

# Barnes Group Inc.

*Expanding Services, Product Base and Marketplace*  
**1998 Annual Report**



BOWMAN DISTRIBUTION

BARNES AEROSPACE

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ASSOCIATED SPRING

BOWMAN DISTRIBUTION

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# Corporate Profile

## Barnes Group Inc. Corporate Profile and Financial Highlights

### On the Cover

This year's annual report, *Expanding Services, Product Base and Marketplace*, recognizes that these critical elements, in addition to the Company's continued pursuit of strategic acquisitions, will play a vital role in Barnes Group's future growth into the next millennium.

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Barnes Group Inc. (NYSE: B) is a diversified international manufacturer and distributor, serving a wide range of industrial markets with precision metal parts and industrial supplies. Founded in 1857 and headquartered in Bristol, Connecticut, Barnes Group consists of three separate businesses employing 3,847 people at 42 locations worldwide.

**B**arnes Aerospace is a worldwide producer of machined and fabricated components and assemblies for aircraft engine and airframe builders, and provides engine component overhaul and repair services for many of the world's major commercial airlines. Barnes Aerospace has

earned an international reputation for serving the original equipment manufacturer, and overhaul and repair markets. Its machining operation produces critical engine parts, and its fabrication operation specializes in hot and cold forming of complex parts made from titanium and other aerospace alloys. Additional capabilities offered by the aerospace business include superplastic forming and diffusion bonding, and machining of aluminum and other sheet metal products. The overhaul and repair business of Barnes Aerospace specializes in the refurbishment of jet engine components.

**A**ssociated Spring has served as one of the world's leading precision spring manufacturers since its founding in 1857. Today more than 90 percent of its business focuses on providing highly-engineered custom solutions for a range of transportation, electronics and industrial applications, including precision stampings and assemblies designed to meet the exacting requirements of durable-goods manufacturers. Key markets include the automotive, transportation, electronics, communications, aerospace, nuclear, and petrochemical markets. As a high-technology manufacturer, Associated Spring has built on its basic strengths with advanced automated systems and research facilities, highly specialized capabilities and services, and a talented team of engineers and manufacturing professionals.

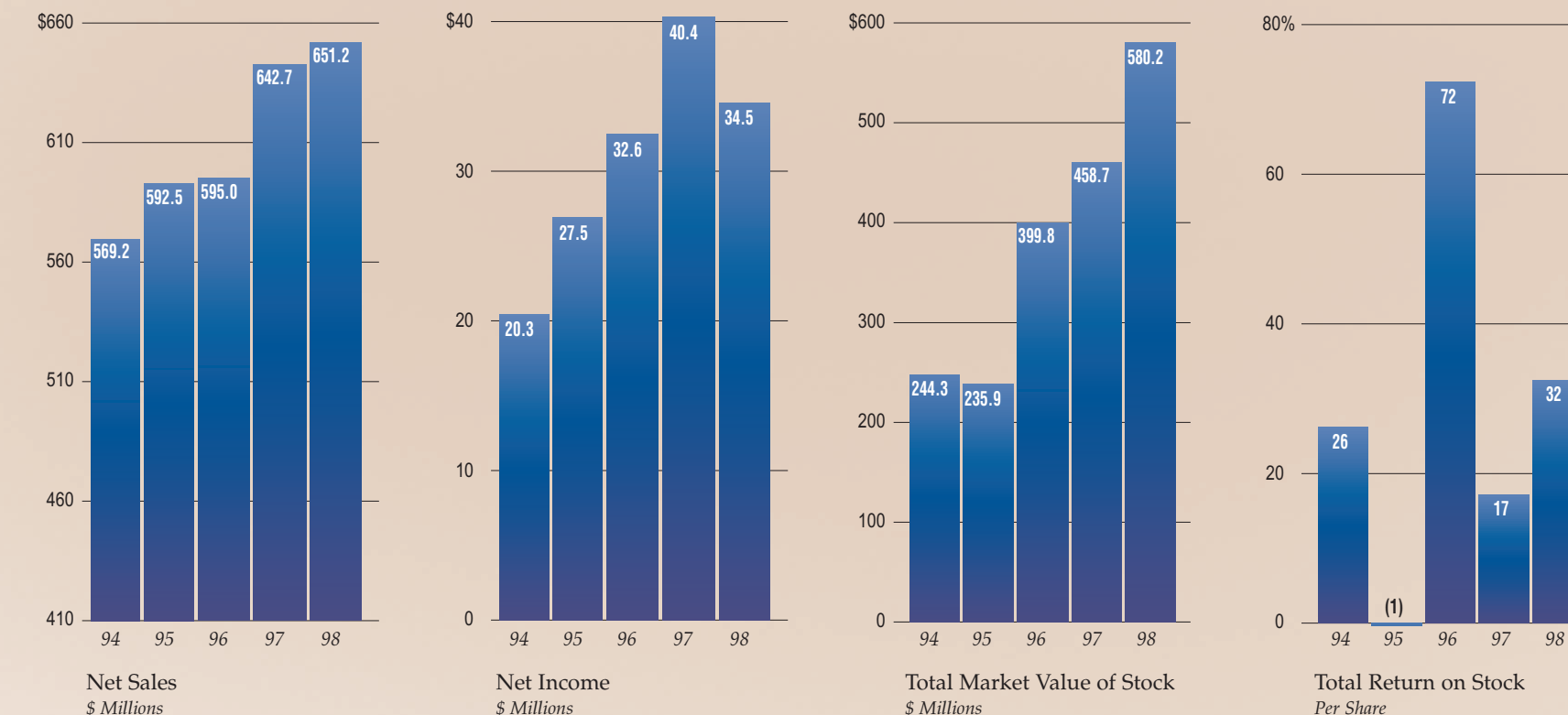
**B**owman Distribution has been an industry leader in the distribution of maintenance, repair and operating supplies (MRO) since 1927. It is one of the world's largest MRO distributors, and has grown into an international logistical management business serving thousands of customers in North America and Europe. Bowman uses innovative methods to solve customer issues, and has excelled over the years by focusing on inventory management services, technical support programs and superior quality products tailored to customer needs. Bowman Distribution's primary goals are to help customers maximize their MRO performance and to provide continued productivity support improvements by using the latest technology to manage and control basic logistical costs.

(Dollars in thousands, except per share data)

Years Ended December 31,	1998	1997	1996
Net sales	\$651,183	\$642,660	\$594,989
Operating income <sup>(1)</sup>	55,221	65,766	55,316
Net income <sup>(1)</sup>	34,494	40,423	32,568
Net income per share: <sup>(1)</sup>			
Basic	1.72	2.00	1.63
Diluted	1.69	1.96	1.61
Capital expenditures	34,571	33,398	33,892
Stockholders' equity at year-end	188,674	180,859	157,164
Return on average equity	18.4%	23.4%	22.8%
Dividends paid per share	.69	.65	.60

(1) Includes a \$12.9 million pretax, \$7.7 million after-tax charge (\$0.38 per share) against income related to the accelerated retirement package for the retired president and chief executive officer of the Company.

All per share data adjusted for three-for-one stock split, effective April 1997.



# Stockholders' Letter

*A Message to Our Stockholders*



**Thomas O. Barnes**  
Chairman of the Board

**Edmund M. Carpenter**  
President and  
Chief Executive Officer

The year 1998 was an eventful one for Barnes Group. The Company moved quickly to effect a smooth management transition from its retired president and chief executive officer, Theodore E. Martin, to its new president and chief executive officer, Edmund M. Carpenter.

The board of directors, officers and employees wish to thank Ted for his many years of service to the Company.

We are pleased with our financial performance.

Net income for 1998, before the nonrecurring expense, was again at a new high. The Company's 1998 basic earnings per share were \$2.10 before a nonrecurring expense of \$0.38 per share related to the accelerated retirement package for its retired president and chief executive officer. This \$2.10 per share is a 5 percent increase over the record \$2.00 per share for the comparable period in 1997.

Net income for 1998 was \$42.2 million, or \$34.5 million after the nonrecurring expense, compared with \$40.4 million for the same period a year earlier. We are pleased to report a sales increase for 1998, to \$651 million from \$643 million in 1997.

In 1998, the Company raised its quarterly cash dividend payment for the fourth time in the last four years, by 7.8 percent to 18 cents per share.

On December 8, 1998, Barnes Group announced the appointment of Edmund M. Carpenter as its new president and chief executive officer, and newly-appointed member of the board of directors. Mr. Carpenter's background includes a solid record of business and financial management achievement as well as leadership, team building, and technical and marketing skills.

Before joining Barnes Group, Mr. Carpenter was a senior managing director at the New York private investment firm of Clayton, Dubilier & Rice.

From 1988 to 1995, Mr. Carpenter served as chairman of the board and chief executive officer of General Signal, a leading manufacturer for the process control, electrical and industrial technologies industries. Before joining General Signal, he held a series of high-level positions at ITT Corporation, culminating in his appointment as president and chief operating officer.

Other key management transitions occurred in 1998. In April, the Company announced the appointment of John R. Arrington as senior vice president of human resources. Mr. Arrington has more than 20 years of strong human resources executive experience in top-tier corporations. Before joining Barnes Group, he was vice president of human resources for U.S. West Communications Group. In June, Harry G. Saddock Jr. was elected a corporate officer and appointed vice

president of operations at Associated Spring, where he is responsible for the entire business unit's manufacturing divisions. Prior to his recent appointment at Associated Spring, Mr. Saddock served as president of Barnes Aerospace's overhaul and repair unit.

Early in 1999, the Company announced the appointment of Leonard M. Carlucci as president of Associated Spring. Mr. Carlucci, a 22-year employee of Barnes Group and an officer of the Company, was formerly president of Bowman Distribution, headquartered in Cleveland, Ohio. Prior to his appointment as president of Bowman Distribution, Mr. Carlucci was vice president of marketing and sales for Associated Spring. He is credited with stabilizing Bowman Distribution and with leading it to improved profitability. As president of Associated Spring, he will develop and implement an effective growth strategy for the business.

Barnes Aerospace, led by its president, Cedric D. Beckett, once again turned in record year-over-year results in sales and profit, due to the strong commercial aviation engine and airframe markets. Sales for the group were \$155 million, up 13 percent from \$137 million for 1997. Profits for the group were \$17.3 million for 1998, up 20 percent from \$14.4 million for the comparable period a year ago. Both Windsor Manufacturing, a turbine engine component manufacturer, and Windsor Airmotive, an overhaul and repair business provider, turned in significant sales and earnings increases during 1998.

Associated Spring reported sales of \$262 million for 1998, compared with \$259 million for 1997. Profit for 1998 was \$29.1 million, compared with 1997's profit of \$29.4 million. Associated Spring's North American operations turned in a solid year-over-year performance, and its operation in Mexico reported a strong turnaround — indicating a successful resolution of the operating issues encountered in 1997. As reported earlier this year, Associated Spring's financial results were negatively impacted by the GM strike and the economic situation in Asia, which is affecting Associated Spring's traditionally strong Singapore operation.

Bowman Distribution (Bowman) reported sales of \$247 million for 1998 compared with \$259 million for the prior year, while profits increased to \$40.4 million in 1998, up from \$38.9 million in 1997. Bowman's 1998 sales shortfall resulted primarily from a decline in volume due to the loss of a large customer and from inefficiencies caused by the refocus of Bowman's sales efforts to meet the changing requirements of larger customers. Bowman nevertheless continued to aggressively manage costs, thereby minimizing the impact of the sales shortfall, particularly in the first half of 1998.

The measure of our success is how well we grow the value of Barnes Group for our stockholders. As we approach the new millennium, our goal is to accelerate the momentum we began in 1994, creating value for our shareholders and continuing to grow sales, operating income, and earnings per share. To

help ensure this success, Barnes Group has assembled an outstanding team of employees and management staff. This team is focused on working with our new president and chief executive officer to assure Barnes Group's growth by expanding markets, introducing new products, and becoming more customer-focused in our existing operations, while aggressively pursuing appropriate acquisition opportunities.

Thomas O. Barnes  
Chairman of the Board

Edmund M. Carpenter  
President and Chief Executive Officer

# Barnes Aerospace

... a product-, market-, and service-driven company

Capitalizing on its ability to fabricate aerostructure assemblies and machine turbine engine parts from aerospace metals, Barnes Aerospace provides detail parts, subassemblies and kits to aviation original equipment manufacturers (OEMs). As these worldwide OEMs find it increasingly necessary to control their direct and indirect costs, they are increasingly outsourcing tasks to suppliers.

In 1998, Barnes Aerospace continued to focus its efforts on increasing its profile in the aerospace marketplace to take advantage of this trend. The business successfully positioned itself as a partner with its customers, taking on the assembly of larger adjacent sections of the engines. To accomplish this partnership goal, the aerospace business realigned itself to take on a "customer focus," making it easier for customers to do business with Barnes Aerospace.

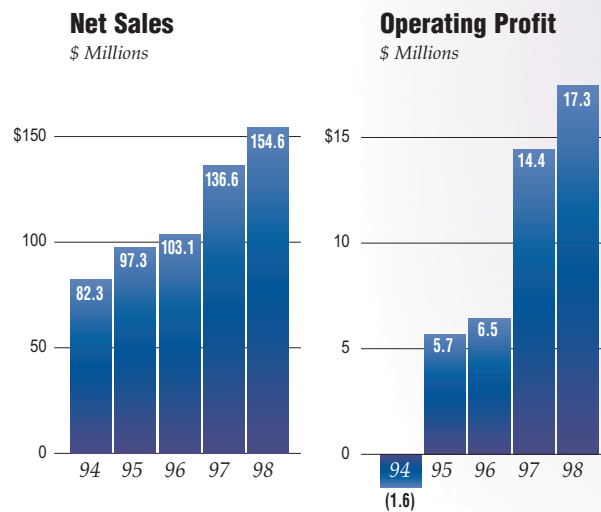
The turbine engine business succeeded in winning strategic new business with Rolls-Royce for its 700 and 800 Series Trent Turbine Engines. To further its relationship with Rolls-Royce, Barnes Aerospace opened a sales office in the U.K. Meanwhile, General Electric (GE) Aircraft Engines continued to be a large, strategic customer in 1998, with Barnes Aerospace fully participating in GE's "Six Sigma" quality initiative.

Barnes Aerospace's aerostructures unit continued expanding its relationships with Boeing and Bell Helicopter. This year, Barnes Aerospace executed the "partnership strategy" by successfully securing a major subcontractor role on the Bell 609 commercial tiltrotor aircraft project.

The overhaul and repair unit developed new, complex repairs for the world's largest commercial engine manufacturers: Pratt & Whitney, Rolls-Royce and GE. Overhaul and repair also completed an agreement with Rolls-Royce to develop engine case repairs for a variety of commercial engines. The business had a banner year, leveraging its strong relationships with Singapore Airlines as well as Northwest, Korean and Japan Airlines.

In 1999, Barnes Aerospace will grow through continued execution of its partnership strategy by anticipating and being responsive to the needs of its customers.

## 21st-century manufacturing skills and equipment and concurrent engineering will increase Barnes Aerospace's future market share.



## New Products... New Markets

Photo above:  
**Kaizen Manufacturing** Utilizing Kaizen techniques, such as cell manufacturing, in its entire operation, is one way Barnes Aerospace reduces customer costs and improves overall product quality.

Photos left, clockwise from bottom:  
**New Customers and New Markets** Paul O'Sullivan, machinist, works on a Rolls-Royce Trent 800 Series tail bearing housing prior to sending it on for additional machining operations. Developing new customers and products is one way Barnes Aerospace will grow its business in the future.

**Customer Service** Gaston Pombar, engineering supervisor; William Gonet, marketing and sales manager; and Kristen Hanson, customer service representative, regularly meet to discuss new and existing client needs and services.

**Custom Overhaul and Repair Services** Barnes Aerospace's Windsor Airmotive business provides customized overhaul and repair services on jet engine parts.

**ISO 9002 Certification** Lascelles Henry, vertical turning lathe machinist, performs quality-control measurements on a Pratt & Whitney turbine case. Attention to detail and specification is the hallmark of Barnes Aerospace's ISO 9002 certification.

# Associated Spring

...virtual partnerships with customers help create new products and new markets

For nearly a century and a half, Associated Spring has manufactured precision spring components serving a wide range of industrial and consumer markets. These include automotive, transportation, electronics, telecommunications, appliance and medical equipment and supplies.

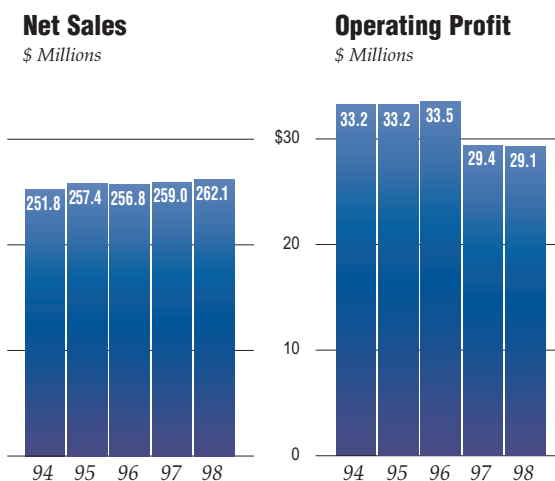
Growth for Associated Spring will come from its ability to design, engineer and manufacture innovative components and redesign existing ones. Its innovations are value driven and incorporate advanced manufacturing techniques. Associated Spring's customers continually indicate they want to outsource indirect costs and operations to vendors who are capable of becoming their virtual partner. As a concurrent engineering and manufacturing virtual partner, Associated Spring assigns engineers to directly participate on customer design teams, designing and developing specific subassembly

components for use in the customer's final product. Upon successful completion of the initial product design phase and prototype, Associated Spring is awarded the manufacturing contract. Such a contract can represent several years of production work and substantial financial rewards.

Associated Spring made further gains in the Japanese automotive transplant market, including the successful launching of several new spring components. Associated Spring also initiated and completed capital equipment productivity improvement projects at the group's Bristol, Burlington, Corry, Dallas, Milwaukee, Saline and Syracuse facilities. Capital equipment investments such as these allow Associated Spring to price competitively by reducing manufacturing costs and improving product quality.

The business remains committed to providing complete engineering solutions from conception to manufacturing. Associated Spring's ability to conduct product design and development, physical product and material testing, rapid prototyping and reduce manufacturing-cycle times, enhances its core competencies and market growth.

**Concurrent engineering, capital equipment purchases and employment of innovative manufacturing techniques will ultimately reduce customer costs.**



## New Products... New Markets

Photo above:

**Integral Quality Checks** At Associated Spring's Dallas facility, quality engineer, Paula Bodine, reviews data recorded by machine operators on the fuel system cell line that manufactures the Caterpillar zero-degree cut-off spring. Quality engineering is critical in all Associated Spring manufacturing phases, as customers have come to expect the highest level of quality from our products.

Photos left, clockwise from bottom:

**R&D for New Products** Teresa Lim, tool designer for Associated Spring Singapore, evaluates the battery contacts for a Motorola cell phone. To reduce customer costs, Associated Spring designed a one-piece battery contact component utilizing computer-aided design and computer-aided manufacturing techniques, and three-dimensional imaging.

**New Market** Prakash Frederick Robinson, tool designer for Associated Spring Singapore, was instrumental in designing several parts used in the manufacture of the TAIT Electronics portable two-way radio which is currently being marketed in New Zealand.

**Consumer Market** Development of the Levolor® cordless window blind assembly afforded Associated Spring another opportunity to expand into the consumer market.

Levolor® is a registered trademark of Newell Operating Company.

**Concurrent Engineering** Associated Spring's and Caterpillar's research engineers teamed up to develop a new and unique zero-degree cut-off spring for use in Caterpillar diesel engine fuel injection systems. This new spring, now manufactured by Associated Spring, is another example of how the businesses close association with its customers leads it to develop new products in new markets.

# Bowman Distribution

...many service options and a variety of products open doors to new markets

Bowman Distribution (Bowman) continued to differentiate itself from its competitors in 1998 by strengthening its logistic management capability and integrating the supply chain into a streamlined process. Focusing on long-term growth, the business also implemented system and organizational changes to improve customer service.

Bowman's ability to meet its long-term growth objectives relies heavily on the completion of its Project 2000 Business Information System's program (Project 2000). Initiated in 1997, Project 2000 will affect every Bowman employee in North America, France and the United Kingdom. The project includes new systems to improve product delivery and order fulfillment rates, and enhance customer information.

Project 2000 links suppliers and customers to Bowman more efficiently than ever before. Key project segments are the warehouse management, supply-chain planning and purchasing systems, plus a proprietary electronic part-number catalog.

The warehouse management system provides customers with improved service and performance. It is a major focus in Bowman's distribution centers, where people, processes and systems combine to yield major gains in accuracy, speed and flexibility in delivering products to customers. For example, the new radio frequency scanner system will result in orders shipped with almost 100 percent accuracy in product, quantity and billing data.

The supply-chain planning system forecasts customer demand, adjusting for future marketing programs, and optimizing Bowman inventory. It also generates product purchase recommendations based on customer demand at each distribution center.

The purchasing system is fed information from the supply-chain planning system, and relies on the customer order processing system and new part-number catalog. The Intranet-based catalog provides superior capabilities in managing part-number descriptions, inventory levels, pricing and manufacturer information. Together, the systems reduce the order delivery-cycle time and improve customer service.

These enhancements provide Bowman's sales force with tools to win new customers and increase sales penetration with existing customers. The final implementation of Project 2000, in 1999, sets the stage for an exciting transition into the 21<sup>st</sup> century.

**Project 2000 will significantly enhance customer service through increased efficiencies and speed in Bowman's business processes.**



## New Products... New Markets

Photo above:

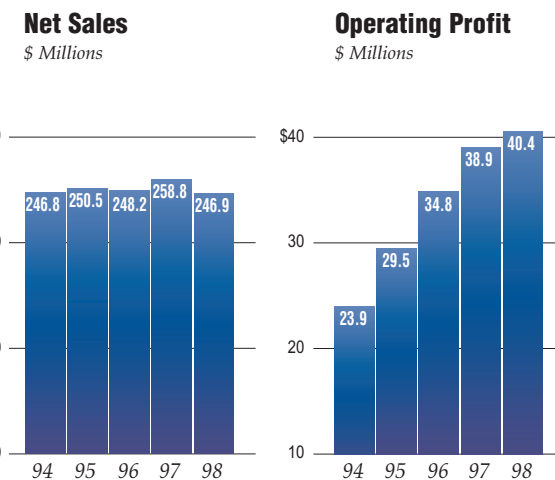
**New Proprietary Software** Lou DiFrancesco, North American inventory manager, and Jim Walsh, industrial supply buyer, review the new Bowman proprietary Intranet-based part-number catalog. This new software consolidates into one program all of the necessary information a Bowman employee may need to access part numbers, warehouse stock inventory and special order items.

Photo, far left:

**Marketing New Product Lines** Providing customer service support to its MRO customers is critical to Bowman Distribution's success. JoAnn Calcinari, customer service representative, markets a new line of Raymond fasteners to customers. Raymond Distribution's realignment in 1998 from Associated Spring to Bowman Distribution successfully expanded its channels of distribution to offer its customers a larger selection of products.

Photo, top left:

**Developing New and Varied Service Options** Bowman Distribution uses a team approach to find solutions that will best satisfy the needs of its customers with innovative products, technology and service. Thomas Ostrander, group director of distribution and logistics; Sandra Dixon, human resources manager for Bowman North America; and Eugene Campbell Jr., manager of business development and strategic planning, meet to discuss future Bowman servicing options.



## Five-Year Operating Results

Barnes Group Inc.



### Improving Manufacturing Processes Often Leads to Reduced Customer Costs

At Associated Spring's Dallas, Texas, facility, Henry Hernandez, supervisor, and Susana Chapa, machine operator, work together to develop a better way to manufacture a component on a stamping machine. Throughout Barnes Group, supervisors and employees work in teams to solve problems or improve manufacturing processes, ultimately driving down customer costs.

### Barnes Aerospace (Dollars in millions)

	1998	1997	1996	1995	1994
Net sales	\$154.6	\$136.6	\$103.1	\$ 97.3	\$ 82.3
Operating profit	17.3	14.4	6.5	5.7	(1.6)
Assets (average for the year)	83.8	83.9	77.5	70.6	71.2
Capital expenditures	8.3	7.9	9.4	7.8	3.7
Depreciation and amortization expense	7.0	8.0	8.8	9.8	10.5
Order backlog (at year-end)	124.8	131.4	103.4	54.4	53.6
Yardsticks of profitability:					
Operating profit margin	11.2%	10.6%	6.3%	5.9%	(1.9%)
Return on average assets	20.6%	17.2%	8.4%	8.1%	(2.2%)

### Associated Spring (Dollars in millions)

	1998	1997	1996	1995	1994
Net sales	\$262.1	\$259.0	\$256.8	\$257.4	\$251.8
Operating profit	29.1	29.4	33.5	33.2	33.2
Assets (average for the year)	154.1	153.3	148.4	133.7	115.0
Capital expenditures	18.3	18.3	21.3	23.8	23.3
Depreciation and amortization expense	15.3	14.2	12.7	11.3	8.9
Order backlog (at year-end)	45.1	53.9	47.8	56.7	54.5
Yardsticks of profitability:					
Operating profit margin	11.1%	11.3%	13.0%	12.9%	13.2%
Return on average assets	18.9%	19.1%	22.6%	24.8%	28.8%

### Bowman Distribution (Dollars in millions)

	1998	1997	1996	1995	1994
Net sales	\$246.9	\$258.8	\$248.2	\$250.5	\$246.8
Operating profit	40.4	38.9	34.8	29.5	23.9
Assets (average for the year)	89.3	86.7	85.0	86.9	83.2
Capital expenditures	7.5	7.0	3.1	4.0	4.8
Depreciation and amortization expense	5.3	5.1	4.3	4.8	3.5
Yardsticks of profitability:					
Operating profit margin	16.4%	15.0%	14.0%	11.8%	9.7%
Return on average assets	45.3%	44.9%	41.0%	34.0%	28.8%

## Our Business

Barnes Group is a worldwide manufacturer of precision metal parts and an industrial maintenance logistics Company with three business segments. The Barnes Aerospace segment manufactures precision components and fabricated assemblies for commercial and military aircraft, and provides overhaul and repair services for large commercial aircraft engines. The Associated Spring segment is a manufacturer of assemblies, high precision springs, wireforms and stampings for the transportation, industrial, electronics and telecommunications markets. The Bowman Distribution segment provides consumable repair and replacement products for industrial, heavy equipment and transportation maintenance markets, as well as, distributes close-tolerance engineered metal components manufactured principally by Associated Spring. Through these three businesses, Barnes Group works with its customers' organizations to help them realize the benefits of its manufacturing capabilities and logistics management to enhance their competitiveness and responsiveness.

## Results of Operations

For 1998, Barnes Group reported record sales for the fifth consecutive year. Sales were up \$8.5 million to \$651 million compared to \$643 million in 1997. The 1998 increase reflects sales growth at Barnes Aerospace and Associated Spring, which was partially offset by a sales decline at Bowman Distribution. In 1997, sales were up 8% from 1996 levels, as a result of growth at all three business segments, particularly at Barnes Aerospace, where sales increased 33%.

Operating income before a nonrecurring expense increased for the sixth consecutive year, up 4% in 1998 to \$68.1 million, compared to \$65.8 million in 1997. Including the nonrecurring expense of \$12.9 million related to the accelerated retirement package for its retired president and chief executive officer, operating income for 1998 was \$55.2 million. The 1998 profit growth was driven by higher sales volume and improved productivity at Barnes Aerospace and aggressive cost management at Bowman Distribution. This profit growth was partially offset by lower profits at Associated Spring, resulting from lower sales in the Asia/Pacific region and

costs related to product line rationalization, which included a plant closing. Operating income in 1997 was \$65.8 million, a 19% increase over 1996. The 1997 profit growth was driven by higher sales volume, improved productivity and continued cost reductions at Barnes Aerospace and Bowman Distribution.

Operating margin, before the nonrecurring expense, has steadily increased to 10.5% in 1998 from the 10.2% and 9.3% reported in 1997 and 1996, respectively. This reflects higher sales volume and lower selling and administrative expenses, partially offset by increased cost of sales. Lower selling and administrative expenses were driven in large part by Bowman Distribution's ongoing efforts to lower its operating expenses in line with its strategy to become the most efficient provider of logistical management services. In 1998, cost of sales as a percentage of sales increased to 66.9% compared to 66.4% in 1997 and 64.7% in 1996. This is a result of a change in the revenue mix among the three business segments and lower margins associated with new products and larger customers at Bowman Distribution.

## Segment Review — Sales and Operating Profit

Barnes Aerospace sales were \$155 million in 1998, up 13% from 1997, which followed an increase of 33% over 1996. In 1998, sales growth was driven by its turbine engine components and overhaul and repair units. Both operations benefited from the strong commercial aviation market as well as from increased penetration of their customer bases. This growth was partially offset by lower sales at its aerostructures business in Ogden, Utah, which was impacted by reduced customer backlog and changes in customer requested delivery schedules. All aerospace businesses reported sales growth in 1997.

Barnes Aerospace operating profit increased 20% to \$17.3 million in 1998 compared to \$14.4 million in 1997. In 1996, the business reported operating profit of \$6.5 million. The increase in profits for 1998 reflected higher sales volume coupled with ongoing productivity improvements and cost containment. In late 1997, the integration of operations that serve the OEM markets resulted in a more effective utilization of existing

## Management's Discussion and Analysis

Barnes Group Inc.

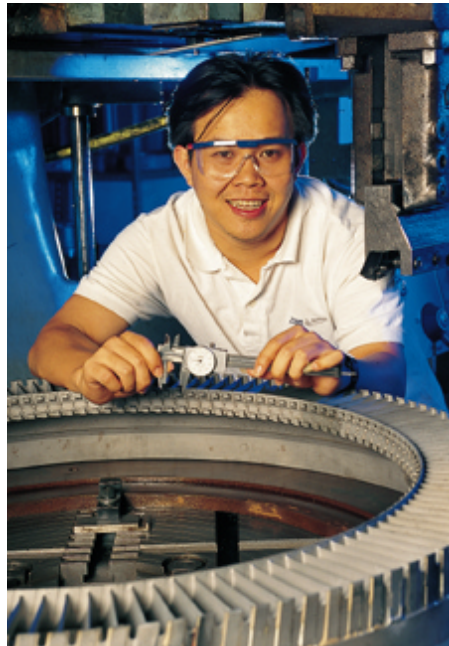


### High-Quality Control Standards are the Customers' Assurance They will Receive Reliable, High-Quality Products

Melvin Foo, testing inspector for Windsor Airmotive's Singapore facility, performs a quality-control check for roundness concentricity with a coordinate measuring device on a Rolls-Royce stub shaft part used in its RB211-324 engine. Barnes Aerospace is a global provider of gas turbine engine overhaul and repair services.

## Management's Discussion and Analysis

Barnes Group Inc.



### Developing New Markets will Contribute to Barnes Group's Future Sales and Revenue Growth for Years to Come

Yong Chee Kong, a vertical lathe machinist at Windsor Airmotive's Singapore facility, performs critical overhaul and repair service work on a Rolls-Royce assembly part.

The ability to offer a wide selection of customer services is instrumental in the business' growth plans.

resources to meet customer needs. The above actions resulted in Barnes Aerospace again achieving record sales and earnings in 1998.

Associated Spring sales for 1998 were \$262 million, up slightly from \$259 million in 1997. Sales in 1996 were \$257 million. In 1998, sales at Associated Spring's North American operations increased, reflecting a strong domestic economy and further penetration of non-automotive markets. However, these business units were impacted by lower sales to General Motors (GM), most of which was attributable to the GM strike in the third quarter. International operations sales were down, largely resulting from the economic uncertainties in the Asia/Pacific region.

Associated Spring reported operating profit of \$29.1 million in 1998 compared to \$29.4 million in 1997 and \$33.5 million in 1996. Though 1998 sales rose slightly, profits declined reflecting the adverse impact of the GM strike, the product line rationalization, and the ongoing economic situation in Asia. Partially offsetting this decline was the solid year-over-year performance at Associated Spring's North American operations and the strong turnaround at its Mexico operation. Profits declined in 1997, reflecting softness in the Asia/Pacific markets, costs related to the Milwaukee facility expansion and the operating issues at its manufacturing facility in Mexico.

Bowman Distribution sales for 1998 were \$247 million compared to \$259 million in 1997 and \$248 million in 1996. Bowman North American 1998 sales were down year-over-year by 5%, primarily the result of the loss of a large customer and the continued refocus of its sales efforts to meet the changing requirements of larger customers. In Europe, Bowman Distribution's sales were flat, as management withdrew from smaller, less profitable accounts to focus its efforts on developing larger industrial accounts.

Effective January 1, 1998, management responsibility for Raymond Distribution, a distributor of die springs and precision stock springs, was transferred from Associated Spring to Bowman Distribution.

Bowman Distribution's operating profit in 1998 of \$40.4 million increased \$1.6 million, or 4%, from 1997. The 1997 level of \$38.9 million increased \$4.1 million, or 12%, from 1996. The gains in operating profit reflect lower operating expenses in both Bowman North America and Raymond Distribution. Continued productivity improvements and cost reductions are crucial to the business' strategy where competitive pricing is a key to success.

### Non-Operating Income/Expense

In 1998, 1997 and 1996, other income included \$2.6 million, \$1.8 million and \$1.6 million, respectively, from the Company's equity investment in NASCO. Foreign exchange gains, another component of other income, were \$0.2 million in 1998 and \$2.1 million in 1997. These gains compare with a foreign exchange loss of \$0.8 million in 1996, which is included in other expenses.

Interest expense decreased in 1998, as a result of lower debt levels and lower interest rates. The 1997 and 1996 interest expense reflect comparable borrowing levels and interest rates.

### Income Taxes

The Company's effective income tax rate has declined steadily over the last five years. The Company's effective tax rate was 36.9% in 1998 compared with 37.3% in 1997 and 37.7% in 1996. The lower rate in 1998 was due in part to implementing tax reduction strategies, as well as lower state taxes and the favorable tax impact of the higher NASCO equity income.

### Net Income and Net Income Per Share

Consolidated net income was \$42.2 million in 1998 (\$34.5 million including the nonrecurring expense), \$40.4 million in 1997 and \$32.6 million in 1996. On a basic earnings per share basis, income for 1998 was \$2.10 (\$1.72 including the nonrecurring expense), compared to \$2.00 in 1997 and \$1.63 in 1996. Diluted earnings per share shows the same positive trend as basic earnings per share, increasing from \$1.61 in 1996 to \$1.96 in 1997 to \$2.07 in 1998 (\$1.69 including the nonrecurring expense).

In April 1997, stockholders approved an increase in authorized common shares from 20 million to 60 million and a three-for-one stock split. All per share data reflects the stock split.

### Inflation

Management believes that during the 1996-1998 period inflation did not have a material impact on the Company's historical financial statements.

### Liquidity and Capital Resources

The Company's ability to generate cash from operations in excess of its internal operating needs is one of its financial strengths. In 1998, management continued its working capital efforts, which contributed to the increase in the cash provided by operating activities. Management will continue to manage cash flows aggressively and anticipates that operating activities in 1999 will provide sufficient cash to take advantage of opportunities for internal business expansion and to meet all of the Company's financial commitments.

Management assesses the Company's liquidity in terms of its overall ability to generate cash to fund its operating and investing activities. Of particular importance in the management of liquidity are cash flows generated from operating activities, capital expenditure levels, dividends, capital stock transactions, effective utilization of surplus cash positions overseas and adequate bank lines of credit.

Operating activities are the principal source of cash flow for the Company, generating a record \$76.0 million of cash flow in 1998 compared to \$71.6 million in 1997 and \$45.8 million in 1996. The nonrecurring expense related to the accelerated retirement package for the Company's retired president and chief executive officer minimally impacted 1998 cash flow. During the past three years, operating activities provided over \$193 million in cash which the Company used, in part, to pay dividends to stockholders, reduce financing debt, repurchase Company stock, and fund significant investments in plants and equipment. Continued emphasis on asset management eliminated the need for additional investment in working capital in 1998 and 1997, both

of which were periods of increasing sales. This is in contrast with 1996, where significant additional working capital was invested to support the sales growth.

Investing activities used cash of \$35.3 million in 1998 compared with \$34.2 million in 1997 and \$32.2 million in 1996. Capital expenditures in 1998 were \$34.6 million versus \$33.4 million in 1997. During the past three years the Company has invested \$102 million in new plant, equipment and information systems. The focus of these investments is to support business growth and to improve productivity and quality. The Company expects 1999 capital spending to continue at a strong pace.

In 1998, the Company's financing activities used cash of \$31.9 million compared to \$26.6 million in 1997 and \$6.9 million in 1996. The higher usage of cash in 1998 was due to a \$4.5 million reduction in debt and the repurchase of \$17.0 million of the Company's stock. Cash dividends increased in 1998 for the fourth consecutive year to \$0.69 per share. As a result, total cash dividends paid to stockholders increased to \$14.0 million.

The Company has utilized and will continue to use cash from non-U.S. subsidiaries to fund international cash requirements when it is cost effective. The repatriation of certain cash balances to the U.S. could have adverse tax consequences; however, those balances are generally available to fund ordinary business needs outside the U.S.

To supplement internal cash generation, the Company maintains substantial bank borrowing facilities. At December 31, 1998, the Company had \$150 million of borrowing capacity available under a revolving credit agreement that expires in 2002. During 1998, the Company used a portion of the free cash flow generated by its U.S. operations to reduce its long-term debt from \$60 million to \$51 million. The long-term debt is comprised, in part, of borrowings under its short-term bank credit lines, backed by its long-term revolving credit agreement. The Company considers this a cost-effective way to manage its long-term financing needs. The Company believes its bank credit facilities, coupled with cash generated from operations, are adequate for its anticipated future requirements.

## Management's Discussion and Analysis

Barnes Group Inc.



### Management Information Systems Allow Barnes Group to Gather and Access Critical Data

Terri Adams, financial systems analyst at Barnes Group's Executive Office in Bristol, Connecticut, reviews detailed financial reports from the Company's business units. With this global financial reporting system, data is efficiently collected and consolidated for review by senior management.

## Management's Discussion and Analysis

Barnes Group Inc.



### New Products for New Markets

Bowman Distribution recently introduced a new product line of soluble lubricants for use on equipment in the food processing industry. Dave Imm, product and supplier development manager, Bowman Distribution, U.K., holds a can of Handi Sapphire Grease, one of the numerous new products offered in the United Kingdom and France.

### Market Risk

Market risk is the potential economic loss that may result from adverse changes in the fair value of financial instruments. The Company's financial results could be impacted by changes in interest rates, foreign currency exchange rates, and commodity price changes.

The Company's long-term debt portfolio consists of fixed rate and variable-rate instruments and is managed to reduce the overall cost of borrowing, while also reducing the affect of changes in interest rates on near-term earnings. The Company's primary interest rate risk is derived from its outstanding variable-rate debt obligations. At December 31, 1998, the result of a hypothetical 1% increase in the average cost of the Company's variable-rate debt, including the interest rate exchange agreement, would not have a material impact on the pretax profit of the Company, or the fair value of the interest rate exchange agreement.

As part of managing its debt portfolio, the Company entered into an interest rate exchange agreement to convert a portion of its 9.47% fixed rate Senior Notes to variable-rate debt. This interest rate exchange agreement is viewed by the Company as a risk management tool, involves little complexity, and is not used for speculative or trading purposes. The overall objective is to reduce the cost of debt. The effect on 1998 earnings of the interest rate exchange agreement was to decrease the Company's interest expense by \$0.3 million.

At December 31, 1998, the fair value of the Company's fixed rate debt amounted to a liability of \$45.1 million, compared to its carrying amount of \$43.5 million. The Company estimates that a 1% decrease in market interest rates at December 31, 1998 would have changed the fair value of the Company's fixed rate debt to a liability of \$46.6 million.

The Company has manufacturing, sales and distribution facilities around the world and thus makes investments and conducts business transactions denominated in various currencies. Foreign currency commitments and transaction exposures are managed by the operating units as an integral part of their business. Residual exposures that cannot be offset may be hedged. At December 31,

1998, the Company had no foreign currency forward contracts. The Company does not hedge its foreign currency net asset exposure.

The currencies that the Company was primarily exposed to on December 31, 1998 were the Singapore dollar, Mexican peso, Brazilian real and Canadian dollar. Based on a 10% adverse movement in all currencies, the potential loss in fair value from the Company's financial instruments at the end of fiscal 1998 would have resulted in reducing pretax profit by \$1.9 million.

The Company's exposure to commodity price changes relates primarily to certain manufacturing operations that utilize steel spring wire and titanium. The Company manages its exposure to changes in those prices through its procurement and sales practices. The Company is not dependent upon any single source for any of its principal raw materials or products for resale, and all such materials and products are readily available.

### Year 2000 Readiness

**Background:** When the Year 2000 (Y2K) arrives, computer software may not be able to distinguish between the year 1900 and 2000 and, as a result, date-based information may not be processed accurately. This situation has never been experienced, so no one is quite sure of the consequences or how to completely prevent business disruptions.

**General Approach:** The Company's intention is to be fully Y2K ready with all of its critical business systems and critical third party business relationships before the year 2000. The process of addressing Y2K readiness began in early 1997 at each of the Company's three business segments. The Company established a primary Y2K project team led by its chief financial officer and its information technology (IT) directors. With the assistance of a third party consultant, the Company is using a multi-phase approach to manage the Y2K readiness project involving assessment of the problem, remediation and testing. The Company plans to substantially complete its Y2K readiness project by the end of the third quarter of 1999, with the fourth quarter reserved for unforeseen issues.

**Assessment:** In this phase, the Company identifies its critical business systems and critical third party business relationships, and assesses the Y2K impact on each one to determine the relative risks of possible Y2K failure. Based on the risk assessments, priorities are set, resources are allocated and the plan for the next phase, remediation, is established. The assessment of the Company's systems is complete, although the monitoring of the readiness of our critical business relationships with suppliers and customers is a continuous process. In addition, as new IT systems come on line, they will be assessed as to their Y2K impact on the readiness of the Company's critical systems.

**Remediation:** This phase involves the conversion, modification, or replacement of systems that are not Y2K ready, and the implementation and integration of new Y2K ready systems. It also involves efforts to foster Y2K readiness of third parties with which the Company has critical business relationships. This phase is by far the most complicated, time consuming and costly of the Y2K project. The anticipated completion of remediation or implementation of critical systems for Barnes Aerospace and Associated Spring is during the first quarter of 1999 and for Bowman Distribution, during the third quarter of 1999. Required for the success of this phase is the implementation of the Bowman Distribution enterprise management system. Because it is not practical to modify Bowman's existing system to be Y2K ready, every effort is being made to ensure that the new enterprise system will be fully operational and Y2K compliant by the third quarter of 1999.

**Testing:** During this phase, the testing, verification and validation of the performance, functionality and integration of new, replaced and converted systems will be conducted. The scheduled testing is planned to be completed by the end of the third quarter of 1999, with the fourth quarter encompassing unanticipated activities, including possible vendor modifications.

In the fourth quarter of 1998, both Barnes Aerospace and Associated Spring made significant progress toward Y2K readiness. At this time, both business' North American operations have completed the remediation phase and are well into the testing phase. Their international

operations are on target to achieve the remediation and testing dates outlined above. Bowman Distribution expects to complete the remediation phase by July 1999, and complete the testing phase by the end of the third quarter.

**Contingency Plans:** The Company is developing contingency plans concurrent with the testing phase. When the Y2K readiness risks have been determined upon completion of the testing phase, contingency plans will be finalized to deal with the most likely worst-case scenarios. This phase will be substantially complete by the end of the third quarter of 1999, with follow-up to occur in the fourth quarter.

**Cost:** The total expenses specifically associated with the Company becoming Y2K ready are not expected to be material. Because the Company has been in the continuous process of upgrading and modifying existing IT systems as well as adding new systems in the ordinary course of doing business, Y2K readiness was incorporated into the overall strategy to improve and upgrade IT systems. With the implementation of the Bowman Distribution enterprise management system in 1999, the Company will have completed a process that began in 1995 of upgrading all of its critical application software. The costs specific to addressing the Y2K readiness project are those directly related to the upgrading of existing systems to be Y2K ready and costs related to outside consultants assisting with the Y2K project. These costs have been expensed as they have been incurred and totaled \$0.6 million in 1998 and are expected to total approximately \$1.0 million in 1999. However, a significant portion of the Company's overall IT expense of \$11.5 million was either directly or indirectly incurred by addressing Y2K readiness either through software remediation or implementation. In addition, capitalized IT related hardware and software expenditures totaled \$12 million in 1998 and are expected to be \$8 million in 1999.

**Risks:** Y2K readiness encompasses a number of factors which the Company cannot completely control, including its critical business relationships with third party suppliers and customers. Although the Company is taking steps to minimize the potential adverse effects of the Y2K issue, any failure by the Company, its major

## Management's Discussion and Analysis

Barnes Group Inc.



### Customer Service and Sales

#### Representatives are Instrumental in Building the Company's Business

Tara McCausland, customer service and sales representative for Associated Spring's eastern U.S. region, is always in contact with an existing or prospective new customer. Customer service and sales representatives routinely communicate with Associated Spring customers to keep them informed of the status of their orders and work with potential customers to determine their specific needs.

## Management's Discussion and Analysis

Barnes Group Inc.



### Strong Administrative Support Throughout the Organization is Critical to Success

Wilma Hart, executive assistant to Thomas O. Barnes, chairman of the board, at Barnes Group's Executive Office in Bristol, Connecticut, is one of many outstanding employees on the administrative and clerical staff.

Hardworking and dedicated support personnel are essential to the success of Barnes Group Inc.

vendors, other material service providers, or its principal customers to address this issue on an adequate and timely basis could have a material adverse effect on the Company's business, results of operations, cash flow and financial condition.

### Future Accounting Changes

In 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities." This standard requires that the Company recognize derivatives on the balance sheet at fair value. Under the provisions of this standard, the Company is not required to and will not adopt the new standard until 2000. Management believes that adoption of this standard will not have a material impact on the Company's financial position, results of operations or cash flows.

### Forward-Looking Statements

The Company cautions readers that certain factors may affect the Company's results for future fiscal periods. These factors involve risks and uncertainties that could cause future results to differ materially from those expressed or implied in any forward-looking statements made on behalf of the Company. For this purpose, any statement other than one of historical fact may be considered a forward-looking statement. Some important factors that could cause actual results to vary materially from those anticipated in forward-looking statements include economic volatility, currency fluctuations, interest rate fluctuations, regulatory changes and technological changes (including Y2K issues), all of which may affect the Company's operations, products and markets.

(Dollars in thousands, except per share data)

Years Ended December 31,	1998	1997	1996
Net sales	\$ 651,183	\$ 642,660	\$ 594,989
Cost of sales	435,918	426,550	384,722
Selling and administrative expenses	160,044	150,344	154,951
	<b>595,962</b>	<b>576,894</b>	<b>539,673</b>
Operating income	55,221	65,766	55,316
Other income	5,617	5,969	4,095
Interest expense	4,106	4,864	4,981
Other expenses	2,069	2,369	2,120
Income before income taxes	54,663	64,502	52,310
Income taxes	20,169	24,079	19,742
Net income	\$ 34,494	\$ 40,423	\$ 32,568
Per common share:			
Net income:			
Basic	\$ 1.72	\$ 2.00	\$ 1.63
Diluted	1.69	1.96	1.61
Dividends	0.69	0.65	0.60
Average common shares outstanding	20,095,710	20,236,884	19,923,987

See accompanying notes.

## Consolidated Statements of Income

Barnes Group Inc.



### Development of Prototype Components Results in Manufacturing Contracts

Roland Brochu, die setter at Associated Spring's Bristol, Connecticut, facility, inspects an accordion spring used in General Motors and Ford cars and trucks. Creating high-precision prototype components ensures outstanding initial product quality, resulting in manufacturing contracts and partnerships with customers.

## Consolidated Balance Sheets

Barnes Group Inc.



### State-of-the-Art Capital Equipment Purchases Reduce Customer Costs and Improve Product Quality

Donald DaRos, a CNC machinist at Barnes Aerospace's facility in Windsor, Connecticut, prepares a titanium-forged Pratt & Whitney high-pressure compressor rear case for final milling. State-of-the-art milling systems such as this five-axis Nigata HN80C CNC horizontal machining center assure Barnes Group of high manufacturing productivity and improved product quality and accuracy.

(Dollars in thousands)			
December 31,	1998	1997	
<b>Assets</b>			
Current assets			
Cash and cash equivalents	\$ 40,206	\$ 32,530	
Short-term investments	2,566	—	
Accounts receivable, less allowances (1998 - \$2,413; 1997 - \$3,061)	82,809	91,757	
Inventories	64,404	61,082	
Deferred income taxes	11,660	10,966	
Prepaid expenses	5,583	6,682	
Total current assets	207,228	203,017	
Deferred income taxes	25,136	24,083	
Property, plant and equipment	139,247	133,830	
Goodwill	18,224	18,773	
Other assets	29,069	28,275	
<b>Total assets</b>	<b>\$418,904</b>	<b>\$407,978</b>	
<b>Liabilities and Stockholders' Equity</b>			
Current liabilities			
Notes payable	\$ 6,766	\$ 2,437	
Accounts payable	38,439	37,776	
Accrued liabilities	52,934	46,966	
Guaranteed ESOP obligation	2,205	2,746	
Total current liabilities	100,344	89,925	
Long-term debt	51,000	60,000	
Guaranteed ESOP obligation	—	2,205	
Accrued retirement benefits	68,129	67,486	
Other liabilities	10,757	7,503	
Stockholders' equity			
Common stock - par value \$0.01 per share			
Authorized: 60,000,000 shares			
Issued: 22,037,769 shares at par value	220	220	
Additional paid-in capital	49,231	47,007	
Treasury stock at cost (1998 - 2,202,417 shares; 1997 - 1,875,111 shares)	(42,893)	(29,433)	
Retained earnings	204,364	183,857	
Accumulated other comprehensive income	(20,043)	(15,841)	
Guaranteed ESOP obligation	(2,205)	(4,951)	
Total stockholders' equity	188,674	180,859	
<b>Total liabilities and stockholders' equity</b>	<b>\$418,904</b>	<b>\$407,978</b>	

See accompanying notes.

(Dollars in thousands)			
Years Ended December 31,	1998	1997	1996
<b>Operating activities:</b>			
Net income	\$34,494	\$40,423	\$32,568
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	28,431	28,123	26,626
Loss (gain) on sale of property, plant and equipment	(741)	735	(528)
Loss related to plant realignment	1,889	—	—
Changes in assets and liabilities:			
Accounts receivable	7,726	(4,786)	(2,321)
Inventories	(3,766)	3,150	(9,971)
Accounts payable	980	8,036	(1,548)
Accrued liabilities	4,599	781	2,797
Deferred income taxes	(2,536)	(1,215)	564
Other	4,960	(3,607)	(2,383)
Net cash provided by operating activities	76,036	71,640	45,804
<b>Investing activities:</b>			
Proceeds from sale of property, plant and equipment	4,266	1,442	2,361
Capital expenditures	(34,571)	(33,398)	(33,892)
Purchase of short-term investments	(2,605)	—	—
Other	(2,340)	(2,266)	(706)
Net cash used by investing activities	(35,250)	(34,222)	(32,237)
<b>Financing activities:</b>			
Net increase in notes payable	4,539	813	1,322
Payments on long-term debt	(9,000)	(10,000)	—
Proceeds from the issuance of common stock	3,598	6,476	4,907
Common stock repurchases	(17,042)	(10,673)	(1,197)
Dividends paid	(13,951)	(13,187)	(11,967)
Net cash used by financing activities	(31,856)	(26,571)	(6,935)
Effect of exchange rate changes on cash flows	(1,254)	(2,303)	(514)
Increase in cash and cash equivalents	7,676	8,544	6,118
Cash and cash equivalents at beginning of year	32,530	23,986	17,868
Cash and cash equivalents at end of year	\$40,206	\$32,530	\$23,986

See accompanying notes.

## Consolidated Statements of Cash Flows

Barnes Group Inc.



### Product Prototype Development is Driven by Market... Application... and Customer

Veronica Stoklasek, a machine operator at Associated Spring's Bristol, Connecticut, facility, inspects a prototype spring before customer shipment. The ability to design and engineer new components, and redesign existing components, will help Associated Spring continue to grow.

## Consolidated Statements of Changes in Stockholders' Equity

Barnes Group Inc.



### A Strong and Talented Team of Employees is Key to Barnes Group's Future Success

Marsha Parker, supervisor of employee relations at Barnes Group's Executive Office in Bristol, Connecticut, administers the Company's employee relations programs for Executive Office employees. Human resources plays a vital role in finding employees who are talented, capable, imaginative and dedicated to serving customers.

(Dollars in thousands)	Common Stock	Additional Paid-In Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income	Guaranteed ESOP Obligation	Stockholders' Equity
January 1, 1996	\$ 15,737	\$ 27,360	\$ (29,853)	\$ 136,092	\$ (10,656)	\$ (9,839)	\$ 128,841
Comprehensive income:							
Net income				32,568			32,568
Other comprehensive income				—	569		569
Comprehensive income				32,568	569		33,137
Dividends paid				(11,967)			(11,967)
Common stock repurchases			(1,197)				(1,197)
Employee stock plans		987	5,010	(134)			5,863
Guaranteed ESOP obligation						2,348	2,348
Income tax benefits on unallocated ESOP dividends				139			139
December 31, 1996	15,737	28,347	(26,040)	156,698	(10,087)	(7,491)	157,164
Comprehensive income:							
Net income				40,423			40,423
Other comprehensive income				—	(5,754)		(5,754)
Comprehensive income				40,423	(5,754)		34,669
Reduction in par value	(15,517)	15,517					—
Dividends paid				(13,187)			(13,187)
Common stock repurchases			(10,673)				(10,673)
Employee stock plans		3,143	7,280	(181)			10,242
Guaranteed ESOP obligation						2,540	2,540
Income tax benefits on unallocated ESOP dividends				104			104
December 31, 1997	220	47,007	(29,433)	183,857	(15,841)	(4,951)	180,859
Comprehensive income:							
Net income				34,494			34,494
Other comprehensive income				—	(4,202)		(4,202)
Comprehensive income				34,494	(4,202)		30,292
Dividends paid				(13,951)			(13,951)
Common stock repurchases			(17,042)				(17,042)
Employee stock plans		2,224	3,582	(100)			5,706
Guaranteed ESOP obligation						2,746	2,746
Income tax benefits on unallocated ESOP dividends				64			64
December 31, 1998	\$ 220	\$ 49,231	\$ (42,893)	\$ 204,364	\$ (20,043)	\$ (2,205)	\$ 188,674

See accompanying notes.

(All dollar amounts included in the notes are stated in thousands except per share data and the tables in Note 12.)

### 1. Summary of Significant Accounting Policies

**General:** The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Consolidation:** The accompanying consolidated financial statements include the accounts of the Company and all of its subsidiaries. Intercompany transactions and account balances have been eliminated. The Company accounts for its 45% investment in the common stock of NASCO, an automotive suspension spring company jointly owned with NHK Spring Co., Ltd. of Japan, under the equity method. Other income in the accompanying income statements includes income of \$2,573, \$1,763 and \$1,550 for the years 1998, 1997 and 1996, respectively, from the Company's investment in NASCO. The Company received dividends from NASCO totaling \$732, \$596 and \$709 in 1998, 1997 and 1996, respectively.

**Revenue recognition:** Sales and related cost of sales are recognized when products are shipped to customers.

**Cash and cash equivalents and short-term investments:** Cash in excess of operating requirements is invested in short-term, highly liquid, income producing investments. All highly liquid investments purchased with an original maturity of three months or less are cash equivalents, while other investments with an original maturity of one year or less are classified as short-term investments. Both cash equivalents and short-term investments are carried at fair market value.

**Inventories:** Inventories are valued at the lower of cost or market. The last-in, first-out (LIFO) method was used to accumulate the cost of all U.S. inventories which represent 76% of total inventories. The cost of non-U.S. inventories was determined using the first-in, first-out (FIFO) method.

**Property, plant and equipment:** Property, plant and equipment is stated at cost. Depreciation is provided using accelerated methods over estimated useful lives ranging generally from 20 to 50 years for buildings and 3 to 17 years for machinery and equipment.

**Goodwill:** Goodwill represents the excess purchase price over the net assets of companies acquired in business combinations. Goodwill acquired since 1970 is being amortized on a straight-line basis over 40 years; similar investments for businesses acquired prior to 1970 (approximately \$5,200) are not being amortized. On a periodic basis, the Company estimates future undiscounted cash flows of the businesses to which goodwill relates to ensure that the carrying value of goodwill has not been impaired. Accumulated amortization was \$9,391 and \$8,842 at December 31, 1998 and 1997, respectively.

**Foreign currency translation:** Assets and liabilities of foreign operations, except those in countries with high rates of inflation, are translated at year-end rates of exchange; revenue and expenses are translated at average annual rates of exchange. The resulting translation gains and losses are reflected in accumulated other comprehensive income within stockholders' equity.

For operations in countries that have high rates of inflation, translation gains and losses are included in net income. These translation effects, along with foreign currency transactions, generated net gains of \$240 and \$2,095 in 1998 and 1997, respectively, and a net loss of \$826 in 1996.

**Stock-based compensation:** The Company applies APB Opinion 25 to account for stock-based compensation. Had the Company adopted Statement of Accounting Standards No. 123, "Accounting for Stock-Based Compensation," the impact on net income and income per share would not have been significant.

**Net income per common share:** Earnings per share is computed in accordance with Statement of Financial Accounting Standards No. 128, "Earnings per Share." Basic earnings per share is based on the weighted average number of common shares outstanding during the year. Diluted earnings per share reflects the assumed exercise and conversion of all dilutive securities. Shares held by the Employee Stock Ownership Plan (ESOP) are considered outstanding for both basic and diluted earnings per share.

There are no adjustments to net income for purposes of computing income available to common shareholders for the years ended December 31, 1998, 1997 and 1996. For purposes of computing diluted earnings per share, the weighted average number of shares outstanding were increased by 330,659, 419,433 and 277,077 for 1998, 1997 and 1996, respectively, representing the potential dilutive effects of stock based incentive plans.

## Notes to Consolidated Financial Statements

Barnes Group Inc.



### Industrial Strength Adhesives with a Worldwide Reach

Julie Young, materials supervisor, Bowman Distribution, U.K., displays an adhesive the unit distributes to customers involved in light- and heavy-duty manufacturing. Bowman offers its customers in the U.K. and France a wide array of industrial adhesives for a variety of uses. It contracts with worldwide suppliers to offer customers high-quality products at competitive prices.

## Notes to Consolidated Financial Statements

Barnes Group Inc.



### Maintaining Existing Customers is Just as Important as Finding New Customers

Lee Shik Yen, a machine operator at Barnes Aerospace's Singapore Airmotive facility, uses resistance tack welding to attach a component to an LPT air sealing ring used in the Pratt & Whitney PW4000 engine. Barnes Group has long recognized the importance of meeting the changing needs of its customers.

## 2. Inventories

Inventories at December 31, consisted of:

	1998	1997
Finished goods	\$ 34,784	\$ 30,519
Work-in-process	15,309	17,369
Raw materials and supplies	14,311	13,194
	<b>\$ 64,404</b>	<b>\$ 61,082</b>

Inventories valued by the LIFO method aggregated \$48,705 and \$45,661 at December 31, 1998 and 1997, respectively. If LIFO inventories had been valued using the FIFO method, they would have been \$14,097 and \$13,744 higher at those dates.

## 3. Property, Plant and Equipment

Property, plant and equipment at December 31, consisted of:

	1998	1997
Land	\$ 3,292	\$ 3,782
Buildings	64,421	65,610
Machinery and equipment	283,080	265,444
	<b>350,793</b>	<b>334,836</b>
Less accumulated depreciation	211,546	201,006
	<b>\$139,247</b>	<b>\$133,830</b>

## 4. Accrued Liabilities

Accrued liabilities at December 31, consisted of:

	1998	1997
Payroll and other compensation	\$ 13,413	\$ 17,006
Postretirement/postemployment benefits	15,001	6,047
Vacation pay	1,941	4,621
Accrued income taxes	5,546	2,872
Pension and profit sharing	2,576	3,163
Other	14,457	13,257
	<b>\$ 52,934</b>	<b>\$ 46,966</b>

## 5. Debt and Commitments

Long-term debt at December 31, consisted of:

	1998	1997	
	<b>Carrying Amount</b>	<b>Fair Value</b>	Carrying Amount
9.47% Notes	\$ 18,462	\$ 19,347	\$ 24,615
7.13% Notes	25,000	25,737	25,000
Borrowings under lines of credit	538	538	3,385
Industrial Revenue Bond	7,000	7,000	7,000
	<b>\$ 51,000</b>	<b>\$ 52,622</b>	<b>\$ 60,000</b>

The 9.47% Notes are payable in 13 semi-annual payments of \$3,077 which began on September 16, 1995, while the 7.13% Notes are payable in four equal annual installments of \$6,250 beginning on December 5, 2002. The fair values of these Notes are determined using discounted cash flows based upon the Company's estimated current interest cost for similar types of borrowings. The carrying values of other long-term debt, notes payable and the guaranteed ESOP obligation, approximate their fair market value.

The Company has a revolving credit agreement with six banks that allows borrowings up to \$150,000 under notes due December 6, 2002. A commitment fee of .115% per annum is paid on the unused portion of the commitments. The Company had no borrowings under this agreement at December 31, 1998 and 1997. The Company has available approximately \$45,000 in short-term bank credit lines, of which \$4,500 and \$3,400 were in use at December 31, 1998 and 1997, respectively. The interest rate on these borrowings was 5.6% and 5.9% at December 31, 1998 and 1997, respectively.

The Industrial Revenue Bond, due in 2008, has a variable interest rate. The interest rate on this borrowing was 5.25% and 4.50% at December 31, 1998 and 1997, respectively.

At December 31, 1998, the Company classified \$538 of borrowings under its lines of credit and \$6,154 of its 9.47% Notes due within one year as long-term debt. The Company has both the intent and the ability, through its revolving credit agreement, to refinance these amounts on a long-term basis.

The Company had outstanding an interest rate swap (swap), a form of derivative, which effectively converted \$9,231 of its fixed rate 9.47% Notes to floating rate debt with interest equal to LIBOR plus 83 basis points. The effective interest rate on the floating rate portion was 6.1% and 6.9% at December 31, 1998 and 1997, respectively. This swap decreases as the Notes are repaid. The fair value of the swap is determined based upon current market prices and was \$650 at December 31, 1998. The Company does not use derivatives for trading purposes.

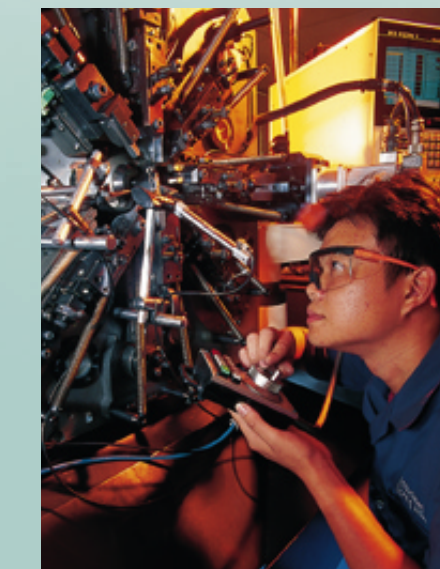
The Company guaranteed \$8,100 of letters of credit, bank borrowings and capital lease obligations related to its 45% investment in NASCO. In addition, the Company had other outstanding letters of credit totaling \$3,965 at December 31, 1998.

Certain of the Company's debt arrangements contain requirements as to maintenance of minimum levels of working capital and net worth, and place certain restrictions on dividend payments and acquisitions of the Company's common stock. Under the most restrictive covenant in any agreement, \$49,658 was available for dividends or acquisitions of common stock at December 31, 1998.

Interest paid was \$4,947, \$5,554 and \$5,736 in 1998, 1997 and 1996, respectively. Interest capitalized was \$711, \$472 and \$527 in 1998, 1997 and 1996, respectively, and is being depreciated over the lives of the related fixed assets.

## Notes to Consolidated Financial Statements

Barnes Group Inc.



### Developing New Markets and New Products for New Applications will Continue to Drive Barnes Group's Growth

Pang Jon Wah, a machine setter at Associated Spring's Singapore facility, works on an Itaya CNC machine to produce cost-effective battery contacts for Motorola's FP5 portable two-way radios.

## Notes to Consolidated Financial Statements

Barnes Group Inc.



### Engine Manufacturers Look to Barnes Aerospace for Complex Machining of Critical Turbine Components

Charles Hudon, a machinist at Barnes Aerospace's Windsor, Connecticut, facility, prepares a Pratt & Whitney PW4000 combustor case for turning on a customized Bullard vertical turning lathe (VTL).

This four-axis machine utilizes a dual ram process to enable an operator to turn two areas simultaneously.

## 6. Income Taxes

The components of income before income taxes and the income tax provision follow:

	1998	1997	1996
Income before income taxes:			
U.S.	\$42,009	\$49,517	\$37,957
International	12,654	14,985	14,353
	<b>\$54,663</b>	<b>\$64,502</b>	<b>\$52,310</b>
Income tax provision:			
Current:			
U.S. - federal	\$15,256	\$16,339	\$12,451
U.S. - state	3,110	4,050	3,045
International	4,339	4,905	3,682
	<b>22,705</b>	<b>25,294</b>	<b>19,178</b>
Deferred:			
U.S. - federal	(2,214)	(821)	(388)
U.S. - state	(94)	(217)	(105)
International	(228)	(177)	1,057
	<b>(2,536)</b>	<b>(1,215)</b>	<b>564</b>
	<b>\$20,169</b>	<b>\$24,079</b>	<b>\$19,742</b>

Deferred income tax assets and liabilities at December 31, consist of the tax effects of temporary differences related to the following:

	Assets		Liabilities	
	1998	1997	1998	1997
Allowance for doubtful accounts	\$ 829	\$ 1,139	\$ —	\$ —
Depreciation and amortization	(6,513)	(6,492)	2,527	2,680
Inventory valuation	5,039	4,418	468	529
Postretirement/postemployment costs	26,771	27,771	(306)	(331)
Foreign tax loss carryforwards	9,517	9,988	—	—
Other	8,718	5,954	1,390	1,709
	<b>44,361</b>	<b>42,778</b>	<b>4,079</b>	<b>4,587</b>
Valuation allowance	(7,565)	(7,729)	—	—
	<b>\$36,796</b>	<b>\$35,049</b>	<b>\$ 4,079</b>	<b>\$ 4,587</b>
Current deferred income taxes	\$11,660	\$10,966	\$ 455	\$ 850
Noncurrent deferred income taxes	25,136	24,083	3,624	3,737
	<b>\$36,796</b>	<b>\$35,049</b>	<b>\$ 4,079</b>	<b>\$ 4,587</b>

The deferred income tax assets will be realized through reversals of existing taxable temporary differences with the remainder, net of the valuation allowance, dependent on future income. Management believes that sufficient income will be earned in the future to realize the remaining net deferred income tax assets. The tax loss carryforwards have remaining carryforward periods ranging from six years to unlimited.

A reconciliation of the U.S. federal statutory income tax rate to the consolidated effective income tax rate follows:

	1998	1997	1996
U.S. federal statutory income tax rate	35.0%	35.0%	35.0%
State taxes (net of federal benefit)	3.6	3.9	3.6
Foreign losses without tax benefit	1.0	0.6	1.6
Foreign tax rates	(1.6)	(1.5)	(2.5)
NASCO equity income	(1.0)	(0.6)	(0.6)
Other	(0.1)	(0.1)	0.6
Consolidated effective income tax rate	<b>36.9%</b>	<b>37.3%</b>	<b>37.7%</b>

Income taxes paid, net of refunds, were \$18,473, \$25,337 and \$17,825 in 1998, 1997 and 1996, respectively.

## 7. Common Stock

In 1998, 1997 and 1996, 270,854 shares, 566,077 shares and 389,418 shares, respectively, of common stock were issued from treasury for the exercise of stock options, purchases by the Employee Stock Purchase Plan and various other incentive awards. In 1998, 1997 and 1996, the Company acquired 598,160 shares, 395,179 shares and 61,812 shares, respectively, of the Company's common stock at a cost of \$17,042, \$10,673 and \$1,197, respectively. These acquired shares were placed in treasury.

On April 2, 1997, the stockholders approved an amendment to the Company's restated certificate of incorporation providing for an increase in the number of authorized common shares from 20 million to 60 million and a reduction in the par value of common and preferred stock from \$1.00 to \$0.01 per share. This enabled the Company to effect a three-for-one stock split for stockholders of record on April 3, 1997. All references to shares and per-share amounts in the consolidated financial statements and accompanying notes have been adjusted retroactively for the three-for-one stock split. Stockholders' equity at December 31, 1998 and 1997, reflects the effect of the stock split and change in par value per share. These changes reduced the common stock

## 8. Preferred Stock

At December 31, 1998 and 1997, the Company had 3,000,000 shares of preferred stock authorized, none of which were

The Company has not recognized deferred income taxes on \$97,798 of undistributed earnings of its international subsidiaries since such earnings are considered to be reinvested indefinitely. If the earnings were distributed in the form of dividends, the Company would be subject, in certain cases, to both U.S. income taxes and foreign withholding taxes. Determination of the amount of this unrecognized deferred income tax liability is not practicable.

account by \$15,517 and increased the additional paid-in capital account by a like amount in 1997.

In December 1996, the Company adopted a new shareholder rights plan. Under the new plan, each share of common stock contains one right (Right) which entitles the holder to purchase one one-hundredth of a share of Series A Junior Participating Preferred Stock, for two hundred dollars. The Rights generally will not become exercisable unless and until, among other things, any person or group acquires beneficial ownership of 35% or more of the outstanding stock. The new Rights are generally redeemable at \$0.01 per Right at any time until 10 days following a public announcement that a 35% or greater position in the Company's common stock has been acquired and will expire, unless earlier redeemed or exchanged, on December 23, 2006.

If, following the acquisition by a person or group of 35% or more of the outstanding shares of the Company's common stock, the Company is acquired in a merger or other business combination or 50% or more of the Company's assets or earnings power is sold or transferred, each outstanding Right becomes exercisable for common stock or other securities of the acquiring entity having a value of twice the exercise price of the Right.

outstanding. As discussed in Note 7, the par value of preferred stock was reduced from \$1.00 to \$0.01 per share in 1997.

## Notes to Consolidated Financial Statements

Barnes Group Inc.



### Leading-edge Management Information Systems Provide the Necessary Data to Make Daily Decisions

Diane Plante, MIS manager at Barnes Aerospace's East Granby, Connecticut, Airmotive facility, reviews data accumulated on a daily, weekly and monthly basis. This data is analyzed and distributed to management teams to determine workload scheduling.



**Precision-engineered  
Custom Solutions are  
the Company's Specialty**

Stephen Parenti, senior tool designer at Associated Spring's Bristol, Connecticut, facility, measures a dimension on a spring. Data gathered in the prototype development stage will greatly reduce set-up time for the actual production machine. Working together as a team, tool designers and product engineers use their collective experience to better serve customers.

## 9. Stock Plans

All U.S. salaried and non-union hourly employees are eligible to participate in the Company's Guaranteed Stock Plan (GSP). The GSP provides for the investment of employer and employee contributions in the Company's common stock. The Company guarantees a minimum rate of return on certain GSP assets.

The GSP is a leveraged ESOP. In 1989, the GSP purchased 1,737,930 shares of the Company's common stock at a cost of \$21,000 using the proceeds of a loan guaranteed by the Company. These shares are held in trust and are issued to employees' accounts in the GSP as the loan is repaid. Principal and interest on the GSP loan are being paid in quarterly installments through the second quarter of 1999. The loan bears interest based on LIBOR. At December 31, 1998, the interest rate was 6.1%. Interest of \$212, \$387 and \$538 was incurred in 1998, 1997 and 1996, respectively. Contributions and certain dividends received are used in part by the GSP to service its debt. Contributions include both employee contributions up to a maximum of 10% of eligible pay and Company contributions.

The Company contributions are equal to the amount required by the GSP to pay the principal and interest due under the GSP loan plus that required to purchase any additional shares required to be allocated to participant accounts, less the sum of participant contributions and dividends received by the GSP. The GSP used \$1,899, \$1,781 and \$1,642 of Company dividends for debt service in 1998, 1997 and 1996, respectively. The Company expenses all cash contributions made to the GSP. In 1996, the Company recognized compensation cost of \$1,666 and income of \$403 and \$498 in 1998 and 1997, respectively. As of December 31, 1998, the GSP held 3,031,067 shares of the

Data relating to options granted under these plans follow:

	1998		1997		1996	
	Number of Shares	Average Exercise Price	Number of Shares	Average Exercise Price	Number of Shares	Average Exercise Price
Outstanding, January 1	979,444	\$16.13	1,088,991	\$10.98	1,501,068	\$10.91
Granted	566,770	\$29.13	441,190	\$22.96	69,450	\$15.65
Exercised	224,332	\$11.02	505,113	\$10.79	327,636	\$11.30
Cancelled	83,295	\$25.24	45,624	\$18.44	153,891	\$11.67
Outstanding, December 31	1,238,587	\$22.39	979,444	\$16.13	1,088,991	\$10.98
Exercisable, December 31	574,966	\$16.94	478,680	\$10.77	217,020	\$10.25

Company's common stock, of which 137,191 shares were unallocated. For financial statement purposes, the Company reflects its guarantee of the GSP's debt as a liability with a like amount reflected as a reduction of stockholders' equity.

The Company has an Employee Stock Purchase Plan (ESPP) under which eligible employees may elect to have up to 10% of base compensation deducted from payroll for the purchase of the Company's common stock at 85% of market value on the date of purchase. The maximum number of shares which may be purchased under the ESPP is 2,025,000. The number of shares purchased under the ESPP was 45,599, 46,600 and 53,535 in 1998, 1997 and 1996, respectively. As of December 31, 1998, 519,879 additional shares may be purchased.

The 1991 Barnes Group Stock Incentive Plan (1991 Plan) authorizes the granting of incentives to executive officers, directors and key employees in the form of stock options, stock appreciation rights, incentive stock rights and performance unit awards. A predecessor plan that provided for similar incentives expired in 1991. Options granted under that plan continue to be exercisable and any options which terminate without being exercised become available for grant under the 1991 Plan. A maximum of 2,425,697 common shares are subject to issuance under this plan after December 31, 1998. Compensation cost related to these plans was \$1,596, \$1,150 and \$904 in 1998, 1997 and 1996, respectively. The Company recorded, in additional paid-in capital, tax benefits related to stock options of \$1,573, \$2,404 and \$434 in 1998, 1997 and 1996, respectively.

In 1998, 60,000 Incentive Stock Rights and 75,000 stock options were granted outside of the 1991 Plan. The options are included in the tables below.

The following table summarizes information about stock options outstanding at December 31, 1998:

Range of Exercise Prices	Options Outstanding		Options Exercisable		
	Number of Shares	Average Remaining Life (Years)	Average Exercise Price	Number of Shares	Average Exercise Price
\$ 7 to \$11	219,487	4.3	\$10.01	219,487	\$10.01
\$12 to \$14	123,519	6.4	\$13.37	123,519	\$13.37
\$22 to \$23	297,111	8.2	\$22.32	126,117	\$22.32
\$24 to \$32	598,470	9.3	\$28.83	105,843	\$29.06

As of December 31, 1998 there were 928,050 shares available for future grant (1,345,013 at December 31, 1997) under the 1991 Plan and its predecessor plan.

Incentive Stock Rights entitle the holder to receive without payment, incentive stock units (units), each of which is equivalent to one share of the Company's common stock, after the lapse of the incentive period. Certain units are also subject to the satisfaction of established performance goals. Additionally, holders are credited with dividend equivalents, which are converted into additional units, based on dividends paid on outstanding units. All units granted have up to a five-year incentive period. In 1998, 193,500 units were granted, 6,187 units were credited to holders for dividend equivalents and 6,000 units were forfeited. Additionally, 125,199 units, which includes

dividend equivalents, were terminated in 1998 in conjunction with the accelerated retirement agreement for the retired president and chief executive officer. As of December 31, 1998, there were 394,060 units outstanding.

Under the Non-Employee Director Deferred Stock Plan each non-employee director is awarded 6,000 shares of the Company's common stock upon retirement. There were no shares issued under this plan in 1998, while 12,000 shares and 6,000 shares were issued in 1997 and 1996, respectively. As of December 31, 1998, 54,000 shares were reserved for issuance under this plan.

Total shares reserved for issuance under all stock plans aggregated 2,999,576 at December 31, 1998.

plan covering employees of Barnes Aerospace and field sales employees of Bowman Distribution's U.S. operation. Company contributions under this plan are based primarily on the performance of the business units and employee compensation. Contribution expense under this plan was \$2,029, \$2,593 and \$1,735 in 1998, 1997 and 1996, respectively.

The Company provides certain other medical, dental and life insurance postretirement benefits for a majority of its retired employees in the U.S. and Canada. It is the Company's practice to fund these benefits as incurred.



**Developing New Customers and Keeping  
Existing Customers Worldwide is Essential  
to Growing the Company's Business**

In 1998, Daniel Dufeu, systems sales manager for Bowman Distribution France, helped grow Bowman's business through increased sales to food distributors, perfume manufacturers and other service industries in Europe. Other markets the business currently serves include agriculture, airlines, auto dealerships, auto repair, construction, government, manufacturing, mining, railroads and transportation.

## Notes to Consolidated Financial Statements

Barnes Group Inc.

	Pensions		Other Postretirement Benefits	
	1998	1997	1998	1997
A reconciliation of the beginning benefit obligations to the ending benefit obligations follows:				
Benefit obligations, January 1	\$ 233,952	\$ 222,281	\$ 59,983	\$ 62,030
Service cost	5,645	5,384	521	506
Interest cost	16,908	16,668	4,359	4,320
Amendments	2,889	—	—	—
Actuarial loss (gain)	7,925	4,774	4,720	(1,575)
Benefits paid from plan assets	(15,283)	(15,155)	(5,626)	(5,298)
Benefit obligations, December 31	\$ 252,036	\$ 233,952	\$ 63,957	\$ 59,983
Benefit obligations related to plans with benefit obligations in excess of assets	\$ 9,881	\$ 5,692	\$ 63,957	\$ 59,983

A reconciliation of the beginning fair value of plan assets to the ending fair value of plan assets follows:

	Pensions	
	1998	1997
Fair value of plan assets, January 1	\$ 299,632	\$ 271,450
Actual return on plan assets	34,150	43,726
Contributions	379	663
Benefits paid	(15,283)	(15,155)
Translation losses	(520)	(1,052)
Fair value of plan assets, December 31	\$ 318,358	\$ 299,632
Assets related to plans with benefit obligations in excess of plan assets	\$ 487	\$ 188

A reconciliation of the funded status of the plans with the amounts recognized in the accompanying balance sheets is set forth below:

	Pensions		Other Postretirement Benefits	
	1998	1997	1998	1997
Funded status	\$ 66,321	\$ 65,680	\$ (63,957)	\$ (59,983)
Adjustments for unrecognized:				
Net (gains) losses	(60,445)	(56,091)	4,536	(245)
Prior service costs (benefits)	5,583	5,934	(6,953)	(8,376)
Net asset at transition	(4,055)	(5,765)	—	—
Prepaid (accrued) benefit cost	\$ 7,404	\$ 9,758	\$ (66,374)	\$ (68,604)

Significant assumptions used in determining pension and other postretirement expense and the funded status of the plans were:

	Pensions			Other Postretirement Benefits		
	1998	1997	1996	1998	1997	1996
Weighted average discount rate	7.00%	7.50%	7.75%	7.00%	7.50%	7.75%
Long-term rate of return on plan assets	9.25%	9.00%	9.00%	—	—	—
Increase in compensation	4.75%	5.25%	5.25%	4.75%	5.00%	5.00%

Pension and other postretirement benefit expenses consisted of the following:

	Pensions			Other Postretirement Benefits		
	1998	1997	1996	1998	1997	1996
Service cost	\$ 5,645	\$ 5,384	\$ 5,591	\$ 521	\$ 506	\$ 660
Interest cost	16,908	16,668	15,839	4,359	4,320	4,782
Return on plan assets expected	(22,264)	(20,965)	(19,817)	—	—	—
Amortization of transition assets	(1,643)	(1,660)	(1,656)	—	—	—
Recognized (gains) losses	2,898	(531)	(133)	—	—	—
Prior service cost	861	872	681	(1,422)	(1,422)	(1,150)
Benefit cost (credit)	\$ 2,405	\$ (232)	\$ 505	\$ 3,458	\$ 3,404	\$ 4,292

The Company's accumulated postretirement benefit obligations, exclusive of pensions, take into account certain cost-sharing provisions. The annual rate of increase in the cost of covered benefits (i.e., healthcare cost trend rate) is assumed to be 7.0% for 1998, gradually reducing to 5.0% by the year 2001. A one percentage point increase in the assumed healthcare cost trend rate would increase the accumulated benefit obligations by approximately \$2,443 at December 31, 1998, and would have

increased the 1998 aggregate of the service and interest cost components of postretirement benefit expense by approximately \$174. A one percentage point decrease in the assumed healthcare cost trend rate would decrease the accumulated benefit obligations by approximately \$1,539 at December 31, 1998, and would have decreased the 1998 aggregate of the service and interest cost components of postretirement benefit expense by approximately \$166.

### 11. Leases

The Company has various noncancelable operating leases for buildings, office space and equipment. Capital leases were not significant. Rent expense was \$7,133, \$7,178 and \$6,268 for 1998, 1997 and 1996, respectively. During 1997, both Associated Spring

headquarters and Bowman Distribution headquarters relocated to new facilities under operating leases. Minimum rental commitments under noncancelable leases in years 1999 through 2003 are \$5,718, \$4,773, \$4,462, \$3,073, \$2,752 and \$9,074 thereafter.

### 12. Information on Business Segments

The Company's reportable segments are strategic business groups that offer different products and services. Each segment is managed separately because each business requires different technology and marketing strategies. Specifically, the Company operates three reportable business segments:

manufacturing operations are located in Brazil, Canada, Mexico and Singapore. The automotive and automotive parts industries constitute Associated Spring's largest market.

**Associated Spring:** manufactures custom-made springs and other close-tolerance engineered metal components, principally to the transportation, electronics and industrial markets. Associated Spring's custom metal parts are sold in the U.S. and through its international subsidiaries. International

**Bowman Distribution:** distributes fast-moving, consumable repair and replacement products for industrial, heavy equipment and transportation maintenance markets. Additionally, it distributes close-tolerance engineered metal components principally manufactured by Associated Spring. Bowman Distribution's operations and markets are located

## Notes to Consolidated Financial Statements

Barnes Group Inc.

## Notes to Consolidated Financial Statements

Barnes Group Inc.

primarily in the U.S. Other important locations include Canada and Europe.

**Barnes Aerospace:** manufactures precision machined parts and fabricated assemblies, and refurbishes jet engine components for the aircraft and aerospace industries. Barnes Aerospace's operations are primarily in the U.S., while its markets are located in the U.S., Europe and Asia.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies, except with respect to inventory and certain employee benefit

The following tables set forth information about the Company's operations by its three reportable business segments and by geographic area.

### Operations by Business Segment

(Dollars in millions)

	Associated Spring	Bowman Distribution	Barnes Aerospace	Other	Total BGI
<b>Revenues</b>					
<b>1998</b>	<b>\$262.1</b>	<b>\$246.9</b>	<b>\$154.6</b>	<b>\$ (12.4)</b>	<b>\$651.2</b>
1997	259.0	258.8	136.6	(11.7)	642.7
1996	256.8	248.2	103.1	(13.1)	595.0
<b>Operating profit</b>					
<b>1998</b>	<b>\$ 29.1</b>	<b>\$ 40.4</b>	<b>\$ 17.3</b>	<b>\$ (28.7)</b>	<b>\$ 58.1</b>
1997	29.4	38.9	14.4	(15.7)	67.0
1996	33.5	34.8	6.5	(17.1)	57.7
<b>Assets</b>					
<b>1998</b>	<b>\$156.2</b>	<b>\$ 89.0</b>	<b>\$ 82.9</b>	<b>\$ 90.8</b>	<b>\$418.9</b>
1997	152.0	89.7	84.6	81.7	408.0
1996	154.6	83.7	83.1	68.6	390.0
<b>Depreciation &amp; amortization</b>					
<b>1998</b>	<b>\$ 15.3</b>	<b>\$ 5.3</b>	<b>\$ 7.0</b>	<b>\$ 0.8</b>	<b>\$ 28.4</b>
1997	14.2	5.1	8.0	0.8	28.1
1996	12.7	4.3	8.8	0.8	26.6
<b>Capital expenditures</b>					
<b>1998</b>	<b>\$ 18.3</b>	<b>\$ 7.5</b>	<b>\$ 8.3</b>	<b>\$ 0.5</b>	<b>\$ 34.6</b>
1997	18.3	7.0	7.9	0.2	33.4
1996	21.3	3.1	9.4	0.1	33.9

**Notes:**

In 1998, one customer accounted for 11.8% of the Company's total sales.

"Other" revenues represent intersegment sales of which, the majority are sales by Associated Spring to Bowman Distribution.

The operating profit of Associated Spring includes income from its equity investment in NASCO of \$2.6 million, \$1.8 million and \$1.6 million in 1998, 1997 and 1996, respectively.

programs. Specifically, the segments follow the first-in, first-out (FIFO) method of accounting for inventory. Additionally, the segments recognize pension expense based on a fixed percentage of payroll. The Company evaluates the performance of its reportable segments based on operating profit of the respective businesses which includes net sales, cost of sales, selling and administrative expenses, and certain operating components of other income and other expenses. Sales between the business segments and between the geographic areas are accounted for on the same basis as sales to unaffiliated customers. Additionally, revenues are attributed to countries based on location of manufacturing or distribution facilities.

The majority of "Other" operating profit includes corporate office administrative expenses, of which the 1998 expense includes \$12.9 million relating to the accelerated retirement package for the retired president and chief executive officer.

The assets of Associated Spring include the NASCO investment of \$9.2 million, \$7.8 million and \$7.1 million in 1998, 1997 and 1996, respectively.

"Other" assets include corporate controlled assets, the majority of which are cash, deferred tax assets and intangible assets.

A reconciliation of the total reportable segments' operating profit to income before income taxes follows:

	1998	1997	1996
Operating profit	\$ 58.1	\$ 67.0	\$ 57.7
Interest income	1.4	1.2	1.2
Interest expense	(4.1)	(4.9)	(5.0)
Other income (expense)	(0.7)	1.2	(1.6)
<b>Income before income taxes</b>	<b>\$ 54.7</b>	<b>\$ 64.5</b>	<b>\$ 52.3</b>

### Operations by Geographic Area

(Dollars in millions)

	Domestic	International	Inter- Geographical	Total BGI
<b>Revenues</b>				
<b>1998</b>	<b>\$526.8</b>	<b>\$138.3</b>	<b>\$ (13.9)</b>	<b>\$651.2</b>
1997	515.0	139.5	(11.8)	642.7
1996	466.4	138.8	(10.2)	595.0
<b>Long-lived assets</b>				
<b>1998</b>	<b>\$145.5</b>	<b>\$ 41.0</b>	<b>\$ —</b>	<b>\$ 186.5</b>
1997	138.6	42.3	—	180.9
1996	134.2	41.9	—	176.1

**Notes:**

International sales derived from any one country did not exceed 10% of total revenues.

Intergeographical sales are equally distributed between domestic and international.

## Notes to Consolidated Financial Statements

Barnes Group Inc.

## Report of Independent Accountants



### To the Board of Directors and Stockholders of Barnes Group Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, changes in stockholders' equity and of cash flows present fairly, in all material respects, the financial position of Barnes Group Inc. and its subsidiaries at December 31, 1998 and 1997, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our

audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

Hartford, Connecticut  
January 27, 1999

## Quarterly Data (Unaudited)

Barnes Group Inc.

(Dollars in millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
<b>1998</b>					
Net sales	\$ 168.8	\$ 169.2	\$ 158.3	\$ 154.9	\$ 651.2
Gross profit <sup>(1)</sup>	57.5	57.0	50.8	50.0	215.3
Operating income <sup>(2)</sup>	19.3	6.9	16.9	12.1	55.2
Net income <sup>(2)</sup>	11.9	4.6	10.7	7.3	34.5
Per common share: <sup>(2)(3)</sup>					
Net income:					
Basic	0.59	0.23	0.53	0.37	1.72
Diluted	0.58	0.23	0.52	0.36	1.69
Dividends	0.167	0.167	0.180	0.180	0.694
Market prices (high-low)	\$ 33.44-21.25	\$ 34.00-26.50	\$ 30.63-23.63	\$ 31.88-24.56	\$ 34.00-21.25
<b>1997</b>					
Net sales	\$ 158.1	\$ 165.9	\$ 158.5	\$ 160.2	\$ 642.7
Gross profit <sup>(1)</sup>	55.2	54.6	53.2	53.1	216.1
Operating income	16.8	17.5	16.1	15.4	65.8
Net income	10.1	10.7	10.1	9.5	40.4
Per common share: <sup>(3)</sup>					
Net income:					
Basic	0.50	0.53	0.50	0.47	2.00
Diluted	0.49	0.52	0.49	0.46	1.96
Dividends	0.150	0.167	0.167	0.167	0.651
Market prices (high-low)	\$ 24.92-19.79	\$ 29.88-22.88	\$ 30.38-27.00	\$ 29.25-22.75	\$ 30.38-19.79

<sup>(1)</sup> Sales minus cost of sales.

<sup>(2)</sup> Includes a \$12.9 million pretax, \$7.7 million after-tax charge (\$0.38 per share) against income related to the accelerated retirement package for the retired president and chief executive officer of the Company recorded in the second quarter.

<sup>(3)</sup> All per share data has been adjusted for the three-for-one stock split.

## Selected Financial Data

Barnes Group Inc.

	1998 <sup>(3)</sup>	1997	1996	1995	1994
<b>Per common share</b> <sup>(1)(2)</sup>					
Income					
Continuing operations	\$ 1.72	\$ 2.00	\$ 1.63	\$ 1.40	\$ 1.07
Net income:					
Basic	1.72	2.00	1.63	1.40	1.07
Diluted	1.69	1.96	1.61	1.38	1.06
Dividends paid	.69	.65	.60	.53	.48
Stockholders' equity (at year-end)	9.51	8.97	7.86	6.55	5.55
Stock price (at year-end)	29.25	22.75	20.00	12.00	12.67
<b>For the year</b> (in thousands)					
Net sales	\$651,183	\$642,660	\$594,989	\$592,509	\$569,197
Operating income	55,221	65,766	55,316	48,804	36,649
As a percent of sales	8.5%	10.2%	9.3%	8.2%	6.4%
Income from continuing operations					
before income taxes	\$ 54,663	\$ 64,502	\$ 52,310	\$ 45,450	\$ 33,922
Income taxes	20,169	24,079	19,742	17,966	13,606
Net income	34,494	40,423	32,568	27,484	20,316
As a percent of average stockholders' equity	18.4%	23.4%	22.8%	22.6%	20.3%
Depreciation and amortization	\$ 28,431	\$ 28,123	\$ 26,626	\$ 26,750	\$ 23,733
Capital expenditures	34,571	33,398	33,892	35,820	31,848
Average common shares outstanding - basic	20,096	20,237	19,924	19,640	19,061
<b>Year-end financial position</b> (in thousands)					
Working capital	\$106,884	\$113,092	\$109,476	\$ 95,280	\$ 88,325
Current ratio	2.1 to 1	2.3 to 1	2.4 to 1	2.2 to 1	2.0 to 1
Property, plant and equipment	\$139,247	\$133,830	\$131,071	\$122,870	\$112,569
Total assets	418,904	407,978	389,956	361,549	351,956
Long-term debt	51,000	60,000	70,000	70,000	70,000
Guaranteed ESOP obligation - long-term portion	—	2,205	4,951	7,491	9,839
Stockholders' equity	188,674	180,859	157,164	128,841	107,139
Debt as a percent of total capitalization <sup>(4)</sup>	24.1%	27.1%	33.5%	38.4%	45.6%
<b>Year-end statistics</b>					
Employees	3,847	3,872	3,761	3,880	4,181

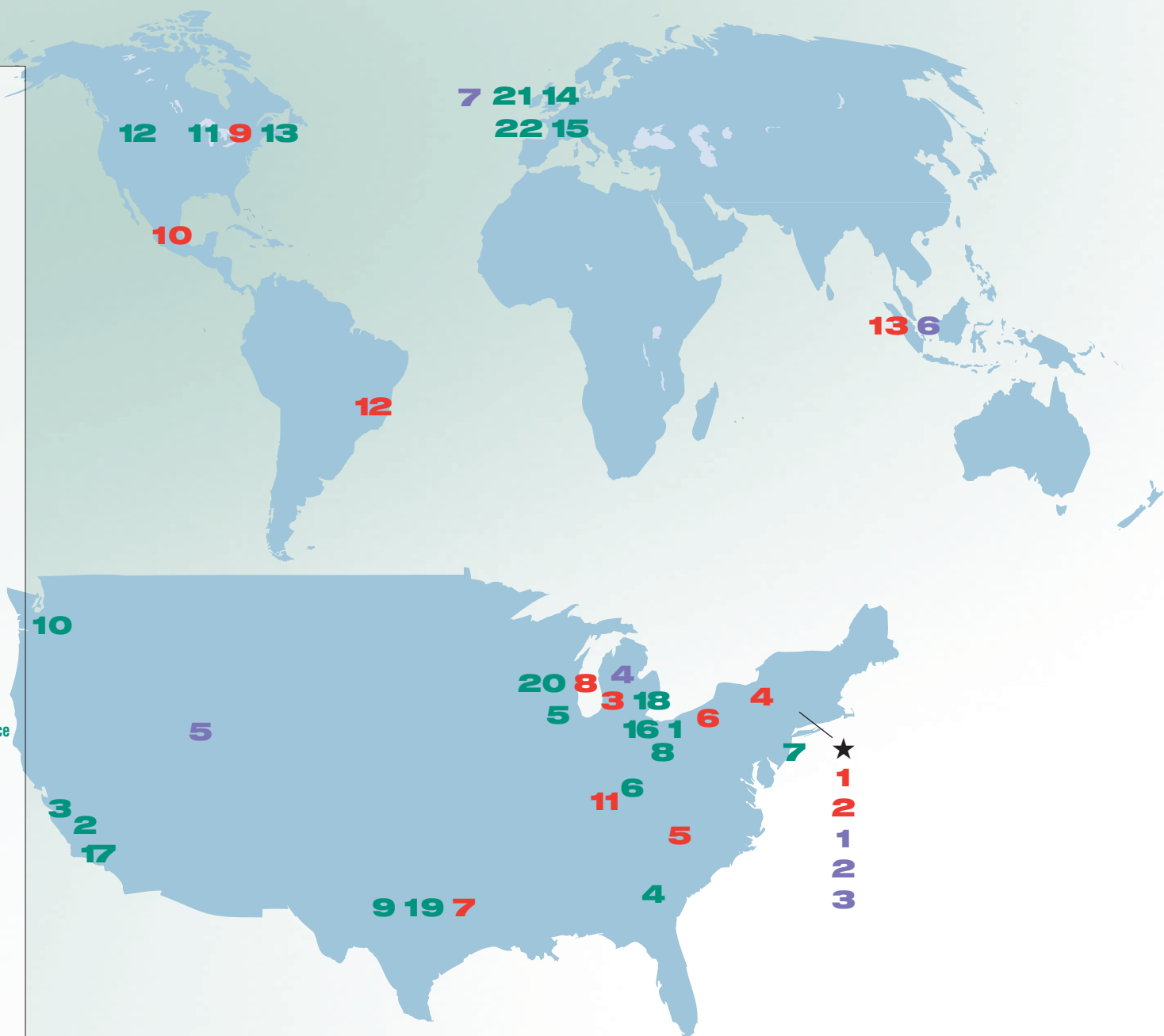
<sup>(1)</sup> All per share data, other than earnings per common share, are based on common shares outstanding at the end of each year. Earnings per common share are based on weighted average common shares outstanding during each year.

<sup>(2)</sup> All per share data has been adjusted for the three-for-one stock split effective April 1997.

<sup>(3)</sup> Includes a \$12.9 million pretax, \$7.7 million after-tax charge (\$0.38 per share) against income related to the accelerated retirement package for the retired president and chief executive officer of the Company.

<sup>(4)</sup> Debt includes all interest-bearing debt including the guaranteed ESOP obligation, and total capitalization includes interest-bearing debt and stockholders' equity.

# Locations Around the World



## Barnes Group Inc.

Headquarters

★ Bristol, Connecticut

## Barnes Aerospace

Headquarters

1 Windsor, Connecticut

Manufacturing Plants  
United States

- 2 East Granby, Connecticut
- 3 Windsor, Connecticut
- 4 Lansing, Michigan
- 5 Ogden, Utah

Asia

6 Republic of Singapore

Sales

Europe

7 Corsham, England

## Associated Spring

Headquarters

1 Farmington, Connecticut

Manufacturing Plants  
North America

- 2 Bristol, Connecticut
- 3 Saline, Michigan
- 4 Syracuse, New York
- 5 Arden, North Carolina
- 6 Corry, Pennsylvania
- 7 Dallas, Texas
- 8 Milwaukee, Wisconsin
- 9 Burlington, Ontario, Canada
- 10 Mexico City, Mexico

Joint Venture  
United States

11 NASCO, Bowling Green, Kentucky

South America

12 Campinas, Brazil

Asia

13 Republic of Singapore

## Bowman Distribution

Headquarters

1 Cleveland, Ohio

Distribution Operations

North America

- 2 Anaheim, California
- 3 Bakersfield, California
- 4 Lawrenceville, Georgia
- 5 Rockford, Illinois
- 6 Elizabethtown, Kentucky
- 7 Edison, New Jersey
- 8 Columbus, Ohio
- 9 Arlington, Texas
- 10 Algona, Washington
- 11 Concord, Ontario, Canada
- 12 Edmonton, Alberta, Canada
- 13 Moncton, New Brunswick, Canada

Europe

- 14 Corsham, England
- 15 Voisins Le Bretonneux, France

Raymond Distribution

United States

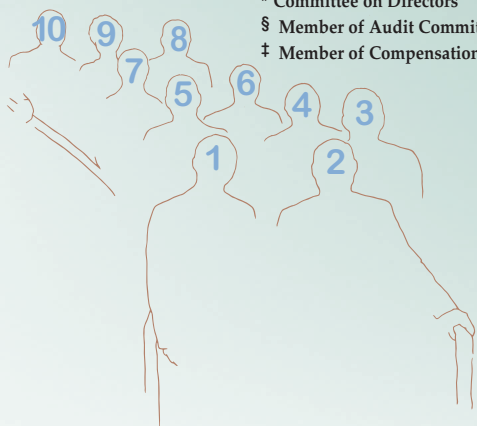
- 16 Maumee, Ohio
- 17 Cerritos, California
- 18 Ypsilanti, Michigan
- 19 Arlington, Texas
- 20 New Berlin, Wisconsin

Europe

- 21 Evesham, United Kingdom
- 22 Montigny, France



\* Committee on Directors  
 § Member of Audit Committee  
 ‡ Member of Compensation Committee



## Board of Directors

**Thomas O. Barnes (1)**  
 Chairman of the Board

**Edmund M. Carpenter (2)**  
 President and  
 Chief Executive Officer

**Marcel P. Joseph §‡ (3)**  
 Former Chairman of the Board,  
 President and Chief Executive  
 Officer  
 Augat Inc., Mansfield,  
 Massachusetts

**Robert J. Callander \*‡ (4)**  
 Executive in Residence  
 Columbia University School  
 of Business, New York, New York

**Gary G. Benanav §‡ (5)**  
 Chairman and  
 Chief Executive Officer  
 New York Life International, Inc.  
 New York, New York

**George T. Carpenter \*§ (6)**  
 President  
 The S. Carpenter Construction Co.  
 Bristol, Connecticut

**William S. Bristow, Jr. \*§ (7)**  
 President  
 W.S. Bristow & Associates, Inc.  
 Rollinsford, New Hampshire

**Frank E. Grzelecki \*‡ (8)**  
 Former Vice Chairman  
 Handy & Harman, Rye, New York

**Donna R. Ecton §‡ (9)**  
 Chairman, President and Chief  
 Executive Officer of EEL, Inc.,  
 Phoenix, Arizona

**Robert W. Fiondella \*§ (10)**  
 Chairman, President and  
 Chief Executive Officer  
 Phoenix Home Life Mutual  
 Insurance Co.  
 Hartford, Connecticut

## Officers

### Executive Office

**Edmund M. Carpenter**  
 President and  
 Chief Executive Officer

**Terry M. Murphy**  
 Senior Vice President, Finance

**John R. Arrington**  
 Senior Vice President, Human  
 Resources

**John J. Locher**  
 Vice President, Treasurer

**Francis C. Boyle, Jr.**  
 Vice President, Controller

### Operations

**Leonard M. Carlucci**  
 Vice President,  
 Barnes Group Inc.,  
 and President,  
 Associated Spring

**Harry G. Saddock, Jr.**  
 Vice President,  
 Barnes Group Inc.,  
 and Vice President, Operations  
 Associated Spring

**Cedric D. Beckett**  
 Vice President,  
 Barnes Group Inc.,  
 and President,  
 Barnes Aerospace

## Corporate Information

### Transfer Agent and Registrar

ChaseMellon  
 Shareholder Services, L.L.C.  
 Overpeck Centre  
 85 Challenger Road  
 Ridgefield Park, NJ 07660  
 Phone: 1-800-288-9541  
 (Continental U.S. only)  
 or 1-201-329-8660  
 www.chasemellon.com  
 For the Hearing-Impaired  
 1-800-231-5469

**Use the above address  
 and phone numbers for  
 information on the following  
 services:**

**Stockholder Inquiries/  
 Address Changes/  
 Consolidations**

**Lost Certificates/  
 Replacements**

**Certificate Transfers:**  
 All certificates should be sent  
 certified or registered mail.

**Dividend Investment/  
 Stockholder Investment Plans:**  
 Dividends on Barnes Group  
 common stock may be  
 automatically invested in  
 additional shares.

**Hand Deliveries:**  
 ChaseMellon  
 Shareholder Services, L.L.C.  
 120 Broadway, 13th Floor  
 New York, NY 10271

### Stock Exchange

New York Stock Exchange  
 Stock Trading Symbol: B  
 Listed on the  
 S&P SmallCap 600 Index

### Independent Accountants

PricewaterhouseCoopers LLP  
 One Financial Plaza  
 Hartford, CT 06103

### Annual Meeting

Barnes Group Inc.'s annual  
 meeting of stockholders  
 will be held at 10:30 AM,  
 Wednesday, April 14, 1999,  
 at Associated Spring Group  
 Headquarters, Farmington,  
 Connecticut.

### Investor Information

Barnes Group welcomes  
 inquiries from stockholders,  
 analysts and prospective  
 investors. Quarterly reports,  
 10-K's and other information  
 pertaining to the Company  
 are available on request.  
 Please note that the Company  
 is no longer required to  
 provide quarterly reports to  
 stockholders. Those wishing  
 to receive this information can  
 obtain it over the Internet (see  
 address below) or by  
 requesting it from the  
 Company at the phone or fax  
 numbers listed below.

Contact: Robert D. Lipira  
 (for investor relations)  
 or Holly V. LeBlanc  
 (for stockholder relations)  
 Barnes Group Inc.  
 123 Main St., P.O. Box 489  
 Bristol, CT 06011-0489 USA  
 Phone: 1-860-583-7070  
 Fax: 1-860-589-3507

### Communication

For additional information  
 on the Company, call our  
 Fax-on-Demand Service at  
 1-800-311-4606.  
 For press releases and other  
 information about the  
 Company, our Internet  
 address is  
 www.barnesgroupinc.com

