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Cummins Engine Company, Inc.  
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Columbus, Indiana 47202-3005  
812 377 3802  
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ONE YEAR  
LATER

The Crash: Why It Matters, Why It Doesn't PAGE 88

# BusinessWeek

OCTOBER 17, 1988

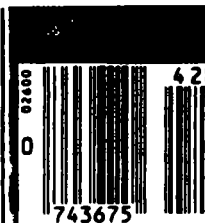
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# MR. RUST BELT

**H**enry Schacht of Cummins Engine did everything right: He invested for the long term, defended market share, and beat back the Japanese. So where are the profits?

PAGE 72



# MR. RUST BELT

**HENRY SCHACHT DID EVERYTHING RIGHT. SO WHERE ARE CUMMINS' PROFITS?**

**F**ellow manufacturers praise his aggressive response to Japanese competitors. Management gurus trumpet his innovations in productivity. Leaders of major U.S. corporations, such as CBS, AT&T, and Chase Manhattan, have put him on their boards. Alcoa actually tried to buy his \$2.8 billion-a-year company—mainly to get him as chairman. In short, it seems Henry B. Schacht is one of the most highly regarded CEOs in America. Yet for the past 24 years he has been battling it out in one of the toughest, lowest-profile businesses around: heavy-duty truck engines. Says Schacht, chairman and chief executive of Cummins Engine Co.: "I can't think of a more exciting intellectual challenge."

That may seem like an odd way to look at things in an era dominated by service industries and glitzy high technology. But the 54-year old Schacht (pronounced "shocked") has company: He belongs to a small but influential fraternity of big-picture managers who avoided trendy fields to spend their careers running nitty-gritty manufacturing companies (page 74). Carrying MBAs from elite business schools, they began their careers in finance, accounting, and administration—not on the factory floor. They are active in politics and public affairs, and they don't need a *Baedeker* to find their way around the corridors of power.

**BEDROCK.** Of all these managers, though, Schacht is the ranking Mr. Rust Belt. Just out of Harvard business school in 1962, he turned down a relatively glamorous opportunity on Wall Street to work in the boondocks: Columbus, Ind. He's still there, ever more committed to manufacturing as a career—and as the bedrock of Cummins' future.

The issues Schacht



confronts today are at the heart of America's struggle to compete in basic industries. Many of his peers have retreated, shifting their companies into faster-growing fields such as aerospace, electronics, and service businesses. Those strategies have been the easy way out. They avoided the difficult job of making U.S. operations competitive with low-cost foreign rivals. They responded to Wall Street's constant harping on quick profits. Yet Schacht has clung to Cummins' focus on diesel engines and a game plan that needed 5 if not 10 years to work—and he has taken considerable heat from investors.

This strategy has required extraordi-

nary courage. In the mid-1980s, Japanese engine manufacturers were revved up to run down their U.S. counterparts. But Schacht made a preemptive strike against an invasion of low-cost imports, slashing Cummins' prices by almost a third to save its No. 1 position in the \$2 billion North American heavy-duty diesel market. To this day, Cummins holds a commanding 50% market share in North America, and you won't find a single Japanese engine powering a U.S.-built tractor-trailer.

But his success in fending off the Japanese has come at a steep price. Cummins is experiencing a profitless prosperity. For years, earnings have suf-

fered, and investors have driven the stock to around 47—about where it was six years ago.

To some extent, the saga of Cummins Engine is a classic example of short-term demands clashing with the need to make long-term investments in basic industries. Schacht certainly sees it that way. He argues that many of Cummins' financial problems stem from heavy spending on new plant and equipment and developing new engines. A price war with chief rival Caterpillar Inc. also has pounded profits. But Schacht says it is necessary to fight for market share now—just as it's vital to invest for the future. "We'll live with the short-term pressures because we're determined to be builders," he says.

Schacht insists his strategy will bear fruit by 1990. Since launching his massive restructuring six years ago, he has spent more than \$1 billion on plant and equipment and new engines, and he has eliminated 3,400 of 13,000 engine jobs. He has also shut several plants, reducing engine-making floor space by 30%. Now he is entering a crucial phase: With his reputation and the company's independence on the line, he has to prove his long-term view will finally pay off. "The challenge now is to restore profitability," he says. "It is the full, undivided effort of the company."

**ROLLER-COASTER.** But Schacht and Cummins must shoulder some of the blame for the company's erratic earnings. Despite his big restructuring, costs are still too high for its new low prices. One reason: Schacht underestimated a rebound in the truck market and cut employment too deeply. Now the company is struggling to meet demand for engines by adding costly overtime.

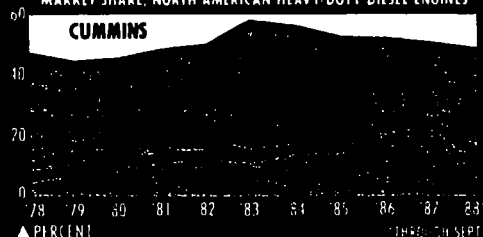
You can't fault money managers for cringing when they look at Cummins' financials: For a decade the company has taken investors on a roller-coaster ride, with profits soaring to \$188 million in 1984 and then plunging to a loss of \$107 million two years later. Even in this year's booming truck market, the third quarter looks so bad that Cummins may not even reach analysts' estimates of a meager \$32 million profit this year on sales of \$3.2 billion. And the most optimistic estimates put Cummins' earnings next year at around \$50 million—a return on equity of only about 6%.

"From the investor's point of view, it's very frustrating," says Stephen Dexter, an investment analyst for Kemper Financial Services Inc. "Now we may have seen the peak in demand for heavy-duty engines. And the fact is, they've missed the peak without really making a dime." Kemper once owned more than 500,000 Cummins shares. In the last few years it has dumped all but about 30,000.

Schacht is making progress on some

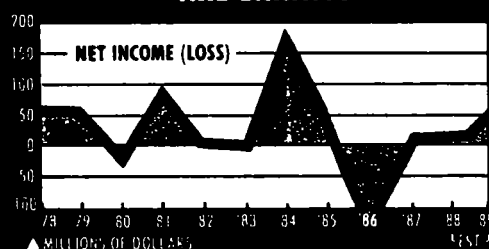
### CUMMINS STILL LEADS THE PACK IN DIESELS...

MARKET SHARE, NORTH AMERICAN HEAVY-DUTY DIESEL ENGINES



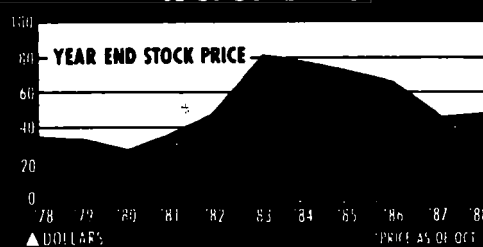
DATA: MOTOR VEHICLE MANUFACTURERS ASSN.

### ...BUT ITS PROFITS ARE ERRATIC...



DATA: COMPANY REPORTS, ZACKS WALL STREET ESTIMATE SERVICE

### ...AND ITS STOCK IS SPUTTERING



DATA: BRIDGE INFORMATION SYSTEMS INC.

# Cover Story

fronts. In its more than 50 years, Cummins has always been known for gigantic 14-liter engines—the kind used to power dump trucks and 18-wheelers. Anticipating demand for smaller heavy-duty motors, Schacht decided in 1979 to develop a 10-liter diesel for use in the same trucks. That has helped Cummins keep its huge overall share. Since 1984, Schacht has also moved Cummins into medium-duty engines for delivery trucks, pleasure boats, and power generators. After gushing red ink for four years, these new businesses are finally in the black.

**WRONG INSTINCTS.** It appears Schacht is starting to get a handle on costs, too. Thanks to vastly smaller inventories and dramatic improvements in worker productivity, he says, Cummins will have lopped off 20% of its 1982 costs by year-end. Yet he concedes that reaching his goal of 30%—and putting costs in line with prices—will take a few more years.

That's partly because he misdiagnosed the market. When truck orders began to build in late 1986, Schacht figured it was only a temporary uptick. He proceeded

to consolidate plants, move equipment, and offer early retirement packages to factory workers. When sales shifted into high gear last year, Schacht was caught flat-footed. To meet demand, the company has relied on employees working overtime, boosting operating expenses.

Even after he gets that problem sorted out, Schacht still faces a rough road. Caterpillar has been steadily adding share since 1978 (chart, page 73), and it has the finances to make Schacht's life unpleasant. Renault-controlled Mack Truck, which builds its own engines and has gained share in the truck market this year, is also eating into Cummins' sales. Schacht can't count out Detroit Diesel either. After letting the company languish for years, General Motors Corp. recently sold 80% of Detroit Diesel to Penske Corp. With new sales offices, increased spending on research and development, and a just-signed licensing pact with British diesel manufacturer Perkins, President Roger S. Penske is set to breathe new life into the company.

Schacht isn't the type to get flustered easily, though. He's a calm, methodical

thinker who likes to look at problems from every angle before reaching a decision, co-workers say. Both in and out of the office, he comes across as serious, very bright, and rather reserved. "He impresses most with his intellect," says Peter Rupp, chairman of Freightliner Inc., a customer. The one place where he gets aggressive is the tennis court. He's not the best player, says his friend and tennis partner James C. Pigott, chairman of Seattle-based Management Reports & Services, but he makes up for it by diving for shots and occasionally even crashing into the net.

**'TOTAL BUSINESS.'** He has a good excuse for his mediocre tennis game: He didn't exactly grow up in a country-club environment. His father, a broker at New York's Fulton Fish Market, left home when Schacht was a child, and they never saw each other again. Schacht was raised by his mother on Long Island, where his first job, at age 8, was selling eggs from the family's henhouse. After high school, he went to Yale on an academic scholarship.

Schacht spent a year selling railroad

## FIVE B-SCHOOL STARS WHO CHOSE GRIT OVER GLAMOUR

*For the brightest MBAs from the best business schools, manufacturing hasn't exactly been the hot ticket. There have been more alluring jobs and bigger salaries waiting on Wall Street or in consulting firms.*

*But there are exceptions: B-school stars who could work anywhere but who chose to grind out a career in basic industry. Some prefer making real products they can see and touch. Others enjoy the challenge of slugging it out with foreign rivals, finding ways to make profits in mature markets.*

*Henry Schacht of Cummins is one example. But he is hardly the only Rust Belt luminary. Here are five others:*

**THE MANUFACTURING MIND-SET.** A service business "is not the kind of thing that makes Robert run," says Robert Cizik, 57, CEO of Cooper Industries Inc. Cizik, who says it's just easier to identify with a company that produces a tangible product, always knew he wanted a job in manufacturing. After

graduating from Harvard business school in 1958, Cizik joined Standard Oil of New Jersey's international division as a financial analyst. He wanted to see how a big company worked, but it wasn't right for him. In 1961 he heard about Cooper, then a \$60 million maker of equipment used in natural-gas transmission. Cooper was looking to diversify and needed new management to do it.

It was a tough transition. Cooper's future was uncertain, and Cizik was supporting a wife and four children. His first assignment was to work on the strategic planning staff. While he was being groomed for a top management slot, he had to fight for the respect of Cooper's engineers. "They just didn't understand why I was hired or what I could contribute," he recalls.

That soon became obvious. Almost immediately Cizik began working out a diversification strategy for Cooper. Since he became CEO in 1975, Cizik has helped build the company into a \$3.6 billion general manufacturer. Now that the transformation is complete, Cizik's biggest challenge is to fend off foreign competition. To keep

Cooper's operations in top form, he has assembled a team of seasoned experts to evaluate Cooper's ability to compete. "Everyone must think in terms of manufacturing," he says. "It's a whole mind-set."

**MAKEOVER MAN.** "I'm a professional manager," proclaims B. Charles Ames, CEO of Uniroyal Goodrich Tire Co., the nation's No. 2 tiremaker with \$2.1 billion in sales. Ames, 62, the author of two marketing books, is trying to retread Uniroyal Good-

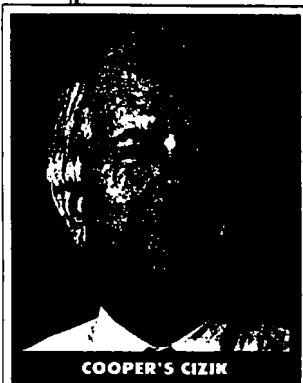
rich. It is not his first Rust Belt makeover. Having earned his MBA at Harvard, he first worked for General Telephone Co. and subsequently as a consultant for McKinsey & Co. Later, after consulting for Reliance Electric Co. in Cleveland, he signed up as CEO and diversified the electric-motor maker into telecommunications.

After selling Reliance to Exxon Corp. in 1979 for \$1.2 billion, Ames moved on to become CEO of Acme-Cleveland Corp. He planned to double the toolmaker's size by moving into computer-controlled manufacturing. Instead, the company's traditional markets soured, and the new business came a cropper. Ames eventually joined the leveraged-buyout firm of Clayton & Dubilier Inc. In 1988 he moved over to take charge of the Uniroyal Goodrich merger, which Clayton & Dubilier had engineered.

What's next? "When this is over," he



UNIROYAL'S AMES



COOPER'S CIZIK

supplies in Buffalo before he joined the Navy in 1957 and was shipped to South Vietnam as part of the U.S. military advisory force. Among the young officer's more esoteric projects: rating the usefulness of jeeps vs. elephants for transporting material (the pachyderms lost out). Back in the U.S. to wrap up his four-year naval stint, Schacht met his wife, Nancy Godfrey. They had a whirlwind courtship and married just days before he began business school.

Schacht's Harvard classmates remember him as a hardworking student who didn't go in for partying. "He was total business," says one classmate. "I may have even been a little afraid of him." He became a Baker Scholar, ranking in the top 2.5% of his class of 550.

At the end of his two years there, Morgan Stanley & Co. offered him a full-time job, as did several other big investment banks. But he opted for a position selecting investments for Columbus-based Irwin Management Co., which oversees the holdings of the Millers, one of Cummins' founding families. Says Garnett L. Keith Jr., a classmate who is now vice-chairman of Prudential Insurance Co. of America:

"Everybody was expecting big things from Hank, and he goes off to this little town nobody's ever heard of." But Schacht knew what he was doing. "The work opportunity seemed absolutely intriguing, with a chance to contribute at an early age," he recalls.

One of the things that intrigued Schacht was working with J. Irwin Miller, then Cummins' chairman. Miller, now 79, is a Rust Belt legend. He was the first layman to head the National Council of Churches, chaired Nelson Rockefeller's 1968 Presidential campaign, and ended up on Richard Nixon's infamous "enemies list." The urbane Miller also changed the face of Columbus by commissioning the nation's leading architects to design Cummins' headquarters, the city hall, and other buildings around town (page 83).

**STILL A MENTOR.** In 1964, Miller took Schacht away from Irwin Management and made him vice-president for finance at Cummins. Schacht quickly jumped to operations. His first task: moving to London to turn around Cummins' unprofitable European division. Two years later, with the division making money, Schacht returned to Columbus to head

all international operations. In 1969, at age 34, he became president. He was named CEO in 1973 and took over as chairman in 1977. But Miller's influence still is very much felt. He remains a company director and acts as a sounding board for Schacht, who calls nearly every day. "I keep pushing him off," says Miller, whose family owns 5.2% of Cummins' stock. "He talks to me too much."

Trailing Schacht's meteoric rise at Cummins was James A. Henderson, who became chief operating officer in 1975 and president in 1977. Like Schacht, he had served in the Navy before getting his MBA at Harvard. The two became fast friends in their early days at Cummins, and they work closely together. As the inside man, Henderson, 54, runs day-to-day operations, with everyone but Schacht reporting to him. Schacht, the outside man, handles international operations as well as customers and investors. He's the visionary.

Some of his visions have radically changed the factory floor. In the last two years, Schacht has broken down the rigid assembly lines at a number of Cummins' plants. Instead of building only one product, workers can now

says, "my intention is to get back into investment banking."

**BIG PROFITS, FEW HEADLINES.** Emerson Electric Co.'s Charles F. Knight, 52, also used a consulting job as a ticket to the top post. The former college football player finished up his MBA at Cornell University and returned home to Chicago in 1959. He passed up a handful of offers in New York to join his father's consulting firm, Lester B. Knight & Associates Inc.

Knight worked as a consultant to Emerson's motor and international divisions. When W.R. "Buck" Persons, then Emerson's chief, was ready to retire, he enlisted Knight to conduct a search for a new CEO. Persons' final choice: Knight.

He joined the company as vice-chairman in 1973 and became CEO 18 months later.

Under Knight, Emerson hasn't made headlines. It has made money, however. Knight's obsession with cost-cutting has helped keep Emerson's margins fat while the company shifted from making fans and pumps to faster-growing businesses such as defense equipment and process controls. And Knight, who is known for his table-pounding management style, seems to get the job done right: Return on equity was 17.9% last year at Emerson.

**BUY, BUY, BUY.** Since he became chief executive of Illinois Tool Works Inc. in 1982, John D. Nichols has remade the company.

During his tenure, ITW has more than tripled in size, to \$1.7 billion in sales. Nichols has led the Chicago-based maker of industrial parts, fasteners, and packaging on an aggressive acquisition strategy, including the \$530 million purchase of Signode Industries Inc. in 1986. Signode's signature product: the plastic holders that keep six-packs together.

It isn't a high-profile company, but it has held Nichols' attention longer than any other job. After earning an MBA from Harvard in 1955, he worked at Ford, ITT, and Aerojet-General before joining ITW in 1980. He was recruited to the top slot by his predecessor, Silas S. Cathcart, who now runs Kidder, Peabody & Co.

Cathcart wanted somebody who would keep his decentralized management structure intact. It seems to suit Nichols. Today he runs ITW's 70 operating units like scrappy, entrepreneurial businesses.

**PICKING UP THE PIECES.** Unlike professional managers who jump from company to company, A. William Reynolds, now CEO of GenCorp Inc., never intended to leave TRW Corp. After earning his undergraduate degree in economics from Harvard and an MBA from

Stanford, Reynolds began his career in 1957 as a staff assistant to the treasurer of TRW. He eventually ran TRW's automotive group but left to head GenCorp in 1984 when it became clear he would be passed over for CEO at TRW.

GenCorp, Reynolds found, was a sleepy, family-dominated conglomerate. He spent his first two years selling off underperforming assets and trying to lessen the company's dependence on the tire business.

Reynolds wanted to rebuild GenCorp around its aerospace and plastics units. But in March, 1987, AFG Industries launched a hostile tender offer. Reynolds fought back by buying up a huge block of GenCorp's stock, a move financed by selling the company's tire business and some

RKO broadcasting stations. As a result, the company's net worth is a negative \$47 million. Now, like so many of his colleagues, Reynolds will have to pick up the pieces.

*By Kathleen Deveny in New York, Stephen Phillips in Cleveland, Deborah Fowler in Houston, and Gianna Jacobson in St. Louis*



EMERSON'S KNIGHT



ILLINOIS TOOL'S NICHOLS



GENCORP'S REYNOLDS

## Cover Story

quickly switch gears to meet demand for different lines. Cummins is also a leader in the so-called teamwork concept. Beginning in 1974, after a prolonged strike in Columbus, Schacht organized assembly workers in teams of 10 to 30 people. Each team is responsible for scheduling shifts, ordering materials, and even hiring more workers when necessary. One group reworked its engine-housing line so drastically that it cut costs by 75%, says a Cummins executive.

**FEARFUL GLIMPSE.** Schacht's no hero with organized labor, though. When he decided to add capacity in the early 1980s, he kept the Diesel Workers Union out by building plants in North Carolina and upstate New York. And by shutting down two factories in Indiana and offering early retirement to other workers, he cut the union work force to 4,300, from 7,200 in the 1970s. Says Floyd Campbell, union secretary-treasurer:

"We think the company will outsource and build elsewhere, and get this [Indiana] work force down even further."

It might have been even worse for the union if Schacht hadn't stood up to the Japanese. As early as 1979, after touring factories in Japan, Schacht realized his plants needed help, so he began a campaign to modernize them. In 1984 his worst fears came true: Customers called to say they were testing engines from several Japanese manufacturers, including Komatsu Ltd. and Nissan Motor Co., and the engines were to sell for 25% below Cummins' price. Schacht acted fast. "We were going to lose 20% to 30% of our business," he says. With the board's full backing, "overnight we decided to lower prices 20% to 40%."

Wall Street, by contrast, has not been so easy to tame. Bearing stacks of statistics and flip charts to support their

strategy, Schacht and his lieutenants regularly huddle with analysts and investors. But lately their message has fallen on deaf ears. "I've been hearing they're going to have things under control on a quarter-by-quarter basis for a long time," says Frank Prezelski, a long-time Cummins follower at Deutsche Bank Capital Corp. "The target seems to recede into the future."

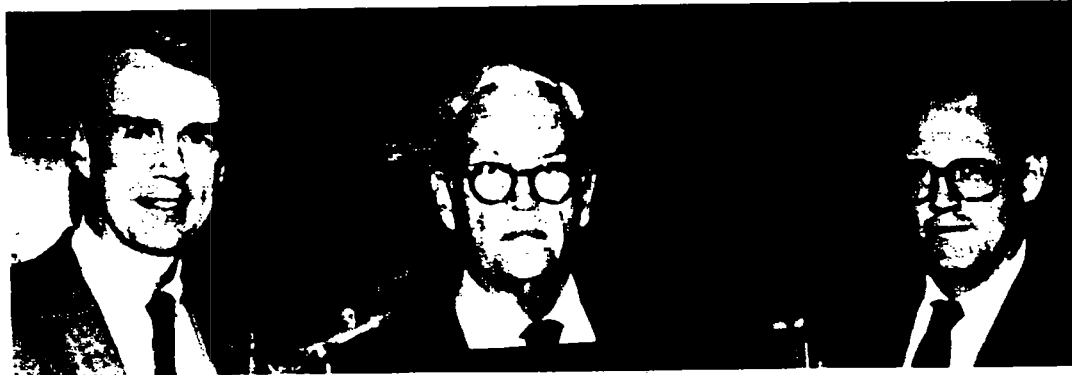
So far the company's troubles haven't stuck to Schacht. Says one analyst: "He's kind of like Reagan—the Teflon executive." Aluminum Co. of America certainly liked what it saw in him. Three years ago its retired chairman, W. H. Krome George, decided Schacht was the man to replace then-CEO Charles W. Parry. He was most impressed by Schacht's true grit in the face of Japanese competitors. In mid-1985, Alcoa directors began discussing a straight merger valued at around \$900 million. Schacht would be-

## HOW HENRY SCHACHT CLIMBED TO THE TOP



◀ **1956** Pictured in his Yale yearbook, Schacht was an intense young man. Between Yale and a Harvard MBA came a tour in Vietnam

▼ **1969** Schacht takes over as Cummins' president



▲ **1974** J. Irwin Miller, then chairman, was Schacht's mentor. Colleagues are Jim Henderson (left) and Randy Tucker

◀ **1984** Miller celebrated 50 years of service. Now he's a director, Schacht is chairman, and Henderson is president

come chairman of the combined companies. But Cummins and Alcoa couldn't reach an agreement, and the deal fell apart that summer.

Continuing the legacy left by Miller, Schacht has influence that extends far beyond the confines of his company—or even his industry. He's a force in such organizations as the Ford Foundation, the Brookings Institution, and Clean Sites Inc., an agency that helps mediate disputes over toxic cleanups. And he's an active outside board member at several big companies.

**NOT ALWAYS FUN.** At times this is unpleasant work. At CBS he was instrumental in recruiting Thomas H. Wyman as president and CEO in 1980. But six years later, he had to bring him the bad news: The board had voted him out. "That was very painful for Henry," says Laurence A. Tisch, now president of CBS Inc. "In the end he did what he had to do." (As a member of the compensation committee, Schacht eased his friend's pain with a farewell package some thought too generous: an annual payment of \$400,000 and bonuses worth more than \$4.2 million.)

Back at Cummins, Schacht has recently landed a number of important contracts, including a deal with school-bus maker Blue Bird that could ultimately produce 15,000 engine sales a year. This spring the company cracked the light-truck market when it landed a contract as supplier of an optional diesel motor in Dodge Ram pickups. Cummins engines are gaining ground in overseas markets such as Britain and India, thanks in part to the weak dollar.

Despite these improvements, Schacht can't afford to relax. The margins on the new, smaller-horsepower engines are smaller than on the NT heavy-duty diesel, so Cummins needs greater volume. And in the slow-growth medium-duty market, Cummins faces many more competitors than it does in heavy-duty engines, including the growing presence of Japanese manufacturers.

Schacht's experience shows how difficult it can be for all U. S. manufacturers to hang tough. In today's global market, even the best strategy is no guarantee of success. Schacht has certainly taken his share of financial punishment. But he has overcome long odds to remain a powerhouse in manufacturing. Even some Wall Street folks believe he may be on the right track. Says David G. Sutliff, a Salomon Brothers Inc. analyst: "It's very possible Cummins will come on like thunder and make tons of money in the 1990s." Then Mr. Rust Belt could turn out to be a hero after all.

*By Lois Therrien in Columbus, Ind.,  
with Peter Finch in New York*

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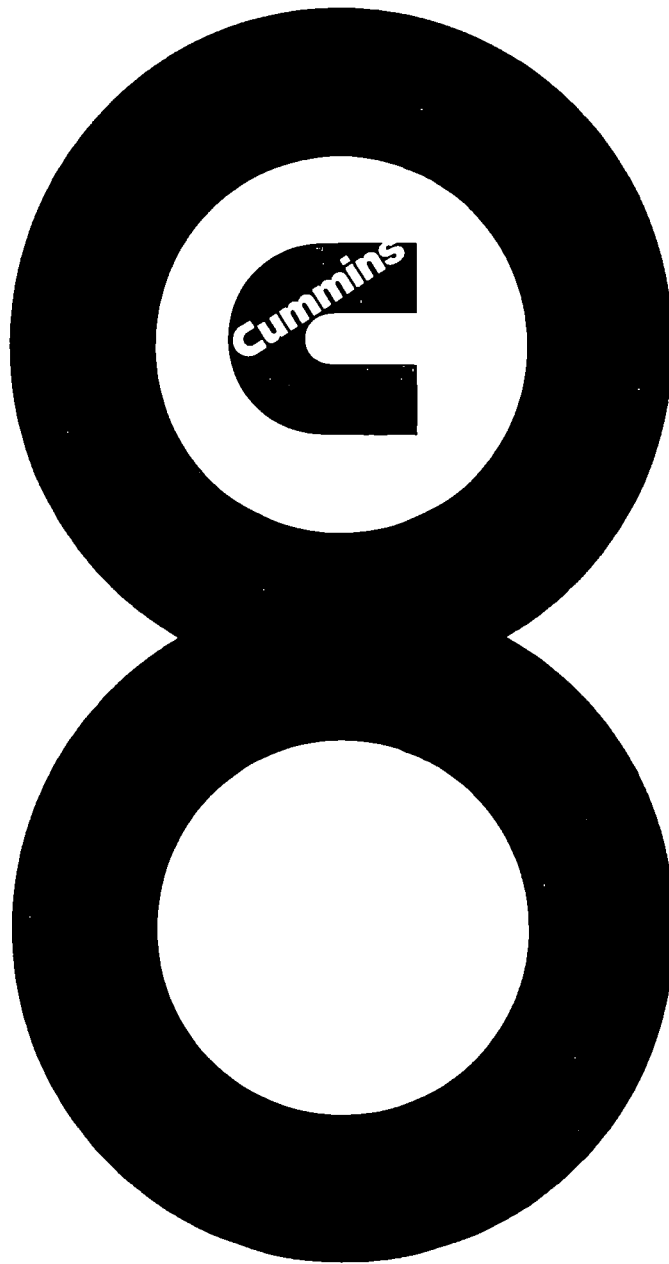
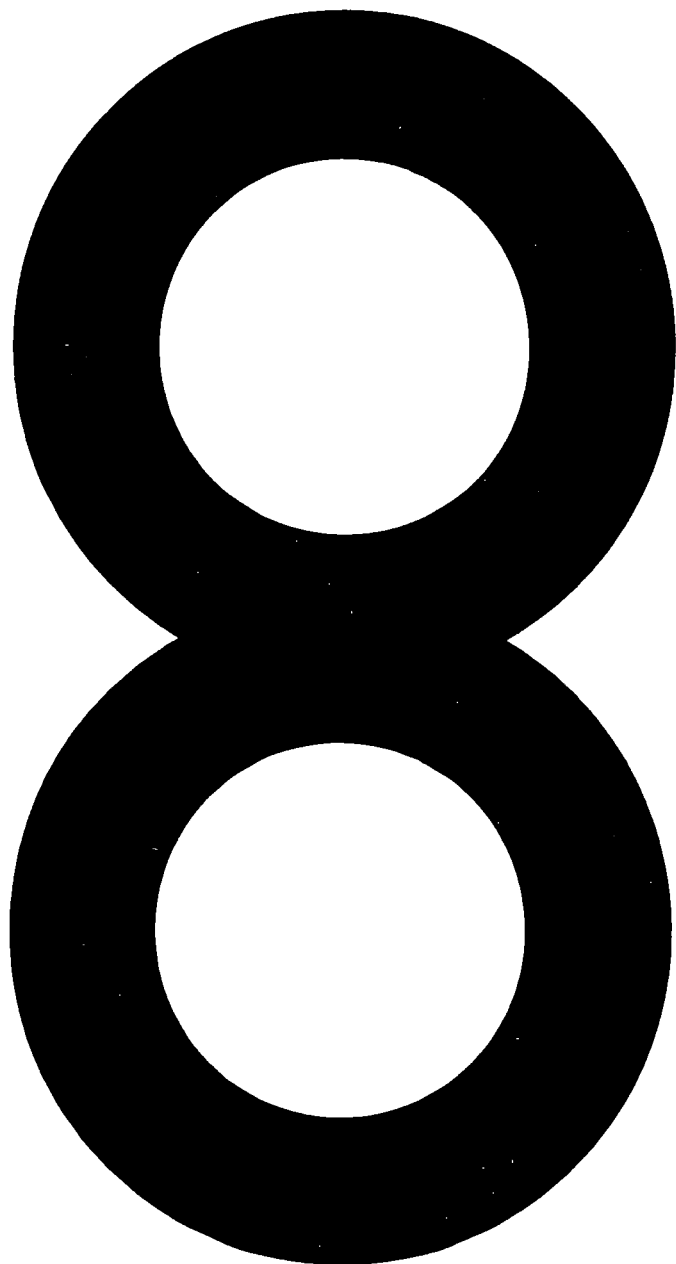
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*Annual  
Report*

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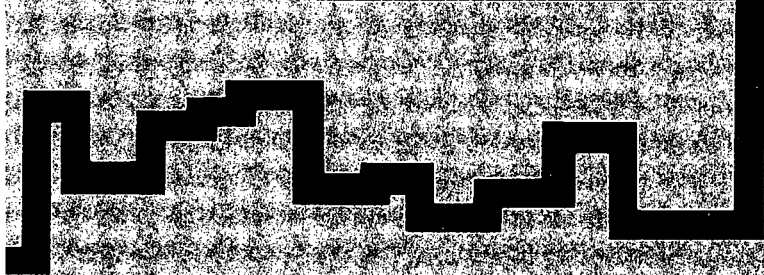
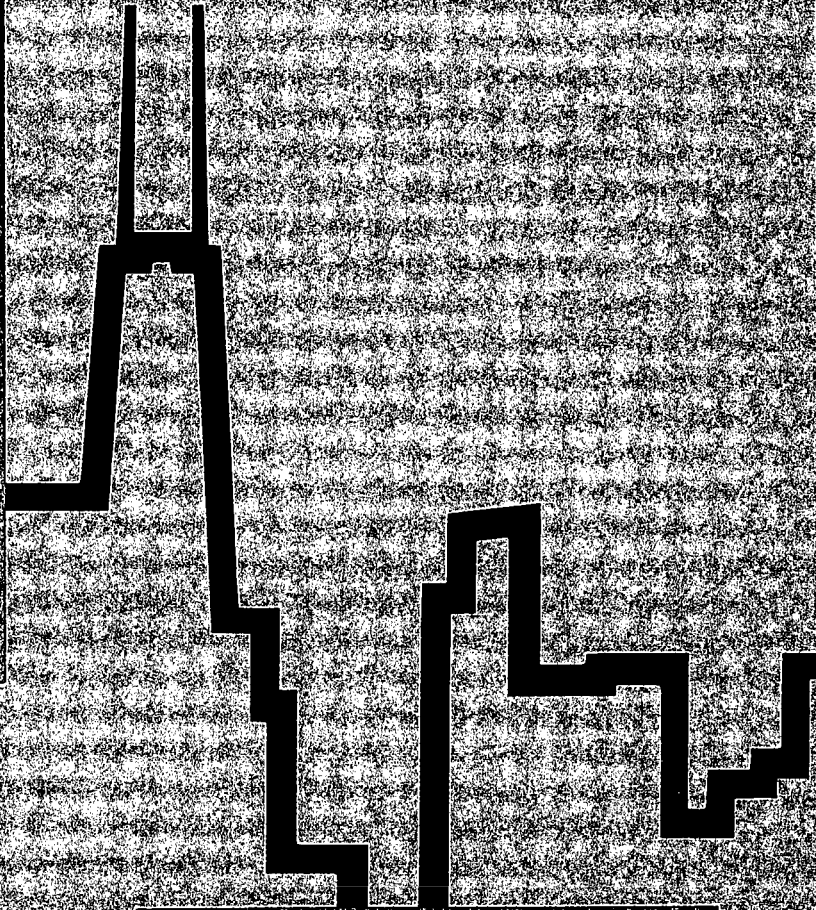
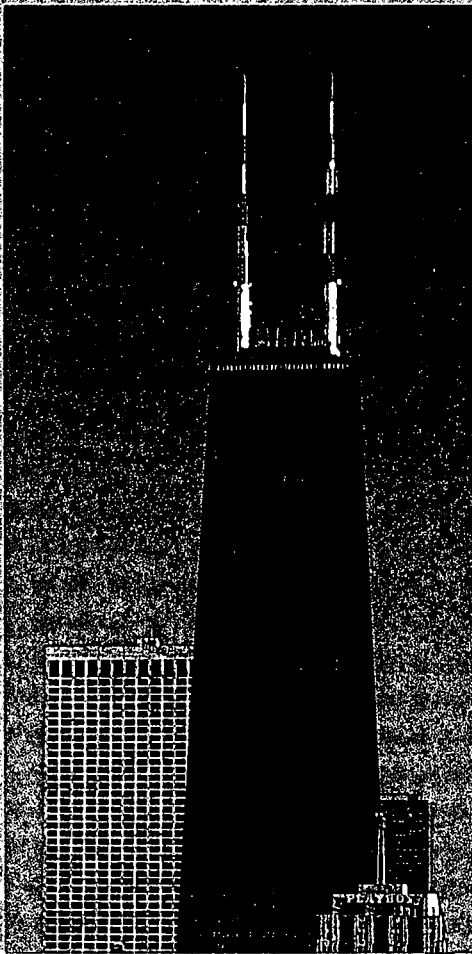
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# POWERING CITIES, COUNTIES AND STATES



ROGER S. PENSKE  
CHAIRMAN



January 16, 1990

The Honorable Albert Gore, Jr.  
Senate Office Building  
Washington, D.C. 20510

Dear Senator Gore:

Detroit Diesel Corporation is a significant supplier to the heavy-duty on- and off-highway engine markets. We provide engines for transit buses, intercity buses, Class 6 through 8 trucks, marine pleasure craft and workboats, and construction/industrial equipment.

In 1990, almost 50 percent of our engine production will go into on-highway vehicles which require emission certified engines. A disruption of any of these markets in 1991 could, of course, have an important impact on our engine business and on the Penske Corporation.

The heavy-duty engine industry, represented by the Engine Manufacturers Association, has developed a set of legislative amendments which have been discussed with Katherine Cudlipp, minority counsel to the Senate Committee on Environment and Public Works. As a member of EMA, DDC strongly supports these legislative amendments.

We urge that you support the position of EMA and DDC when the floor debate continues on the Clean Air Act later this month. I have enclosed the one-page summary of the key issues and a more detailed explanation of these issues.

If you or someone from your staff needs amplification of Detroit Diesel's or EMA's position, please contact David Merrion, DDC's Senior Vice President - Engineering, at 313/592-7276.

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. S. Penske', written over a horizontal line.

Roger S. Penske

Enclosure

13400 Outer Drive, West / Detroit, Michigan 48239 / Telephone 313-592-5002 / FAX: 313-592-5800



**Proposed Amendments to  
Title II of S. 1630**

**Executive Summary**

Attached are the Engine Manufacturers Association's (EMA) proposed amendments to Title II of S. 1630. The package includes specific statutory language and rationales in support of the following EMA recommendations.

**1. Heavy-Duty Emission Standards**

The implementation date for the 4.0 gph NOx standard should be shifted from 1996 to 1998. Two additional years provides manufacturers the minimum lead-time necessary to maximize their opportunity of complying with the combined stringency of a 4.0 gph NOx standard and 0.1 gph particulate standard. Additionally, EPA's previously adopted 5.0 gph NOx standard should be specified for 1991-1997.

**2. Standard-Setting Process**

By adding specific statutory standards, S. 1630 potentially creates a conflict with the existing standard-setting process in the Clean Air Act. Technical amendments to avoid conflicts and to clarify Congress' intent are necessary.

**3. Prohibition Against Averaging**

The proposed general prohibition against averaging should be modified to provide a narrow exception for heavy-duty engine manufacturers if certain factors are present. The key factor is the requirement that any such program have no adverse environmental impact. Manufacturers are relying on the availability of a limited averaging program to ease the transition to new, extremely stringent NOx and particulate emission standards.

**4. Non-Road Engines**

The existing "California Waiver" provision, which applies to on-road vehicles and engines, should be extended to include non-road vehicles and engines.



**Proposed Amendments to  
Title II of S. 1630**

**Reported from the  
Committee on Environment and Public Works  
December 20, 1989**

**1. Heavy-Duty Emission Standards**

On page 283 of S. 1630, the heavy-duty trucks portion of Table 2 is amended by inserting new NOx provisions as follows:

|          |                     |          |
|----------|---------------------|----------|
| NOx..... | 1991-1997.....      | 5.0 gbh. |
| NOx..... | 1998 and after..... | 4.0 gbh. |

**Rationale:**

Heavy-duty manufacturers believe a 4.0 g/bhp-hr NOx standard, in conjunction with a .1 g/bhp-hr particulate standard, may be technologically feasible for diesels by 1998. By shifting the implementation date for the 4.0 g/bhp-hr NOx standard from 1996 to 1998, Congress will allow manufacturers the necessary lead-time to maximize their opportunity for compliance without unduly jeopardizing the financial viability of individual manufacturers, or the entire industry, which already face strict reductions in emission levels in 1991 and 1994.

Additionally, adding the 5.0 g/bhp-hr standard to the statute expresses Congress' intent to adopt the NOx standard already promulgated by EPA for 1991. It also avoids any potential conflict between Congress' statutorily mandated standards for NOx and the 75% reduction target in the current Act.

**2. Standard-Setting Process**

Section 202(a) of the Clean Air Act is amended by inserting an "s" after the word subsection and the words "and (g)" after (b) to read:

(a) Except as otherwise provided in subsections (b) and  
(g) of this section--

Section 202(a)(ii) of the Clean Air Act is amended by deleting the "and" at the end of subsection (I), by deleting subsection (II), and by adding an "and" and a new subsection (II) at the end of the entire subsection, to read:

(ii) Unless a different standard is temporarily promulgated as provided in subparagraph (B) or unless the standard is changed as provided in subparagraph (E), regulations under paragraph (1) of this subsection

applicable to emissions from vehicles or engines manufactured during and after model year--

(I) 1983, in the case of hydrocarbons and carbon monoxide, shall contain standards which require a reduction of at least 90 per cent, and

~~(II) 1985, in the case of oxides of nitrogen, shall contain standards which require a reduction of at least 75 per cent.~~

from the average of the actually measured emissions from heavy-duty gasoline-fueled vehicles or engines, or any class or category thereof, manufactured during the baseline model year, and

(II) 1991, in the case of oxides of nitrogen and particulate matter, shall contain the standards set forth in Table 2 of subparagraph (g) of this section.

Section 202(a)(iii) of the Clean Air Act is amended by deleting the words "and after," adding an "s" to the word year, and adding the year "1990," to read:

(iii) The Administrator shall prescribe regulations under paragraph (1) of this subsection applicable to emissions of particulate matter from classes or categories of vehicles manufactured during ~~and after~~ model years 1981 - 1990 (or during any earlier model year, if practicable). Such regulations shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy and safety factors associated with the application of such technology. Such standards shall be promulgated and shall take effect as expeditiously as practicable taking into account the period necessary for compliance.

#### **Rationale:**

The addition of the statutory standards in Table 2 of Section 201 of S. 1630 creates the potential for conflict with the existing standard-setting process in Section 202 of the Clean Air Act.

The proposed technical amendments to Section 202 would delete the percentage reduction requirement of the current Act for NOx and

replace it with the specific statutory standards set forth by Congress in Table 2. In addition, the statutory standards in Table 2 supercede EPA's non-specific particulate standard-setting authority after 1991.

### 3. Prohibition Against Averaging

Section 212 of S. 1630 is amended by deleting the word "each" on page 298, line 9; by adding an "s" to the word standard on line 10; by deleting line 10 starting with the word "shall" through the word "and" on line 12; and by deleting line 14 starting with the word "manufactured" through the word "manufacturer" on line 15 and by inserting the underscored language below to read:

(d) AVERAGING PROHIBITED. Section 202 of the Clean Air Act is amended by adding the following new subsection:

(e) AVERAGING PROHIBITED. ~~Each Emission standards under this section shall apply to, and be met by, each and every vehicle or engine sold, offered for sale, introduced into commerce or imported, and may not be met or complied with by the average of the performance of various vehicles, engines, engine families or models manufactured by the same manufacturer, except where:~~

(1) the average is calculated solely on the basis of the performance of vehicles, engines, engine families or models with the same cycle (e.g., Otto or Diesel), fuel (e.g., gasoline or diesel), and within the same class or subclass; and

(2) any benefits or credits obtained from averaging are only used to provide manufacturers with compliance flexibility; and

(3) any benefits or credits obtained from averaging are only used for the period of three years or the transition to a more stringent standard, whichever is greater; and

(4) the Administrator finds that the use of averaging has no adverse environmental or competitive impacts.

#### Rationale:

Although Congress may want to generally prohibit the use of averaging programs, there are certain situations where such programs are commercially and environmentally beneficial.

Heavy-duty manufacturers have proposed certain narrow and limited exceptions to the general prohibition against averaging

degree of compliance flexibility and cost savings to manufacturers without adverse environmental impact.

The stringent 1991 emission standards were promulgated with the anticipation that particulate traps would be commercially available. Such is not the case. Rather than petition for reconsideration of the standard or pay nonconformance penalties (which increase the costs of engines to the public and have a deleterious environmental impact), manufacturers have geared their development and marketing programs with the expectation that some limited averaging program would be available.

Averaging and banking provide an incentive for the early introduction of advanced technology and, properly structured, will not cause an adverse environmental impact. (For further explanation, see Attachment A.)

#### **4. Non-Road Engines**

Section 209(a) of the Clean Air Act is amended by adding a reference to "new non-road vehicles or new non-road vehicle engines" to the California Waiver as follows:

SEC 209(a) No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles, ~~or new motor vehicle engines,~~ new non-road vehicles or new non-road vehicle engines subject to this part. No State shall require certification, inspection or any other approval relating to the control of emissions from any ~~new motor~~ such vehicles or ~~new motor~~ vehicle engines as condition precedent to the initial retail sale, titling (if any), or registration of such motor vehicle, motor vehicle engine or equipment.

#### **Rationale:**

California's need to potentially impose regulations more stringent than those adopted by the federal government has been recognized by Congress. Other states also have been given the right to adopt California's more stringent standards provided certain criteria are met.

Congress never has allowed, nor should it allow, the potential for a crazy-quilt pattern of 50 different emission requirements. Qualifying states only should be allowed to choose between the federal or California programs.

The Clean Air Act currently contains a limited preemption provision for on-road vehicles and engines. This proposed technical amendment extends the same waiver rights and limited preemption to non-road vehicles and engines.

## **Attachment A**

### **Heavy-Duty Engine Compliance Programs: Averaging & Banking**

The Engine Manufacturers Association (EMA) supports the use of the heavy-duty engine compliance programs--emissions averaging and banking--as a means to provide manufacturers with flexibility in meeting stringent emissions standards. The emissions averaging program, as promulgated by EPA March 15, 1985, would permit manufacturers, within a given model year, to exceed the NOx and/or particulate emission standards on some engines as long as other engines within the same subclass (weight class, fuel type, operating cycle and application) compensated by emitting at levels below the standards. This regulation is effective beginning with the 1991 model year.

An emissions banking program, as proposed by EPA, extends this averaging concept over a limited time period. If manufacturers are able to pull ahead technology and reduce NOx and particulate emissions below the standards in years prior to a standards change, they would be allowed to bank those credits. For a limited time period following a standards change, the credits could be applied to engines which exceed the standards to bring them into compliance. The banking program would be restricted to engines within a given weight class in a manner similar to averaging. Manufacturers are anticipating this proposal will be promulgated in early 1990.

The 1991 emissions standards require manufacturers to reduce engine emissions levels to 5.0 g/bhp-hr NOx and 0.25 g/bhp-hr particulates representing 17% and 58% reductions, respectively, from 1990 levels. These stringent emissions standards were promulgated with the anticipation particulate traps would be commercially available. This, unfortunately, is not the case. Rather than petition EPA for a reconsideration of the standards, manufacturers have designed their 1991 certification programs to utilize the flexibility of the averaging and banking programs.<sup>1</sup>

Without averaging and banking, engine manufacturers would be required to certify each engine family to the emission standards or pay nonconformance penalties (NCP's). The payment of NCP's would not only increase the cost of engines to society but would

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1. Manufacturers are also anticipating the passage of an EPA rulemaking which will reduce the sulfur content of on-highway diesel fuel to 0.05% by October 1993 and permit the 1991 certification of engines using diesel fuel with a lower sulfur content. Without this rulemaking and the averaging and banking compliance programs, many manufacturers' engine families will be unable to meet the 1991 emissions standards.

result in a deleterious environmental effect because no compensatory reductions would be made by other engines. The averaging and banking programs do neither; rather, they reduce the total cost of emissions compliance and provide an environmental benefit. This is accomplished by:

- ♦ mitigating the cost of more stringent emission control by allowing manufacturers to focus their development programs on engine families which have the lowest cost/benefit ratios,
- ♦ avoiding the inefficiencies and excessive costs associated with developing, certifying and manufacturing an entirely new product line for a given year by staggering this effort over several years,
- ♦ providing engine family emissions offsets which prevent an increase in the air burden,
- ♦ providing an incentive to introduce more effective emission control technology before required by law, and
- ♦ ensuring manufacturers' resources will be aggressively applied to reducing emissions.

As an example of the effectiveness of averaging and banking programs, one manufacturer introduced controls to reduce the particulate emissions of three 1990 engine families by an average 32%. Absent such programs, the introduction of this technology would have been deferred until 1991 when required by law.

EMA understands Congress' intent to avoid regulatory programs which may result in a relaxation of the emission standards. We believe the emissions averaging and banking programs, as designed by EPA, minimize any potential for relaxing the standards. Moreover, these programs will provide economic as well as salutary benefits for society which have not been achievable with present regulatory practices.



*Committee fixed / 2 yr. extension on NOx std.*

Proposed Amendments to  
Title II of S. 1630

Executive Summary

77

Attached are the Engine Manufacturers Association's (EMA) proposed amendments to Title II of S. 1630. The package includes specific statutory language and rationales in support of the following EMA recommendations.

1. Heavy-Duty Emission Standards

*Committee package*

The implementation date for the 4.0 gph NOx standard should be shifted from 1996 to 1998. Two additional years provides manufacturers the minimum lead-time necessary to maximize their opportunity of complying with the combined stringency of a 4.0 gph NOx standard and 0.1 gph particulate standard. Additionally, EPA's previously adopted 5.0 gph NOx standard should be specified for 1991-1997.

2. Standard-Setting Process

By adding specific statutory standards, S. 1630 potentially creates a conflict with the existing standard-setting process in the Clean Air Act. Technical amendments to avoid conflicts and to clarify Congress' intent are necessary.

3. Prohibition Against Averaging

The proposed general prohibition against averaging should be modified to provide a narrow exception for heavy-duty engine manufacturers if certain factors are present. The key factor is the requirement that any such program have no adverse environmental impact. Manufacturers are relying on the availability of a limited averaging program to ease the transition to new, extremely stringent NOx and particulate emission standards.

4. Non-Road Engines

*§ 209*

The existing "California Waiver" provision, which applies to on-road vehicles and engines, should be extended to include non-road vehicles and engines.

*but fed. otherwise*

*[Signature]*



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*all day  
covered  
@ all*

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as long as keep upping the stds, then ok  
to have banking  
→ will not mean do so early &  
then do no more.

## CUMMINS' TENNESSEE SUBSIDIARIES

### FLEETGUARD, INC.

Fleetguard, a subsidiary of Cummins Engine Company, Inc., is a worldwide company, distributing and/or producing filters in North America, Australia, Europe, and Asia from local facilities and exporting to Latin America, the Middle East, China, and Africa. The company employs 2215 people worldwide. Fleetguard's headquarters is located in Nashville, Tennessee and its largest manufacturing facility in Cookeville, Tennessee. The combined employment of these two locations is 820 employees.

Fleetguard offers over 2,000 different air, fuel, lube, hydraulic, and water filter elements. In addition, a full range of cold weather aids, coolant additives and other cooling system products, filter heads and service parts, and a fluid analysis program make up one of the most extensive product lines in the industry. Total company sales were \$270M in 1989, making Fleetguard one of the largest manufacturers of heavy duty and automotive filters in the North American market and in the world.

Fleetguard's selection of oil and fuel filters includes more than 600 cartridge and spin-on elements for use on all makes of gas and diesel engines as well as over 650 air filters to protect commercial equipment in all environmental and duty conditions. Over 500 hydraulic filters in both cartridge and spin-on configurations are also offered to protect hydraulic manufacturing machinery and other industrial markets including aerospace. Rounding out its heavy duty product line are an assortment of fuel water separators, coolant filters, air cleaner housings, and chemical products all designed to extend the life and operating efficiency of engines.

### DIESEL RECON

Diesel ReCon, a subsidiary of Cummins Engine Company, Inc., headquartered in Memphis, Tennessee, is a major remanufacturer of heavy-duty diesel engines and diesel engine components. The company employs 572 people in its Tennessee operations. Total company sales were \$208M in 1989.

# THE WALL STREET JOURNAL

## Survivor's Story

### With Its Spirit Shaken But Unbent, Cummins Shows Decade's Scars

Heartland Company, a Model  
Of Capitalist Benevolence,  
Adapts to Forces of '80s

### A Chairman's Pain at Layoffs

By ROBERT JOHNSON

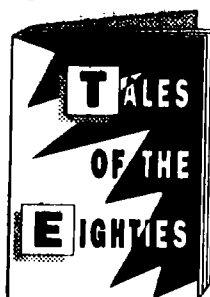
Staff Reporter of THE WALL STREET JOURNAL

COLUMBUS, Ind. — In 1919, Clessie Cummins founded a company with the pledge that he would make good engines first and eventually make a profit.

The latter took 18 years. But the values Mr. Cummins instilled in his fledgling company left it in good stead for the better part of six decades: quality products, happy workers, strong community ties.

Indeed, Cummins Engine Co. is a paradigm of the benevolent side of capitalism.

As much a fixture in this heartland town of 32,000 people as the old church bells, covered wooden bridges and ice cream fountains, Cummins has over the years built a homeless shelter here and financed drug counseling in the public schools. It has long paid the



FIRST OF A SERIES

fees of distinguished architects for public buildings here, and it once even lobbied for a higher state corporate income tax so it could pay more of what it deemed its fair share.

Such largess still left room for handsome profits. By 1979, Cummins had earnings of \$57.9 million, its 43rd straight year in the black. The annual report that year trumpeted, "The 1980s offer exciting challenges for Cummins."

The '80s did bring challenges, though hardly the excitement Cummins expected. Forces largely outside the company's control have left Cummins struggling for its very survival. Cummins, long secure in its isolation, was buffeted by nearly every major upheaval that swept through the decade's economy.

These included a vicious recession, stiff competition from foreign rivals and the relentless demand for profits emanating from Wall Street-backed corporate raiders. Such forces wreaked havoc throughout industrial America, and many of Cummins's Rust Belt neighbors didn't survive.

Cummins itself has been forced into layoffs and plant closings which have halted the steady flow of Columbus youth into jobs on its factory floors. Just prior to announcing the company's first-ever round of layoffs in 1983, Cummins executives met with 30 of the town's clergymen and prayed.

Meanwhile, the company's insistence on spending big bucks for research and development and pursuing long-term goals at the expense of short-term profits has run Cummins afoul of an increasingly impatient Wall Street and brought a hostile acquirer to Cummins's door twice in the last year.

#### Unwanted Investors

First, it managed to turn away the unwanted interest of the British conglomerate Hanson PLC when Columbus's first family, the Millers, put up \$72 million to buy off the British. Then came Industrial

Equity (Pacific), a Hong Kong investor, which continues to hold a threatening 14.9% of the maker of heavy-duty diesel engines. Says Kemper Financial Services Inc. chief economist David Hale, "The company could disappear soon."

This is the story of how Cummins, its people and its town survived, yet were inevitably changed. It raises some particularly troubling questions as managers, bureaucrats and policy makers debate America's declining industrial competitiveness. Cummins is by most accounts well-managed. It has protected its market share against foreign competition. And it adheres to the idealized notion of capitalism that private industry should do social good so that government won't have to. Yet it is threatened as never before.

Discussing his company, Cummins's 55-year-old Chairman Henry B. Schacht, sounds more like Jimmy Stewart in "It's a Wonderful Life" than a 1980s-style chief executive. His 1983 annual report to shareholders listed the company's goal as "being fair and honest and doing what is right even when it is not to our immediate benefit."

#### Balanced Values

Mr. Schacht, who passed up numerous offers from Wall Street to spend 30 years making truck and industrial engines here, now says, "Some say the company's main goal should be to maximize shareholder value. As I say no." He speaks instead of achieving "a balanced set of values that ought to permeate the U.S. financial sector."

Those values, in Cummins's view, include giving more to charity than all but 95 of the Fortune 500 companies in 1988, a year when the company itself didn't make a dime; helping to build a school, a clinic and a gymnasium in a slum area near its new factory in Sao Paulo, Brazil, and sending engines and generators, free of charge, to hurricane victims in South Carolina earlier this year. Says Mr. Schacht with obvi-

ous pride, "Nobody stopped to say, Hey, we aren't making any money."

Nobody at Cummins, maybe. "Cummins is one big, social slush fund," says Greg Jarrel, former chief economist for the Securities and Exchange Commission, who has written extensively on corporate strategy. "An incredibly naive attitude exists at the company, and I think a lot of people involved with it are going to get their hearts broken."

They may include people like Mihir Patel, a high-school senior whose family moved here from India. "You realize growing up here that a big company isn't just out to make money," he says of Cummins.

Or just about the whole town of Columbus. "This town puts a high value on being needed," says J. Irwin Miller, the 80-year-old patriarch of the investment banking family that began lending money to Clessie Cummins 70 years ago. Losing Cummins, he says, "would be a kind of death."

Columbus is an old farm town, 45 miles south of Indianapolis, surrounded by cornfields, and the road leading into town is lined with weeping willows.

Cummins has paid \$9.9 million over the years to get recognized architects to design 24 public buildings here, right down to the new jail by Don Hisaka, a nationally known architect in Cambridge, Mass., who visited Columbus 11 times and worked nine years on the jail's design. Townsfolk like to call Columbus the "Athens of the Prairie."

The pride in their town has long been equalled only by the pride local residents have in their company.

For many years now, at least one out of every 10 Columbians has worked at Cummins. When the benefit packages have historically been so generous, recalls plant manager Mike Cantrell, that when he joined out of college 16 years ago, he was told to name his own salary. When he named a figure he thought more than fair, his Cummins recruiter said it was too low.

The company's emphasis on quality has taken on cult dimensions here. Charles Kessler used to gather his factory-floor trainees around to shame any of one of

them who failed to properly tighten a bolt, and the late manager V.B. MacMullen ranted at workers as a momentarily out-of-place oil can on the assembly line. (People here still talk about long-retired, even dead, employees.)

#### Well-Scrubbed Plant

The main plant is still scrubbed as much as some restaurant kitchens. The kind of messes aren't allowed during breaks on the line, where reaching is limited to the hand and technical manuals.

The company's engines that have to be reworked at the end of Cummins's assembly line are about 1%, fully one-third the industry average. Cummins's engines are primary equipment under the hood of the big-truck lines: Kenworth, Volvo and Peterbilt.

"We don't expect to need any major work on a Cummins engine until 600,000 miles," or 100,000 miles more than most other brands, says Andrew Corrado, owner of a 140-truck steel-hauling fleet in Milan, Ohio. Since he switched to trucks with Cummins engines in 1963, he says his fleet's fuel mileage to 6.2 per gallon from 4.3.

"The best engines a lot of sweat can build—that's what we believe in," says Donnie Wright, a machine-tool operator for 22 years. He points out Cummins-equipped trucks to his wife whenever they are on the highway. "Ours have a special hum, a rumble all their own. When I see one hauling logs, freight or that, it makes me proud to help a trucker feed his family," he says.

It used to be that such pride and commitment could pretty much guarantee success. "From the '50s through the '70s, craftsmanship and higher volume meant you keep going better," says Robert B. Reich, political economist at Harvard University. "This decade shattered a comfortable world where manufacturers improved profits by doing what they always did—just more of it."

#### Grappling With Change

Cummins has spent the '80s both bowing to and stubbornly resisting change. It has refused to chop its charitable spending. It won't cut its budget for research and development of improved engines, which annually exceeds \$100 million. And it abso-

lutely won't consider leaving Columbus for a lower cost, nonunion site somewhere in the South. Some of the company's young M.B.A.s "say we can reduce this thing to dollars and cents, but we won't," says Cummins president James Henderson, himself a Harvard M.B.A. and a 25-year Cummins veteran.

Cummins's biggest problem has been the threat of foreign competition, which first began nibbling the U.S. diesel engine market in 1974. Companies such as Nissan Motor Co., starting power factories and cheaper plants, entered the U.S. market with engines selling for as much as 20% less than those of Cummins.

Foreigners don't seem to mind. Cummins decided that its future depended on holding out heavy discounts at a heavy price. It began slashing prices even more than the Japanese. It was selling some engines at 40% markdowns. The effect on profit was devastating. Cummins sustained a \$107 million loss in 1986.

At the same time, the company has undertaken a decade-long move to modernize its production processes, which has upset just about everyone at the company in one way or another. High technology has come to the factory floor, some factories have been closed, and thousands of jobs have been lost.

#### Enter the Robots

"When the supervisor told us robots were coming into our section, I asked how hard we'd have to work to keep them out," says Robert Schillawant, a 25-year veteran engine tester. The answer was, "No one can work that hard."

Robots have eliminated 40 of the 100 jobs in the testing sections at Mr. Schillawant's plant in the last five years. Each robot tests 20 new engines a day, compared to two by each human.

"We take pride in listening to an engine and knowing if there is something wrong. But more and more, machines do the listening. You have to wonder if the company's dying when there's no young guys coming up for you to pass skills along to," he says.

Until the last few years, it was common for highly rated plant workers to be promoted into management jobs. Larry Kirk,

a 30-year career, recently shunned such an offer—along with its prestige and 10% raise. "Fifteen years ago my goal was to move up. But it means leaving the union—giving up all protection if there is another cutback. Now I just can't take that chance; I have to stay where I am," he says.

The heaviest impact on workers—and on Columbus—has been the layoff of roughly 4,000 people in Columbus during the decade. On his way to work in the morning, Mr. Schacht occasionally passes by a local unemployment office, saddened by the knowledge that many of those he sees inside were put there by him. He says no one waiting in the unemployment line has ever been abusive, although nearly everyone in town recognizes him. "It would be easier if they ranted and raved. But they make it hard by saying, 'I wish things could be different. I wish I could help.'"

#### Trouble for Cummins

Officials in Columbus attribute what they portray as ominous changes in the social fabric of this town directly to the problems at Cummins. County Sheriff Rick Hill, whose late father worked 25 years on a Cummins assembly line, says his department has investigated 300 cases of domestic disputes in the first 10 months of this year, a 37% increase from the same period four years ago. "A lot of them involve families with members who got from Cummins making \$15 an hour," he says. "Now he's making \$5 an hour flipping burgers. There's disillusionment and tension that goes with that."

The sheriff recently offered 14 new clerical jobs paying \$7.75 an hour at the new jail. "We got 200 applications. Ten years ago people didn't line up in Columbus for that kind of money," Mr. Hill says.

Mr. Hill also notes that "today, our population is a different breed. We've had our first home invasions in the last couple of years. Violent assaults. It's kind of shocking," he says softly.

Rising crime in Columbus coincides with "jaded values and lower expectations," says Stan Franke, a sheriff's detective who investigates juvenile offenses. High-school graduates could previously aspire to be hired into one of three Cummins plants at top wages. But the company hasn't hired a single new plant worker since 1978. "I'm beginning to hear kids say

there isn't a future in Columbus anymore," says Mr. Franke. The county had 200 reported car-jack runaways last year, compared to about 50 in 1979.

Despite all this gloom, Cummins officials continue to preach to employees, community officials and Wall Street that they do have a survival plan—they just need more time to pull it off. The company now has 54% of the U.S. heavy-duty diesel engine market. Its research department has successfully developed several smaller engines for use in trucks and speedboats. It says costs are down 22% since 1983, when a reduction program began.

The layoffs and unpopular modernization hasn't cost Cummins all of its distinctive workplace culture. The electronic mail slot of Mr. Henderson, the company president, bulges daily with criticisms and suggestions, signed by workers, which he encourages them to send. One worker's note complains that he is receiving overtime pay, while his friends suffer through layoffs. Mr. Henderson responds that he can't bring back workers merely to fill a few orders that take longer than expected.

The company still has the staunch support of the powerful Miller family, which rescued it from the Hanson threat. "In much of the country, the '80s were the decade of the grasshopper in Aesop's fable: spending, consuming and instant gratification," says 33-year-old William I. Miller, son of J. Irwin Miller, president of his family's investment concern and an influential member of the Cummins board. "But we are a town of somewhat nerdy, hard-working ants, taking pride in our labors," he says.

#### Dashed Hope

The much hoped-for turnaround seemed to have arrived earlier this year, when Cummins recorded two quarters of strong profits. But then came the distractions of the hostile takeover threat, along with a sudden downturn in new truck sales. The company lost \$39.7 million in the third quarter. Wall Street was once again dismayed. Says analyst Steve Colbert of Prudential-Bache Securities Inc., Cummins has been "in a long-term mode for 10 years. . . . Schacht sounds great, but at some point there's got to be a payout for all this spending."

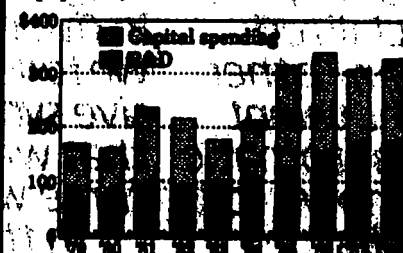
Industrial Equity isn't saying what it plans to do with its Cummins stake. Meanwhile, Mr. Schacht has been looking for another friendly investor to join with the Miller clan and give Cummins some long-term protection.

"Cummins has a fantastic future because it isn't just factories, machines and cash," says the elder Mr. Miller, a former Cummins chairman and still a close adviser to Mr. Schacht. "It's outstanding people who take intense pride in their work and their community."

"The gloomiest predictions have all been wrong so far," he continues. "My mother used to say the last good year was 1910."

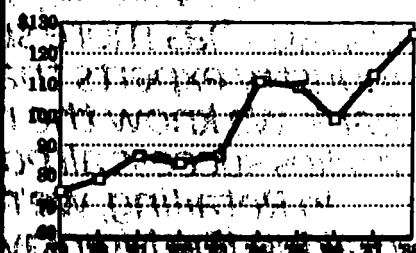
#### Despite hefty investments...

Outlays for R&D and plant and equipment, in millions of dollars



#### And rising productivity...

Sales per employee, in thousands of dollars



#### Profits have been erratic

Net income in millions of dollars



#### And its stock trailed the Dow

Quarterly data indexed to Dec. 31, 1979 = 100

