



PARTS PRO CLASSIC

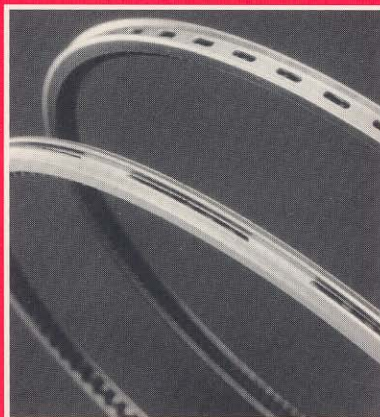
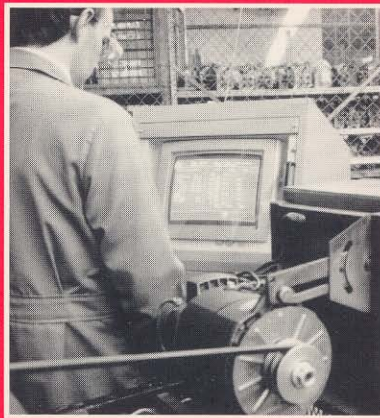
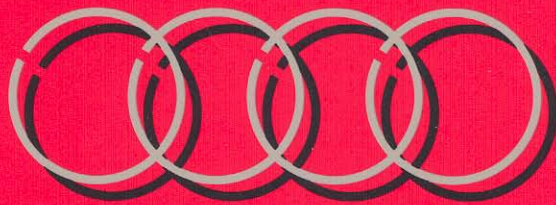
CLASSIC EDITION #17

Parts Pro Classic is provided as a historical reference. Special offers, prizes and awards no longer apply to this edition. Current Parts Pro issues along with all Parts Pro Classics may be found at [click\) qsol.cummins.com](http://qsol.cummins.com).



Cummins

Parts Professional 17



Invest in the best.

Parts Professional 17 Quiz/Survey

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Quiz

- | | |
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| 1. A B C D | 6. A B C D |
| 2. A B | 7. A B C D |
| 3. A B C D | 8. A B C D |
| 4. A B C D | 9. A B C D |
| 5. A B | 10. A B C D |

1. Do you like the layout of this Parts Professional? If not, how can we improve it?

2. Would you participate by sending in technical or sales-oriented TIPS?
(If you have any now, please include them!)

3. What topics would you like us to feature in future editions of the Parts Professional?

4. Do you have any other suggestions?

▲ *This issue's prize is a beautiful nylon travel bag...and to win, all you have to do is score 100% on our quiz and complete our short survey.*

▼ *Fill this card out and return it to be put on the Parts Professional mailing list and to receive future issues. Cards must be **completely** filled out in order to be processed.*

Parts Professional Reply Card

Please put me on the Cummins Parts Professional mailing list:

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City _____
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If Applicable:

Distributor Code _____ Dealer Code _____

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Street _____
City _____
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Please send me previous issues yes no

Welcome back, Parts Professional!

Hello, we're back, bigger and better than ever! Thanks to numerous requests from all of you, we have returned.

Because this is a re-start, we will continue to use the existing format. In the future, we may change the look, but more on this later.

This issue focuses on new cylinder kits, ReCon® injectors, ReCon electrics and ReCon cylinder heads. At the end of the issue, we have included a convenient, easy-to-use Fact Sheet as a quick reference.

Both quiz and enrollment cards are available at the front of this booklet. In order to win the prize for this issue, please answer both the ten quiz questions along with the survey questions. This issue's prize is a nylon travel bag. If you want to win, you have to answer the questions before October 15!

Also, if you know someone who is not enrolled in the Parts Professional program, please fill out an enrollment card for them.

If you are missing any of the past booklets, contact your Cummins distributor. All past issues are available through your distributor, even though the incentives are no longer being offered.

As the new editor of the Parts Professional, I would like to have your input on what Parts Professional needs to be. What about the format? Change or stay the same? Let's hear from you!

If you have any tips, we would like to feature "TIPS from the Professional" in our next issue. The TIPS must be compatible with Cummins standard practices. They must relate to the sale of New or ReCon Genuine Cummins Parts.

Please send any success stories on selling that you may have, since we would like to have a section dedicated to this topic in every issue. The top TIP and the top success story writers will each receive a nice jacket with the Parts Professional patch on it.

You can contact me by writing to:

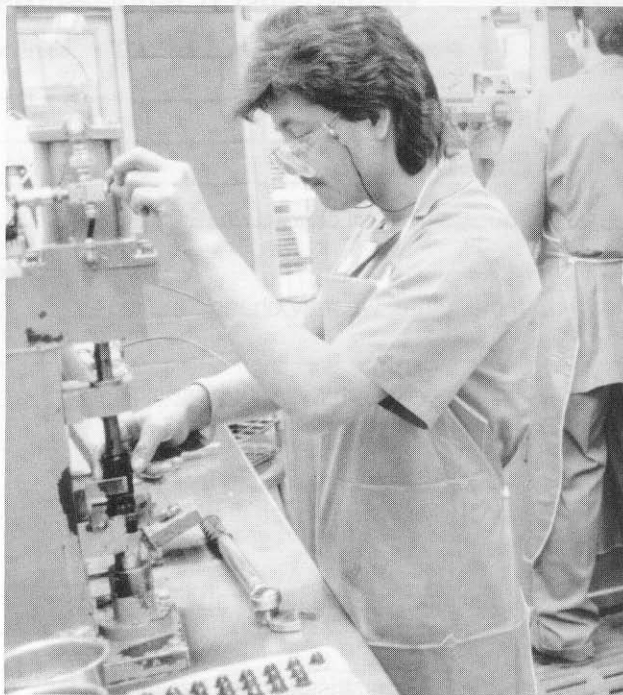
Kathy Gastineau
Cummins Engine Company, Inc.
Mail Code 40911
Box 3005
Columbus, Indiana 47202-3005

Hope to hear from you!



Kathy Gastineau
Advertising & Promotions Specialist

Editor's Note: Special thanks to Dave Miles, Mike Cross, Tim Weidenhaft and Mark Chapple for their contributions to Parts Professional 17.



Cummins ReCon® Injectors

Cummins ReCon is the leader in injector remanufacturing. By remanufacturing over 4,000 injectors every day, ReCon has made tremendous strides in improving product quality.



We are now focusing on prevention-based quality systems which are more effective and efficient than inspection-based systems. These are fail-safing critical processes so that the operators are not able to make mistakes. This process ensures that customers get products that meet their needs.

To help achieve good fuel economy, Cummins ReCon has focused on proper injector calibration. The "blue boxes" have digital monitors and lights to tell the operator when the injector is within specifications. Before the operator begins to calibrate a set of injectors, bar coding tells the computer which part number is being built.

The computer knows the specification for every injector, and the colored lights on the blue box let the operator know whether to continue broaching the orifice plug or if it has gone too far. If the operator removes an injector from the stand when it is not within specifications, an audible alarm will go off.

When you have a durable cup and barrel and plunger assembly, injector durability is increased. Improper cup flow can damage the engine. And too much clearance between the barrel and the plunger can allow fuel to dilute the oil.

The durability of the injector is dependent upon the life the cup has left in it. PX injectors feature 100% new cups. The standard XX injectors feature 100% requalified cups. Every cup that is requalified and used on the XX injectors is hydraulically flow tested.

This procedure is important because the cup flow affects emissions, camshaft loading, fuel economy and power. Poor fuel economy, poor emissions and over-fueling is due to high-flow cups. Low-flow cups lead to high stress on camshafts which can damage the engine and contribute to low power.

In the injector hydraulic flow comparison, Cummins ReCon XX injectors outperformed the competition. The precise amount of clearance between the barrel and the plunger is critical to the durability of the injector and the engine.

If there is not enough clearance, the plunger can stick. If there is too much clearance, fuel can leak between the barrel and the plunger causing fuel to leak into the oil. This can happen even before the driver begins to complain of low power.

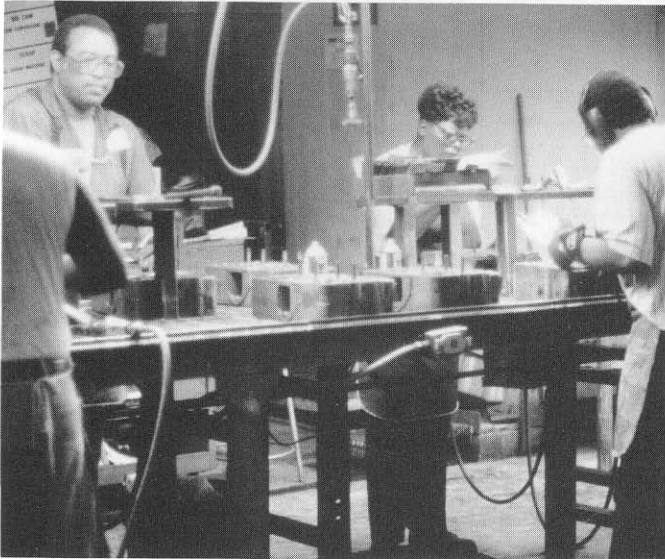
Each barrel is honed to ensure consistent dimensions throughout its inner diameter. Every ReCon XX injector is remanufactured to the same barrel and plunger clearance specifications as new ones.

Measurements are made in two places to ensure that the taper (or measure of variance) is within specifications. First, the outer diameter of plungers is sized using laser gauging. Then the barrels and plungers are matched together using electronic air gauging.

Each barrel and plunger is match-fit to the same specifications as new. After ReCon finishes with the process, in-house durability testing is conducted.



Cummins ReCon has tremendous confidence in our product quality. As a result, we back our products with outstanding warranties. For example, the standard XX injector warranty has been increased to one year, unlimited miles; Premium PX injector warranty has increased to two years, 125,000 miles. The B and C injectors increased to one year, unlimited miles. The ReCon injector warranty covers parts, labor, progressive damage, consumables and mark-up.



Cummins ReCon® Cylinder Heads

Cummins ReCon has a complete product line of cylinder heads and has produced more than four million cylinder heads for Cummins customers worldwide. ReCon cylinder heads are remanufactured, not rebuilt, with processes that are highly mechanized and include fail-safe features. Each head follows the same process every time to make sure that the end-user is getting the same reliable product with each purchase.

During the remanufacturing process, each head is disassembled and then meticulously cleaned and inspected using the latest technology for both internal and external defects.

If any defect is found in the casting or valves that cannot be corrected during the remanufacturing process, the defective unit is scrapped and replaced with a new Genuine Cummins Part.

Thorough cleaning eliminates the risk of premature wear due to contaminants, so after teardown, the casting travels through a chemical cleaning process involving three stages:

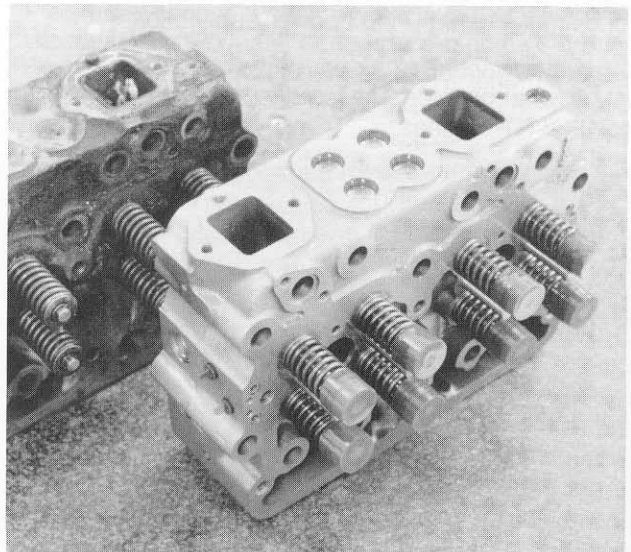
1. A chemical rinse knocks off all road grime, softens the buildup of carbons and loosens any paint.
2. A high-pressure hot chemical blast cleans the head down to the bare casting.
3. A rust preventative is added.

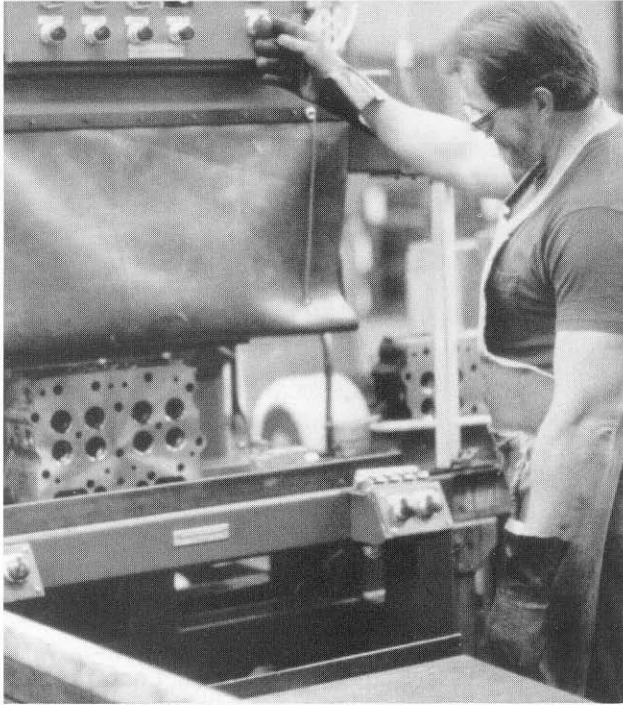
Before castings are considered ready for assembly, a thorough examination is completed. Castings not up to specifications are scrapped or marked for salvage.

ReCon is a leader in salvage technology with a state-of-the-art CNC machining center. Local rebuilders can't achieve the same level of consistent high quality using their conventional methods.

ReCon heads are built tough to meet rigid durability standards. That's why every head is checked and rechecked using the latest technology.

Because valves are subjected to extreme stresses and temperatures that exceed 1,400 degrees Fahrenheit, ReCon uses only Genuine valves and hard chromes any worn valve stems back to new specifications. If there is wear on the seating surface, ReCon re-welds the stellite face to new specifications and ultrasonically tests to check its integrity.





ReCon replaces worn parts with 100% new Genuine ones.

Each ReCon head is pressure-tested twice to ensure that there are no internal casting defects in the water jackets or fuel line jackets. Then the injector sleeves are installed, metal to metal (no sealants to mask possible defects that can ensure durability), and ReCon installs O-rings just like in the new head process.

Correct injector protrusion specifications are guaranteed through the use of Genuine sleeves cut to exact protrusion depths for proper fuel spray angles. These Cummins specifications prevent white smoke in high-horsepower applications.

To get the exact head for your application, not just one that bolts on, ReCon offers four heads for pre-1986 NT engines.

ReCon cylinder heads are backed by a two-year, 200,000-mile warranty for the Premium Gold heads. Basic product cylinder heads are backed by a one-year, 100,000-mile coverage. The B and C Series cylinder heads have a one-year, unlimited-mileage warranty. ReCon also pays reasonable costs for maintenance items damaged as a result of a warrantable failure.

Additionally, ReCon will pay to have an authorized location make the repair regardless of who installed the part.

Cummins ReCon core acceptance on cylinder heads is made by visual inspection only. If a cylinder head has a cracked casting, dropped valve, broken bolt holes or fuel passages, ReCon accepts the core under our "Cracked Cylinder Head Program" at an additional charge.

ReCon also offers "Conversion Programs" on cylinder heads to help our customers update their core bank. When a new-style cylinder head is purchased, an older-style core can be returned in its place at a minimal charge. These programs help the customer manage the core investment by reducing obsolescence risk and reducing outright purchases of new cores. Customers can upgrade from the basic product to the premium product with no additional core charge.

Cummins ReCon® Electrics

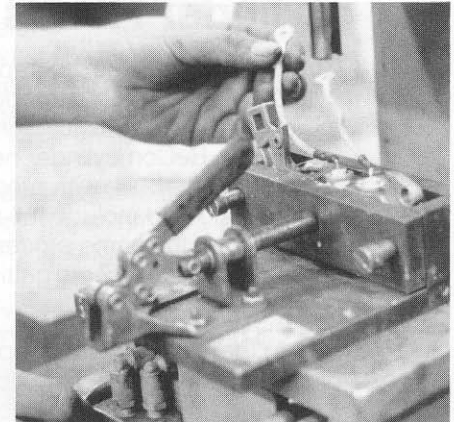
ReCon designed our own test equipment since the industry equipment was not good enough to give our customers the reliability they demanded. This is one example of how ReCon sets the standard in premium electrics.

Because proper regulator operation is absolutely critical, the test equipment isolates the individual circuits in the regulator to ensure their proper operation. Heat is applied during testing to match under-the-hood operating temperatures.

To prevent customers from having a failure due to an electrical surge, diodes are electrically tested using high voltage.

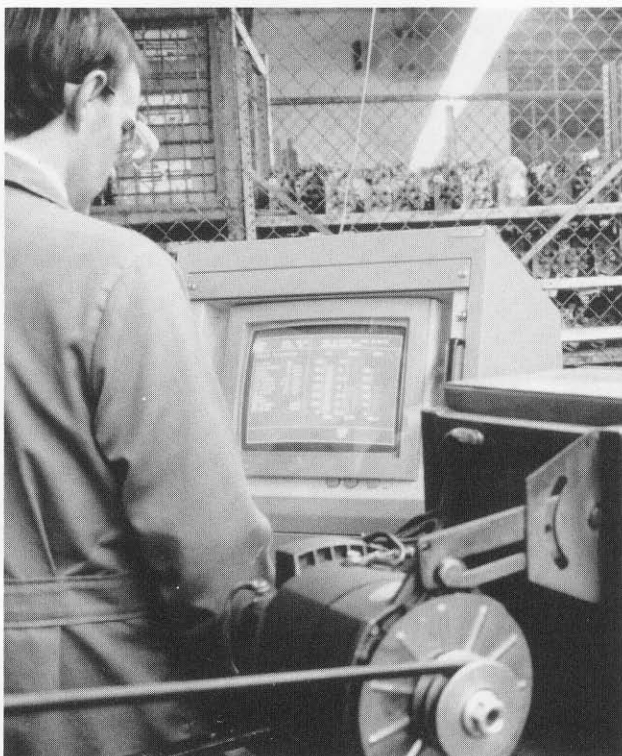
This process makes sure the diodes are capable of withstanding voltage surges in the vehicle's electrical system.

Stators are also tested. Winding balance, integrity and capacity must meet strict standards, and the units must be dimensionally correct for proper fit in rotor-to-stator clearance.



For complete component integrity, rotors are both electrically and mechanically tested under simulated vehicle operating conditions at a high voltage/ amperage test.

Every finished unit is tested for product reliability.



Each test monitors thirteen different operating characteristics on the alternator. For the customer, this computerized final testing of every product ensures that Cummins ReCon electrics work the first time, every time.

As a final step before the product is shipped, a percentage of products is fully torn down and inspected. If defects are found, the entire lot is rejected.

ReCon replaces all critical-wear components with new components. An example is the bearings and brushes. For long life, ReCon uses 100% new bearings and brushes on all alternators.

Alternator durability is based on eliminating rotor failures. Many rotor failures are caused by the windings shifting; this shift causes the connections to be broken or shortened. To prevent this failure, the rotors and stators are varnished, which holds the windings in place. Some of the competitors do not varnish both components.

To ensure the durability of the starters, ReCon fully lubricates the bushing and oil reservoirs in the starters. ReCon starter drives are new or thoroughly reconditioned.

ReCon also replaces 100% of the solenoid leads. The flexibility and durability of new leads mean they will not break due to engine vibration. Durability is further proven by ongoing testing.

Cummins ReCon supports top-quality products with excellent customer service. The ReCon program lets customers upgrade their current alternator to one with higher output for no additional charge (within the same core group). A small charge may apply in upgrading between styles.

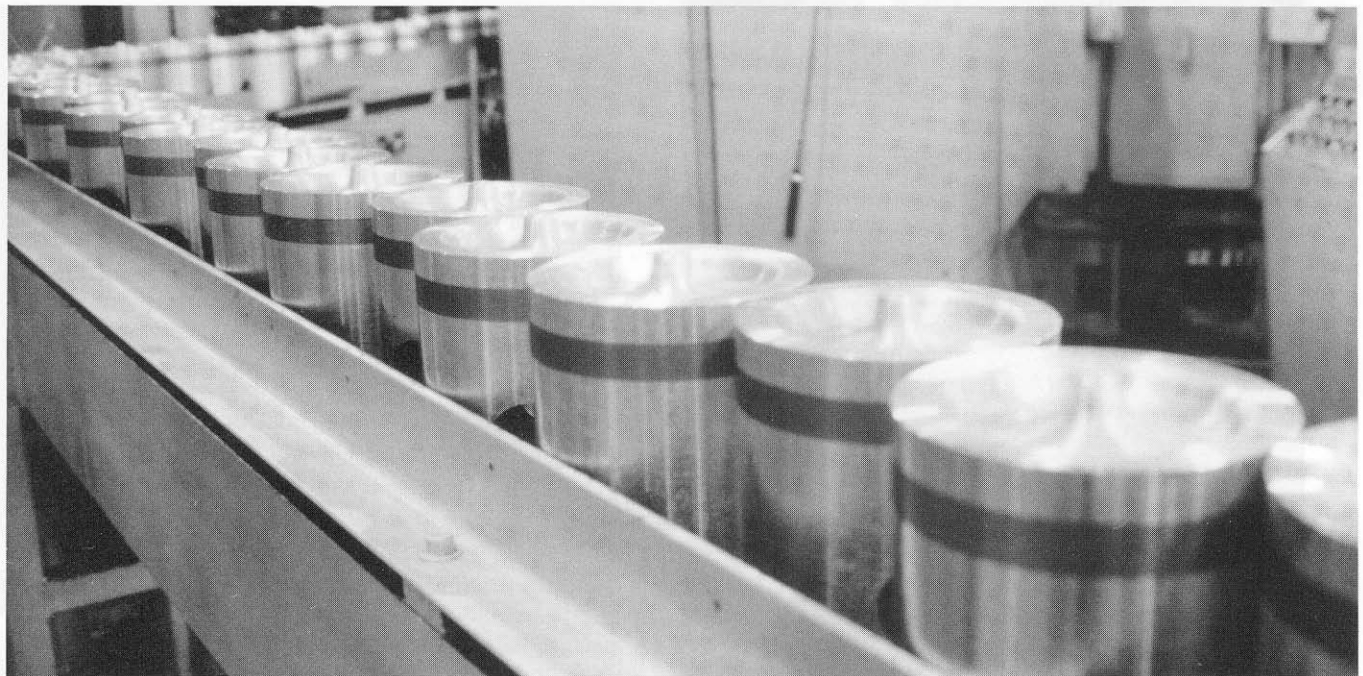
ReCon backs the product with an excellent warranty program. The products are covered by a one-year, unlimited-mileage warranty. Customers can call 1-800-77RECON to get assistance in finding the nearest repair location. If a ReCon unit cannot be located, ReCon will authorize alternative repairs so the customer gets back on the road quickly. ReCon covers labor if the product fails even if the customer installed the unit. The competitors' warranty programs don't even come close to what ReCon offers.

The Cummins ReCon electrics program is designed to be the easiest program to administer. There are no billbacks for damaged cores under the ReCon program. Customers get full value for a core in off-engine condition. Cores are returned locally with the rest of the customer's Cummins core to the distributor. Customers can upgrade between styles with the easy-to-use upgrade matrix. The competition is not half as easy to deal with.

The Cummins ReCon Electrics Fleet Program benefits both the dealer and the customer. The customer has consistent nationwide pricing at a discount and the ability to perform his/her own warranty repairs.

The program helps dealers penetrate large fleet accounts and grow their business by also receiving a three percent discount on all electrics purchases, no matter who buys the part. The electrics help the dealer get to discount levels faster; the Fleet Program discount is over and above any stock order discount. All the dealer has to do is place a stock order of twelve units and agree to administer the program at special Fleet Program pricing levels.





Cummins New Cylinder Kits

Pistons, along with components such as cylinder liners, piston rings and piston pins, are key integrated components of the power cylinder system. Cummins engineers are constantly improving the piston design so the reliability, performance and fuel economy of the system is optimized.

At Cummins Jamestown Plant, thousands of N Series pistons are produced on high-volume transfer lines every day. Since these lines are dedicated to producing only N Series pistons, manufacturing engineers are able to fine-tune the machining process to continuously improve quality and reduce costs at the same time.

Cummins works closely with the raw casting suppliers so every piston casting meets the standards for hardness and composition. Raw piston castings are checked for debond at the suppliers, and then again using ultrasonic equipment after machining in Jamestown.

Upon analysis, some "will-fit" pistons showed wide variability in their design and process control. Wide variability affects both consistency and reliability of performance.

Genuine Cummins pistons are designed to deliver optimum combustion efficiency for the engine. One of the special features is a Ni-Resist insert designed to provide maximum alfin bonding of the insert to the aluminum to help prevent piston debond.

Another feature is high-grade aluminum alloys which increase both the thermal fatigue strength of the piston and life-to-overhaul. Cummins pistons also feature proper piston ring groove geometry for quick piston ring run-in, proper oil control, improved durability and fuel economy.

To prevent the piston pin bore from cracking, especially in high-horsepower applications, the radius is retained on the inside of the pin boss. The piston crowns are specifically designed to match injector spray patterns for better fuel economy.

Finally, the piston designs meet or exceed EPA emissions and environmental standards.

Some competitors' pistons have weak and incomplete alfin bonds between the Ni-Resist insert and the aluminum. This leads to fatigue fractures during normal thermal combustion. Lower-strength (and cost) aluminum alloys (similar to those used in automobiles) increase the risk of early component failures.

Cummins is committed to the design and manufacture of critical engine components. High-volume NH/NT pistons are manufactured at Cummins Jamestown Plant; low-volume NH/NT pistons are manufactured at the Cummins Columbus Plant. Genuine Cummins pistons cannot be obtained from "will fit" suppliers.



Cylinder liners are another key component of the power cylinder system. Manufacturing engineers and technicians at the Columbus Engine Plant are constantly looking at ways to improve the manufacturing process so the customer can count on every cylinder liner meeting Cummins design specifications.

Some competitors' cylinder liners have wide variability in design and process control. They "copy" designs and try to develop manufacturing processes to reproduce them. Since every component is part of an integrated system, they may miss a critical design characteristic which could affect reliability and durability.

Cummins, on the other hand, designs, manufactures and sells engines and Genuine replacement parts. Only proper process controls can produce replacement cylinder liners that are as reliable as the original liners in your Cummins engine.

Genuine Cummins cylinder liners are designed to deliver the best durability and performance. To meet this goal, cylinder liners are centrifugally cast to create a high-strength, uniform surface for better heat dissipation and elimination of piston hot spots.

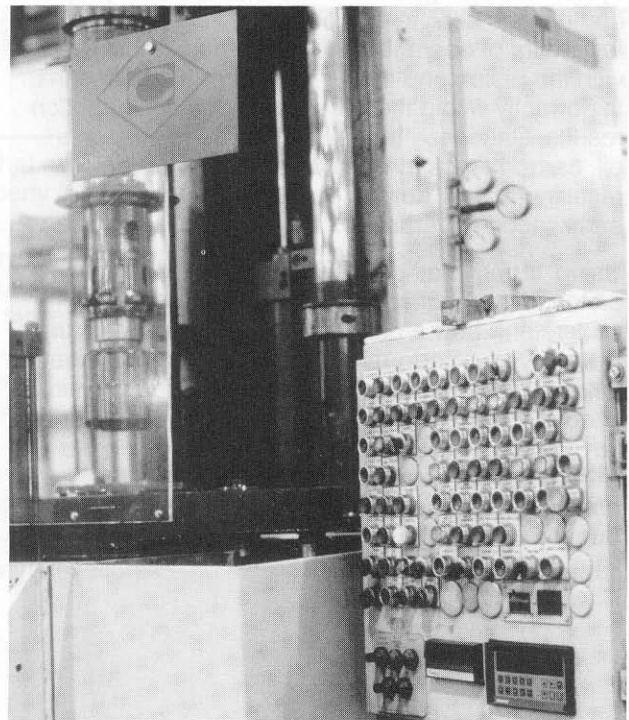
Hot spots cause distortion of the liner, which ultimately can lead to liner scuffing, oil consumption and early component failure.

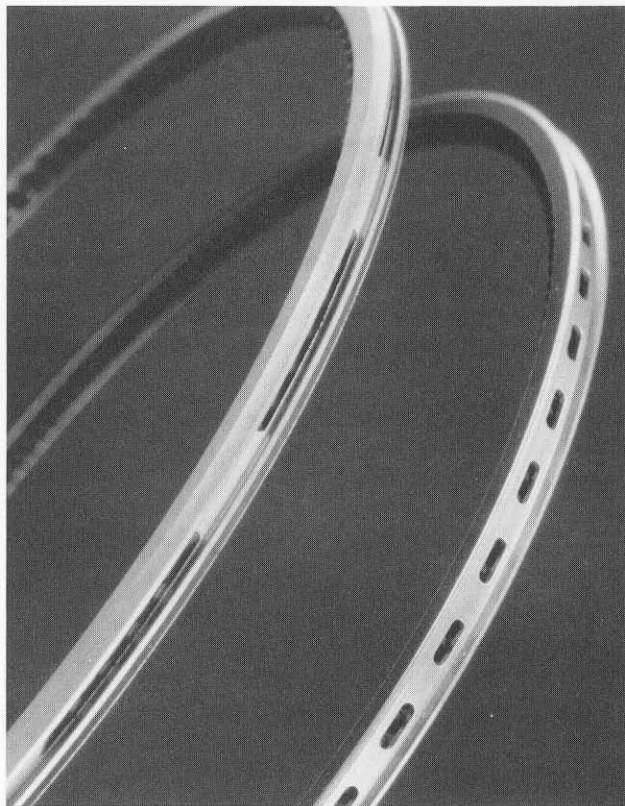
The cross-hatching, visible in the bore, is the result of the final honing process which establishes a surface finish to help retain an oil film for ring lubrication and sealing.

The angles and depth of the cross-hatching mean faster break-in, proper oil control and maximum durability. Some will-fitters have rough and inconsistent honing patterns, which can cause the customer to need additional overhauls.

The press-fit between the block counterbore inside diameter and the liner flange helps to prevent movement of the cylinder liner and the subsequent wear of the flange ledge and counterbore seat.

To reduce block counterbore stress by up to 40% and increase life-to-overhaul, in 1986 Cummins introduced a "lower press-fit" oversize liner so that older NH/NT engines could benefit from the new power cylinder technology. Cummins also developed special tooling which is used by authorized Cummins dealers and distributors to cut the engine block to the exact specifications.





Proper oil retention is critical for the lubrication of the piston rings as they run against the cylinder liner wall. Too much oil on the cylinder liner wall results in “flashing” the liner surface as the combustion gases ignite the oil. “Flashing” causes carbon buildup on the power cylinder components, plus higher levels of oil consumption and increased cylinder liner wear.

All of the components of the power cylinder system are designed and manufactured for proper combustion sealing and oil control. During the first few hours of operation, the piston rings must seat with the piston and liner. If one component doesn't fit correctly within the system, high oil consumption results. Once the engine has started to consume oil, carbon tends to build up along the piston resulting in liner polishing, ring damage and an early second overhaul.

Using Taguchi methods, engineers study complex piston ring manufacturing processes in order to understand how a particular machining affects the reliability and performance of the piston ring. Many “will-fit” piston rings are not machined to Cummins exacting specifications and standards. These rings have oversize keystone angles, causing rings to stand proud in the piston groove, causing ring breakage during installation or early liner damage due to piston ring scuffing.

Durability can only be achieved with proper piston ring design, materials and manufacturing process control. For greater strength and durability, compression rings are cast out of high-grade ductile iron. All top compression rings are chrome-plated for improved wear properties and longer life. These rings are keystone-shaped to reduce carbon buildup and ring sticking; and they are barrel-faced for improved ring seating and combustion sealing.

Another feature of all top compression rings is that the front edge is loaded to reduce blowby on turbocharged engines. Plus, Premium Plus® top compression rings have inlaid chrome which has increased ring life by over 70% in high-load/low-rpm applications.

Oil control rings remove excess lubricating oil from the cylinder liner wall and cut oil consumption. The new patented “I” oil control ring is manufactured from high-grade spring steel wire, chrome-plated and shaped like the letter “I” to provide superior sealing capability.

Due to the high strength and extreme pliability of this ring, it can deliver more than a 50% reduction in oil consumption over traditional cast iron oil control rings.

Cummins manufactures the piston rings for both production and service in our piston ring manufacturing plant in Georgia.

Because Cummins is the industry's technological leader, our engine parts are designed and produced to exact standards.

That's why Cummins backs our engines and parts with the best warranties. Cummins Premium cylinder kits are covered by a one-year, 100,000-mile warranty. Premium Plus and Big Power Performance cylinder kits offer warranty coverage of two years, 200,000 miles. These warranties are honored at over 3,000 service locations.

Fact Sheet

	FEATURE	BENEFIT	ADVANTAGE
ReCon Injectors	Computerized, fail-safe calibration systems to guide remanufacturing each step of the way.	Ensures that injectors are always rebuilt within proper specifications.	Improved fuel economy, power and durability.
	100% requalified cups, hydraulically flow tested.	Helps guarantee proper cup flow.	Reduced emissions, improved durability and increased engine life.
	Honed barrels.	Ensures consistent dimensions throughout the barrel's inner diameter, helping maintain proper fuel balance between barrel and plunger.	Improved durability.
	Barrels and plungers match-fit to the same specifications as new.	Ensures proper fit.	Increased engine life, performance and durability.
ReCon Cylinder Heads	Chemical cleaning process.	Eliminates risk of premature wear due to contaminants.	Improved reliability.
	Replacement of worn plated cup plugs with stainless steel plugs.	Reduces failures.	Improved reliability and longer product life.
	Replacement of worn parts with 100% new Genuine parts.	Ensures long life.	Improved durability.
	Availability of four different heads for pre-1986 NT engines.	Gives you the exact head for your application.	Improved performance and durability.
ReCon Electrics	Isolation of individual regulator circuits during testing.	Ensures that regulators will work properly in the field.	Improved reliability.
	Electrical testing of diodes using high voltage.	Helps prevent failures due to voltage surges in the vehicle's electrical system.	Improved reliability.
	Varnished rotors and stators.	Helps prevent rotor failure by holding the windings in place.	Improved alternator durability.
	Replacement of 100% of the solenoid leads in starters.	Helps prevent lead breakage due to engine vibration.	Improved starter durability.
	Completely new or reconditioned starter drives.	Helps eliminate failures.	Improved durability, better performance and longer life.

New Cylinder Kits:

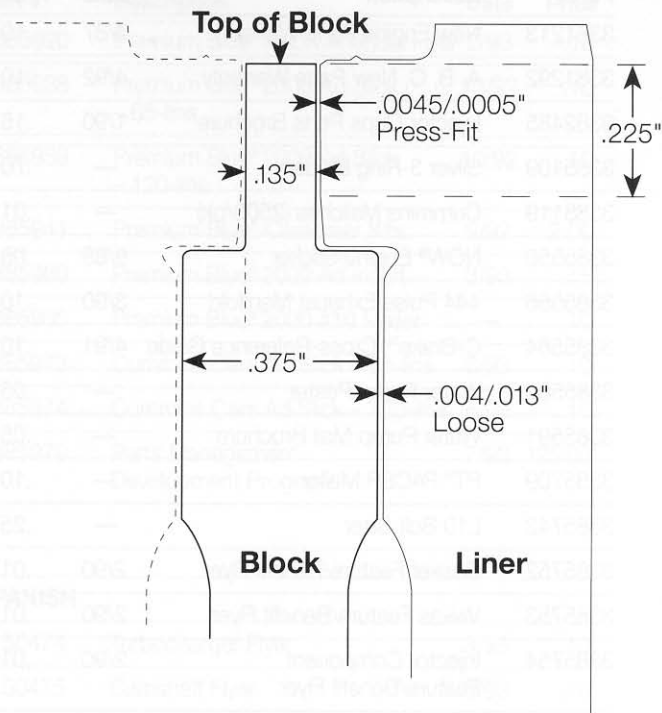
	FEATURE	BENEFIT	ADVANTAGE
Pistons	Ni-Resist inserts.	Provides maximum alfin bonding of insert to aluminum.	Reduced piston debond.
	High-grade aluminum alloys.	Increases thermal fatigue strength.	Longer life-to-overhaul.
	Proper piston ring groove geometry.	Provides quick piston ring run-in and proper oil control.	Improved fuel economy and durability.
	Radius retention inside the pin boss.	Prevents the piston bore from cracking.	Improved durability.
	Piston crown designed to match injector spray patterns.	Optimizes turbulence for maximum fuel economy.	Improved durability.
	Advanced piston design.	Meets or exceeds EPA standards.	Improved durability.
Cylinder Liners	Centrifugal casting.	Creates a high-strength, uniform surface for better heat dissipation and elimination of piston hot spots.	Improved durability.
	Cross-hatching in the final honing process.	Retains oil film for ring lubrication and sealing.	Faster break-in, proper oil control and maximum durability.
	"Lower press-fit" oversize liners for older NH/NT engines (pre-1986).	Reduces block counterbore stress.	Increased life-to-overhaul and improved durability.
	Employment of advanced Lubrite process.	Creates microscopic pores to retain oil and prevent rust; provides lubrication to piston rings.	Improved durability.
Piston Rings	Chrome-plated top compression rings.	Provides improved wear and longer life.	Improved durability.
	Keystone-shaped top compression rings.	Reduces carbon build-up and ring sticking.	Improved durability.
	Barrel-faced top compression rings.	Improves ring seating and combustion sealing.	Improved durability.
	Front-edge loaded top compression rings.	Reduces blowby on turbocharged engines.	Improved durability.
	"1" oil control ring.	Provides superior sealing capability.	Improved durability.

Technical Talk

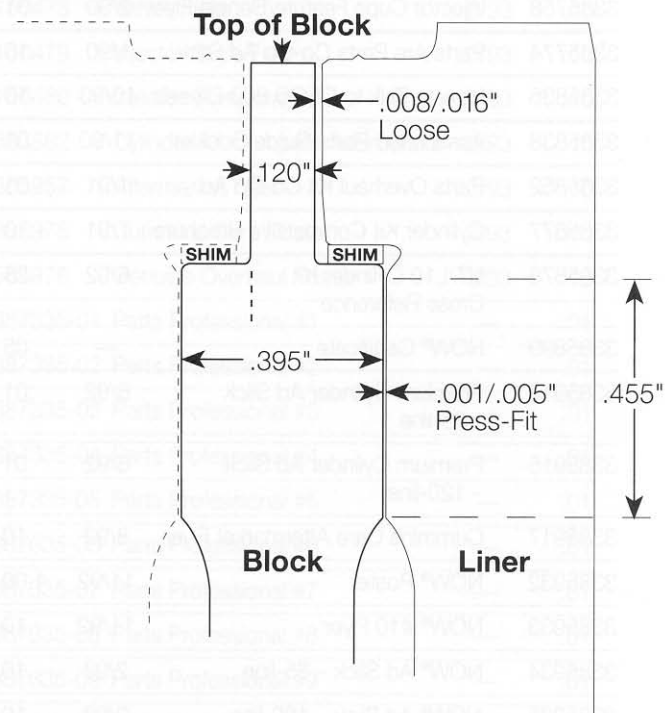
Lots of you have been asking about lower press-fit liners. Here's the latest information:

- All new blocks made after 1986 are machined for lower press-fit liners. Standard cylinder kits can be used with these engines/blocks, all factory-built NTC 444s, and starting September 2, 1986, all new Big Cam NH blocks were machined for standard-size lower press-fit liners.
- For engines built prior to 1986, one must machine the block and go to an oversize liner (20/40) to correct to LPF. The block wall thickness between the cylinder liners was reduced from 0.135 to 0.120 inches. The LPF liner does not fit tightly against the block in this upper flange region; therefore, the stress was lessened at the thin surface between the cylinders. The wall thickness further down in the block was widened from 0.375 to 0.395 inches. The result of these changes is that the press-fit portion of the liner resides in an area where cylinder wall thickness is 0.395 inches, as compared to 0.135 with the upper press-fit design. This change has all but eliminated the block cracking problem.

Upper Press-Fit Liner



Lower Press-Fit Liner



Parts Promotional List

Part #	Description	Issue Date	Price
3381213	New Engine Parts Warranty	4/87	.10
3381292	A, B, C, New Parts Warranty	4/92	.10
3382485	Injector Cups Parts Brochure	1/90	.15
3385109	Silver 3-Ring Binder	—	.70
3385119	Cummins Matches (2500/pk)	—	.01
3385550	NOW® Engine Sticker	9/88	.05
3385556	444 Pulse Exhaust Manifold	3/90	.10
3385584	C-Brake™ Cross-Reference Guide	4/91	.10
3385589	Water Pump Poster	—	.05
3385591	Water Pump Mail Brochure	—	.05
3385709	PT® PACER Mailer	—	.10
3385742	L10 Bolt Sizer	—	.25
3385752	Gasket Feature/Benefit Flyer	2/90	.01
3385753	Valves Feature/Benefit Flyer	2/90	.01
3385754	Injector Component Feature/Benefit Flyer	2/90	.01
3385755	Crankshaft Feature/Benefit Flyer	2/90	.01
3385757	Turbo Feature/Benefit Flyer	2/90	.01
3385758	Injector Cups Feature/Benefit Flyer	2/90	.01
3385774	Parts Are Parts Co-Op Ad Slick	1/90	.10
3385836	How to Talk to CECO 800-Diesels	10/90	.10
3385838	Associated Parts Guide Booklet	11/90	.01
3385852	Parts Overhaul Kit Co-Op Ad	1/91	.01
3385877	Cylinder Kit Competitive Brochure	7/91	.10
3385878	NT/L10 Cylinder Kit Cross Reference	6/92	.25
3385899	NOW® Certificate	—	.05
3385914	Premium Cylinder Ad Slick – 85-line	6/92	.01
3385915	Premium Cylinder Ad Slick – 120-line	6/92	.01
3385917	Cummins Care Aftermarket Flyer	8/92	.10
3385932	NOW® Poster	11/92	1.00
3385933	NOW® #10 Flyer	11/92	.10
3385934	NOW® Ad Slick – 85-line	2/93	.10
3385935	NOW® Ad Slick – 120-line	2/93	.10
3385936	NOW® Folder	11/92	.25
3385937	NOW® Window Decal	4/93	2.00

Part #	Description	Issue Date	Price
3385950	CEPC Flyer	3/93	.10
3385958	Cummins Care Poster	3/93	1.00
3385959	Genuine Overhaul Poster	3/93	1.00
3386577	Cummins Care Shopping Bag	—	.25
3386741	NOW® Cost Estimate Worksheet	10/89	.10
3386848	NOW® Pre-Overhaul Checklist	9/89	.10
3386857	NOW® Pre-Overhaul Checklist	10/89	.10
3386858	NOW® Component Inspection Checklist	10/89	.10
3386866	NOW® Service Manual	12/89	.00
3387320-01	Parts Professional #1	—	.01
3387320-02	Parts Professional #2	—	.01
3387320-03	Parts Professional #3	—	.01
3387320-04	Parts Professional #4	—	.01
3387320-05	Parts Professional #5	—	.01
3387320-06	Parts Professional #6	—	.01
3387320-07	Parts Professional #7	—	.01
3387320-08	Parts Professional #8	—	.01
3387320-09	Parts Professional #9	—	.01
3387320-10	Parts Professional #10	—	.01
3387320-11	Parts Professional #11	—	.01
3387320-12	Parts Professional #12	—	.01
3387320-13	Parts Professional #13	—	.01
3387320-14	Parts Professional #14	—	.01
3385815	Parts Professional #15	—	.01
3385816	Parts Professional #16	—	.01
3385817	Parts Professional #17	8/93	.01
3624186	Parts Professional Binder w/Tabs	—	1.00
3624349	Maintenance Requirements – Laminated	2/93	.10
3624360	Maintenance Requirements Flyer	2/92	.10
3822013	New/ReCon® Kits & Sets Booklet	6/92	1.00
3385885	Premium Blue® CF-4 Flyer	2/92	.10
3385887	Premium Plus® Injector Cleaner Flyer	2/92	.10
3385888	Premium Blue® Flyer	2/92	.10
3385889	Premium Blue® Ad Slick – 85-line	4/92	.10
3385890	Premium Blue® Ad Slick – 120-line	4/92	.10

Part #	Description	Issue Date	Price
3385891	Premium Blue® Availability Directory	4/93	.15
3385892	Premium Blue® Data Sheet	7/92	.10
3385893	Premium Blue® 2000 Data Sheet	7/92	.10
3385894	Premium Blue® Premium Blue® 2000 Folder	7/92	.50
3385896	Premium Blue® Premium Blue® 2000 Brochure	7/92	.25
3385897	Premium Blue® Value Wheel	7/92	.50
3385898	Premium Blue® 2000 Value Chart	7/92	.25
3385918	Premium Blue® Premium Blue® 2000 Poster	7/92	1.00

Part #	Description	Issue Date	Price
3385920	Premium Blue® A-OK Analysis Flyer	2/93	.10
3385938	Premium Blue® 2000 Ad Slick - 85-line	10/92	.10
3385939	Premium Blue® 2000 Ad Slick - 120-line	10/92	.10
3385941	Premium Blue® Customer Kits	9/92	2.00
3385960	Premium Blue® 2000 Ad Insert	3/93	.15
3385985	Premium Blue® 2000 #10 Mailer	—	.10
3385973	Cummins Care Ad Slick - 85-line	6/93	.10
3385974	Cummins Care Ad Slick - 120-line	6/93	.10
3385979	Parts Management Development Program	7/93	125.00

Translated Materials

FRENCH

3385970	Premium Blue® Premium Blue® 2000	3/93	.25
3385971	Premium Blue® 2000 Value Wheel	3/93	.25
3385972	Premium Blue® 2000 Data Sheet	3/93	.10
3387334-01	Parts Professional #1	—	.01
3387334-02	Parts Professional #2	—	.01
3387334-03	Parts Professional #3	—	.01
3387334-04	Parts Professional #4	—	.01
3387334-05	Parts Professional #5	—	.01
3387334-06	Parts Professional #6	—	.01
3387334-07	Parts Professional #7	—	.01
3387334-08	Parts Professional #8	—	.01
3387334-09	Parts Professional #9	—	.01
3387334-10	Parts Professional #10	—	.01
3387334-11	Parts Professional #11	—	.01
3385875	Parts Professional #12	—	.01
3385876	Parts Professional #13	—	.01

SPANISH

3150474	Turbocharger Flyer	3/93	.10
3150475	Camshaft Flyer	3/93	.10
3150476	Gasket Flyer	3/93	.10
3150477	Crankshaft Flyer	3/93	.10
3150478	Valves Flyer	3/93	.10
3150479	Injector Cups Flyer	3/93	.10
3150480	Injector Components	3/93	.10
3385882	Cylinder Kit Competitive Brochure	3/93	.10
3385957	Aftermarket Flyer	3/93	.10
3385975	Cummins Care Poster	3/93	.10
3385976	Genuine Overhaul Poster	3/93	.10
3387335-01	Parts Professional #1	—	.01
3387335-02	Parts Professional #2	—	.01
3387335-03	Parts Professional #3	—	.01
3387335-04	Parts Professional #4	—	.01
3387335-05	Parts Professional #5	—	.01
3387335-06	Parts Professional #6	—	.01
3387335-07	Parts Professional #7	—	.01
3387335-08	Parts Professional #8	—	.01
3387335-09	Parts Professional #9	—	.01
3387335-10	Parts Professional #10	—	.01
3387335-11	Parts Professional #11	—	.01
3385854	Parts Professional #12	—	.01
3385855	Parts Professional #13	—	.01
3385856	Parts Professional #14	—	.01

Quiz 17 Emotional List

Here's a chance to test your knowledge and win a great nylon travel bag! Just use the postage-paid card in the front of this issue to record your answers. Then return the card to us...and if you score 100%, you've got a bag in the bag!

- Proper injector cup flow impacts...
 - Fuel economy.
 - Engine life and engine performance.
 - Emissions.
 - All of the above.
- Due to the high strength and extreme pliability of the "I" ring, this ring can result in over a 50% reduction in oil consumption over traditional cast-iron oil control rings.
 - True.
 - False.
- Which statement is false?
 - As of January, the standard ReCon XX injector warranty was increased to one year, 100,000 miles.
 - The ReCon premium PX injector warranty was increased to two years, 125,000 miles.
 - ReCon B and C injector warranties were increased to one year, unlimited miles.
 - All Cummins ReCon injector warranties cover parts, labor, progressive damage, consumables and markup.
- Some competitors' products are built with low-flow cups. What problem(s) does this cause?
 - Higher camshaft stress.
 - Emissions.
 - Possible cup breakage.
 - Both A and C.
- If any defect is noted in the cylinder head's casting or valves that cannot be corrected during the remanufacturing process, the defective unit is scrapped and replaced with a new Genuine Cummins Part.
 - True.
 - False.
- Cylinder liners are centrifugally cast to...
 - Create a high strength.
 - Make the surface uniform for better heat dissipation.
 - Eliminate piston hot spots.
 - All of the above.
- To make sure you get the exact head for your application, and not one that just bolts on, how many heads does ReCon offer for pre-1986 NT engines?
 - One.
 - Two.
 - Three.
 - Four.
- How many times are dual Ni-Resist pistons checked for debond to ensure the highest levels of quality?
 - Once.
 - Twice.
 - Three times.
 - Four times.
- How do ReCon electrics differ from the competition?
 - They have varnished rotors and stators.
 - They have a warranty.
 - They use 100% new bearings and brushes.
 - Both A and C.
- ReCon tests every unit. How many different operating characteristics on the alternator are monitored during each test?
 - One.
 - Ten.
 - Thirteen.
 - Twenty.

NOTES

NOTES

Here's a chance to test your knowledge and win a great nylon travel bag! Just use the postage-paid card in the front of this issue to record your answers. They'll return the card to us...and if you score 100% you've got a bag in the bag!

1. Proper injector size flow impacts...
 - A. Fuel economy.
 - B. Engine life and engine performance.
 - C. Emissions.
 - D. All of the above.
2. Due to the high strength and extreme flexibility of the T-ring, this ring can result in over a 50% reduction in oil consumption over traditional cast-iron oil control rings.
 - A. True.
 - B. False.
3. Which statement is false?
 - A. As of January, the warranty of ReCon XX injector warranty was increased to one year, 100,000 miles.
 - B. The ReCon premium PX injector warranty was increased to two years, 125,000 miles.
 - C. ReCon B and C injector warranties were increased to one year, unlimited miles.
 - D. All Cummins ReCon injectors warrant labor, parts, labor, progressive damage, freight, taxes and markup.
4. Some "aftermarket" products are built with low-flow tips. What problem(s) does this cause?
 - A. Higher manifold stress.
 - B. Emissions.
 - C. Possible cup breakage.
 - D. Both A and C.
5. If one defect is noted in the cylinder head's cooling surfaces that cannot be corrected during the remanufacturing process, the defective unit is scrapped and replaced with a new Genuine Cummins Part.
 - A. True.
 - B. False.
6. Cylinder liners are centrifugally cast to...
 - A. Create a high strength.
 - B. Make the surface uniform for better heat dissipation.
 - C. Eliminate piston hot spots.
 - D. All of the above.
7. To make sure you get the exact head for your application, and not one that just bolts on, how many heads does ReCon offer for pre-1995 IM engines?
 - A. One.
 - B. Two.
 - C. Three.
 - D. Four.
8. How many times are dual Ni-Hi-Cr-Fe pistons checked for deformed to ensure the highest levels of quality?
 - A. Once.
 - B. Twice.
 - C. Three times.
 - D. Four times.
9. How do ReCon electrics differ from the competition?
 - A. They have varnished covers and starters.
 - B. They have a warranty.
 - C. They use 100% raw bearings and brushes.
 - D. Both A and C.
10. ReCon tests every unit. How many different operating characteristics on the alternator are monitored during each test?
 - A. One.
 - B. Ten.
 - C. Twelve.
 - D. Twenty.

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