-OAC Auto ■ L10 Bus Non-OAC Industrial/Construction Engines ■ '96 M11 STC ■ L10 Non-OAC Long Blocks Short Blocks Cylinder Blocks	MIDRANGE Automotive Engines ■ 4BT/4BTA/4BTA A ■ 6BT/6BTA/6BTA A ■ 6B ■ 6CT/6CTA/6CTA A ■ ISC ■ 6BT/6BTA/6BTA A Bus/Transit ■ 6CT/6CTA/6CTA A Bus/Transit Industrial Engines ■ 4B/4BTA ■ 6B/6BT/6BTA/6BTA A ■ 6CT/6CTA/6CTA A ■ ISC Generator Engines ■ 4B/4BT ■ 6B/6BT ■ 6CTA Marine Engines (Replacement and Repower) ■ 4B ■ 6B/6BT/6BTA ■ 6CTA Long Blocks Short Blocks Cylinder Blocks



RECON® ENGINES. LONG AND SHORT BLOCKS

Engine And Block Product Offering

NH/NT/ISX

Automotive Engines

- ISX/Signature 600
- '99 N14 CELECT™ Plus
- '94 N14 CELECT™
- '91 N14 STC
- '88 Big Cam IV
- '86/'87 Big Cam IV
- '85 Big Cam IV
- Big Cam III
- Big Cam I
- Small Cam

Industrial/Construction Engines

- 855 (Big Cam III, Big Cam I, Small Cam)
- N14

Marine Engines

- 855 (Big Cam I)
- N14

Generator Set Engines

- 855

Military Engines

- 855 (Big Cam III, Big Cam I, Small Cam)

Long Blocks

Short Blocks

Cylinder Blocks

L10/M11/ISM

Automotive Engines

- ISM
- '98 M11 CELECT Plus
- '96 M11 CELECT Plus
- '94 M11 CELECT
- M11 Bus
- '91 L10 CELECT
- '91 L10 STC PTG
- L10 OAC External Damper
- L10 OAC Internal Damper
- L10 Non-OAC Auto
- L10 Bus Non-OAC

Industrial/Construction Engines

- '96 M11 STC
- L10 Non-OAC

Long Blocks

Short Blocks

Cylinder Blocks

MIDRANGE

Automotive Engines

- 4BT/4BTA/4BTAA
- 6BT/6BTA/6BTAA
- ISB
- 6CT/6CTA/6CTAA
- ISC
- 6BT/6BTA/6BTAA Bus/Transit
- 6CT/6CTA/6CTAA Bus Transit

Industrial Engines

- 4B/4BT/4BTA
- 6B/6BT/6BTA/6BTAA
- 6CT/6CTA/6CTAA
- ISC

Generator Engines

- 4B/4BT
- 6B/6BT
- 6CTA

Marine Engines

(Replacement and Repower)

- 4B
- 6B/6BT/6BTA
- 6CTA

Long Blocks

Short Blocks

Cylinder Blocks

Presenter Notes

When major components such as the block of your engine are damaged or bad but many of the components are still usable, Cummins offers two options: the long block and the short block.

A long block is recommended when a low-mileage engine with block damage has no oil contamination, but the cylinder head is not reusable.

Or, if the engine has high miles, but several components have been recently replaced, it may be cost-effective to consider a long block.

If the customer desires an upgrade in horsepower or technology, they should consider complete replacement with a Cummins ReCon® engine.

The long block includes all the major castings listed here.

**RECON®**
LONG BLOCKS

- Specify a long block when external engine components are reusable, but major castings need to be replaced
- Long blocks include the following
 - Cylinder block
 - Crankshaft
 - Main bearings
 - Pistons
 - Cylinder liners (C Series and larger)
 - Connecting rods and connecting rod bearings
 - Cylinder head
 - Camshaft
 - Water pump
 - Injectors (Heavy-Duty engines only)
 - Tappets
 - Push tubes
 - Rocker lever assemblies
 - Rear crankshaft cover and seal
 - Gear housing and cover with seals
 - Drive gears (excluding fuel pump drive gear)
 - Oil cooler
 - Oil pump
 - Oil pan (C Series only) and suction tube
 - Valve cover
 - Aftercooler assemblies (not all models)

RECON®

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 - Drive gears (excluding fuel pump drive gear)
 - Oil cooler
 - Oil pump
 - Oil pan (C Series only) and suction tube
 - Valve cover
 - Aftercooler assemblies (not all models)

Presenter Notes

Here is a listing of the parts that are not included, which would need to be transferred from your existing engine or purchased separately.

RECON®



LONG BLOCKS

- Long blocks do not include the following components
 - Fuel pump
 - Turbocharger and turbo drains
 - Fuel lines
 - Lift pump
 - Vacuum pump
 - Air compressor
 - Freon compressor
 - Accessory drives
 - Starter and alternator
 - Flywheel and flywheel housing
 - Injectors on MidRange engines
 - ECM on Heavy-Duty engines



RECON[®]

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 - Fuel pump
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Presenter Notes

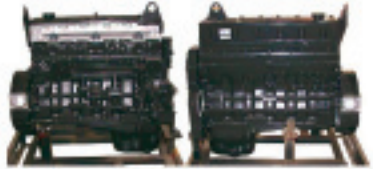
As with any Cummins ReCon® product, there are still a significant number of parts replaced with new parts. Reusable parts are subjected to a rigorous inspection and tested to verify their integrity.

RECON®
LONG BLOCKS



Remanufacturing process

- Pistons, bearings, gaskets, rings, bushings, seals and fasteners are all replaced with new parts
- The engine block is inspected for cracks, using electromagnetic particles
- The bore is limited to maximum 2nd oversize
- Cylinder blocks include new lower press fit liner (NT only) and water passage inserts
- Crankshaft and camshaft are magnetic-particle crack-tested and hardness-checked

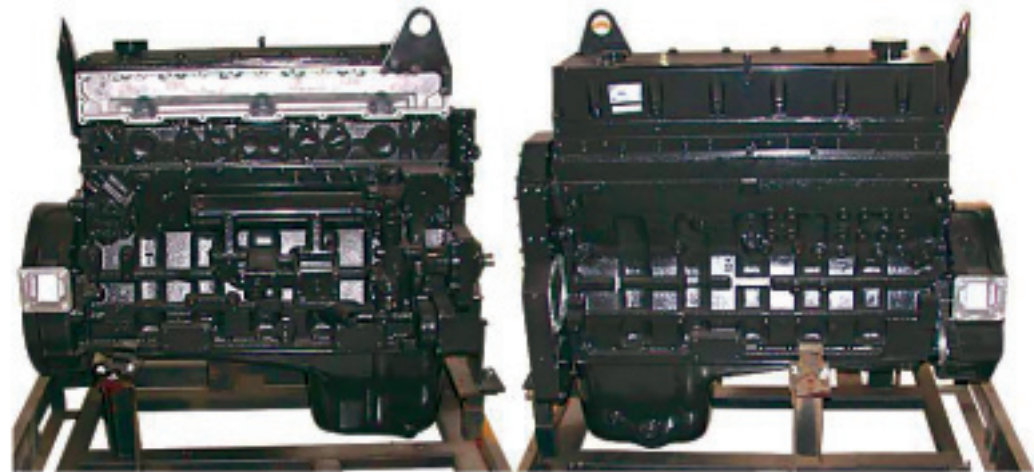


RECON[®]

LONG BLOCKS

Remanufacturing process

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- The engine block is inspected for cracks, using electromagnetic particles
- The bore is limited to maximum 2nd oversize
- Cylinder blocks include new lower press fit liner (NT only) and water passage inserts
- Crankshaft and camshaft are magnetic-particle crack-tested and hardness-checked



Presenter Notes

A Cummins ReCon[®] long block is a high-quality alternative to purchasing a full engine, allowing the reuse of existing components.

There is still the cost of disassembly and reassembly of these components, but the allowance for core return and the lower price of the long block can result in cost savings.

The warranty on the long block is straightforward and comprehensive.

RECON[®]
LONG BLOCKS



Features and benefits

- A low-cost high-quality alternative to installing a full engine
- Allows reuse of components from your engine, only replacing what's needed
- Backed by a full Cummins warranty
 - Automotive
 - 4B/6B/6C – 12 months/50,000 miles (80,468 km)
 - N/L10/M11 service blocks – 12 months/100,000 miles (160,935 km)
 - Industrial/marine
 - 4B/6B/6C – 12 months/1,000 hours

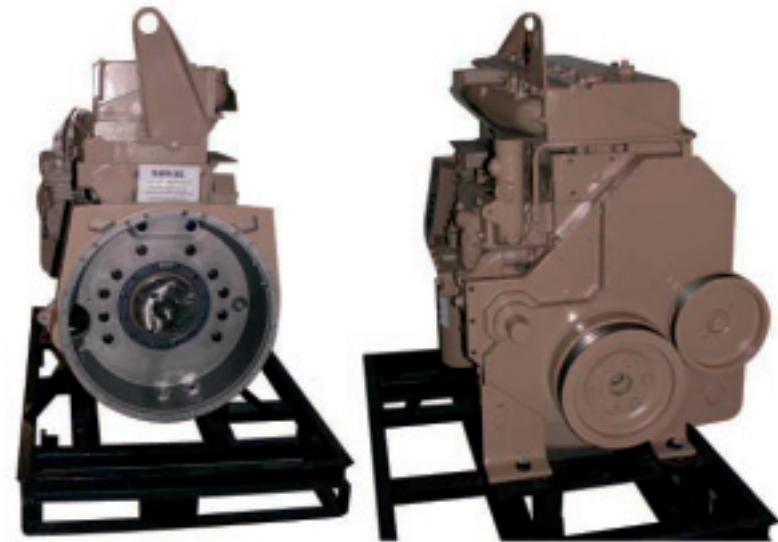


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 - Industrial/marine
 - 4B/6B/6C – 12 months/1,000 hours



Presenter Notes

Even greater savings are available when all you need is a Cummins ReCon® short block. A short block is typically used when a low-mileage engine has block damage but there was no oil contamination and the cylinder head can be reused.

While it still has the same quality of manufacturing, fewer components are included (read list).

RECON®
SHORT BLOCKS



Cummins ReCon short blocks include

- Cylinder block
- Crankshaft
- New pistons
- New cylinder liners (C Series and larger)
- New connecting rods and bearings
- New water pump
- New seals
- New fasteners



Remanufacturing technology includes

- State-of-the-art computer-controlled torque and angle equipment

RECON[®]

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- New pistons
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- New fasteners

Remanufacturing technology includes

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Presenter Notes

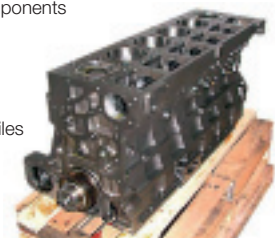
The same benefits of buying a Cummins long block also apply to the short block. But because fewer parts are subjected to the inspection and replacement process, the warranty terms are shorter.

RECON[®]
SHORT BLOCKS



Features and benefits

- A low-cost high-quality alternative to installing a full engine
- Allows reuse of components from your engine, only replacing what's needed
- Incorporates the latest specification components
- Full Cummins warranty
 - Automotive
 - 4B/6B/6C – 6 months/
unlimited miles (km)
 - N/L10/M11 – 12 months/100,000 miles
(160,935 km)
 - Industrial/marine
 - 4B/6B/6C – 6 months/
unlimited hours

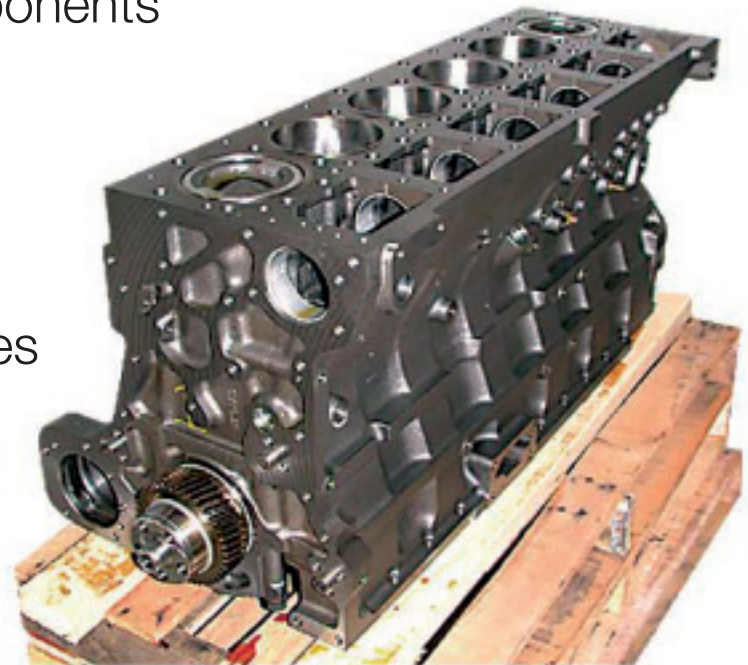


RECON[®]

SHORT BLOCKS

Features and benefits

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- Allows reuse of components from your engine, only replacing what's needed
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(160,935 km)
 - Industrial/marine
 - 4B/6B/6C – 6 months/
unlimited hours





RECON® ENGINES AND COMPONENTS – KEY POINTS



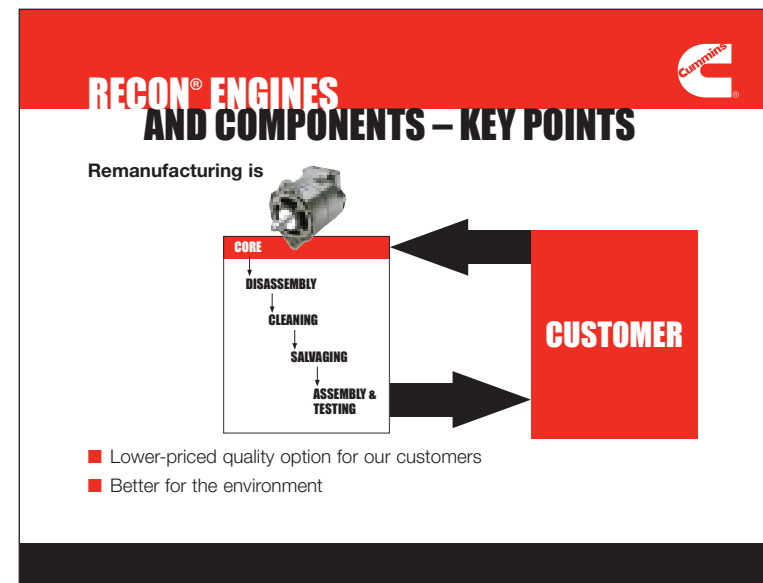
RECON[®] ENGINES

AND COMPONENTS – KEY POINTS

Presenter Notes

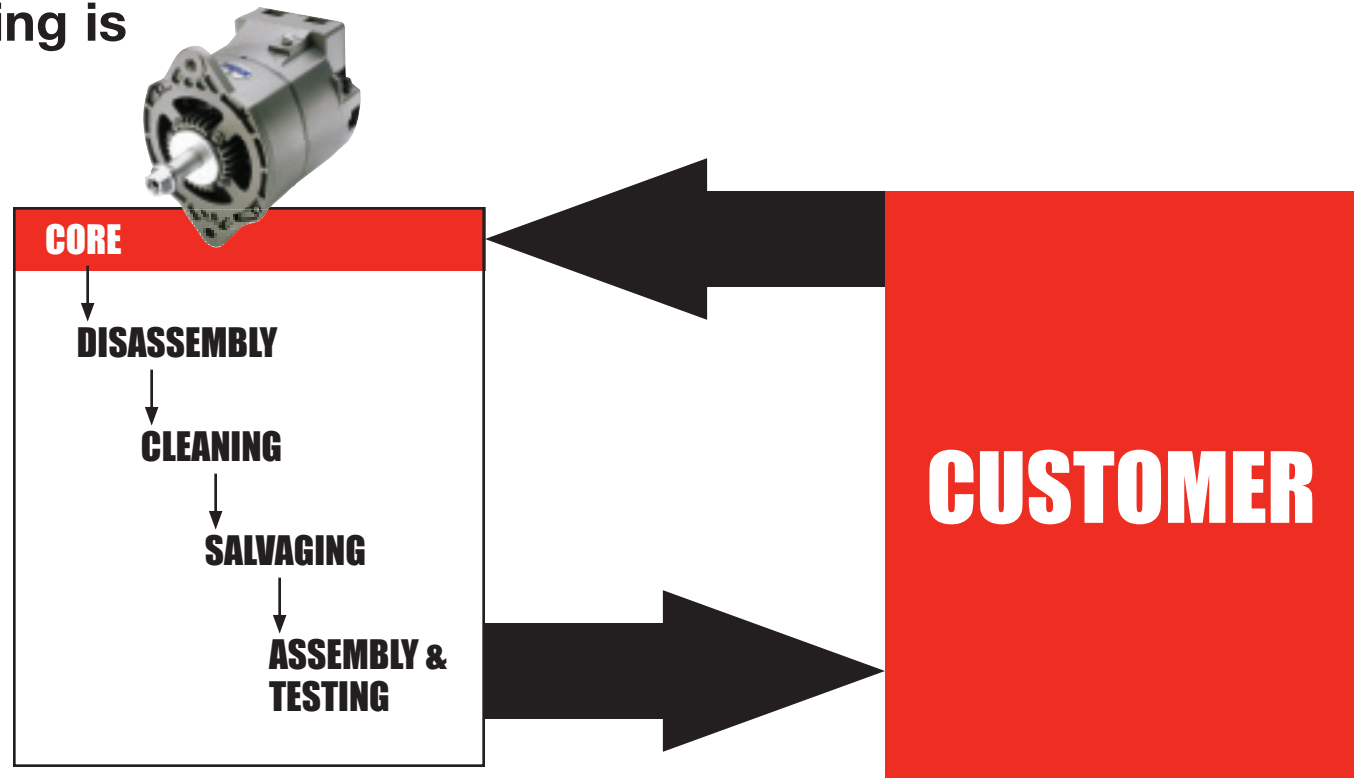
The thoroughness of our process – and the investment in re-certification of parts to Cummins specifications – makes a Cummins ReCon® component or engine a great long-term solution for business needs. Plus, it is both economically advantageous and environmentally responsible to reuse every salvageable part.

Remanufacturing reduces the amount of waste that would otherwise go into landfills, lowers demand for new raw materials, and eliminates up to 85% of energy used to create new components. It also gives you money for your worn products.



RECON[®] ENGINES AND COMPONENTS – KEY POINTS

Remanufacturing is



- Lower-priced quality option for our customers
- Better for the environment

Presenter Notes

- Exchange option means less time in shop, higher equipment productivity
- ReCon® engine, long block and short block exchange options to match your needs
- Backed by comprehensive warranty coverage
- Honored at over 5,500 authorized service locations worldwide

**RECON® ENGINES
AND COMPONENTS – KEY POINTS**

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- ReCon engine, long block and short block exchange options to match your needs
- Backed by comprehensive warranty coverage
- Honored at over 5,500 authorized service locations worldwide



RECON[®] ENGINES

AND COMPONENTS – KEY POINTS

- Exchange option means less time in shop, higher equipment productivity
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