

BARNES GROUP INC  
Form 11-K  
June 26, 2017

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 11-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 30, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-4801

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

BARNES GROUP INC. RETIREMENT SAVINGS PLAN

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

Barnes Group Inc.

123 Main Street

Bristol, Connecticut 06010

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Barnes Group Inc. Retirement Savings Plan  
Financial Statements and Supplemental Information  
Years ended December 30, 2016 and 2015  
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Report of Independent Registered Public Accounting Firm

To the Benefits Committee of the  
Barnes Group Inc. Retirement Savings Plan  
Bristol, Connecticut

We have audited the accompanying statements of net assets available for benefits of the Barnes Group Inc. Retirement Savings Plan (the Plan) as of December 30, 2016 and 2015, and the related statements of changes in net assets available for benefits for the years then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. 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, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of December 30, 2016 and 2015, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 2 of the financial statements, the Company adopted ASU 2015-07 and ASU 2015-12, which changed the manner in which it accounts for and discloses certain Plan transactions effective January 1, 2015. Our opinion is not modified with respect to this matter.

Report of Independent Registered Public Accounting Firm (continued)

The supplemental information in the accompanying schedules of assets (held at end of year) as of December 30, 2016, and reportable transactions for the year then ended have been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information in the accompanying schedules, we evaluated whether the supplemental information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. In our opinion, the supplemental information in the accompanying schedules is fairly stated, in all material respects, in relation to the financial statements as a whole.

/s/ Fiondella, Milone & LaSaracina LLP

Glastonbury, Connecticut

June 26, 2017

Barnes Group Inc. Retirement Savings Plan  
 Statements of Net Assets Available for Benefits

|                                       | December 30,  |               |
|---------------------------------------|---------------|---------------|
|                                       | 2016          | 2015          |
| Assets                                |               |               |
| Cash and cash equivalents             | \$3,142,621   | \$2,958,900   |
| Investments at fair value:            |               |               |
| Mutual funds                          | 159,745,270   | 151,418,280   |
| Managed income portfolio fund         | 50,521,242    | 43,543,884    |
| Barnes Group Inc. common stock        | 58,138,532    | 56,156,144    |
| Total investments at fair value       | 268,405,044   | 251,118,308   |
| Receivables:                          |               |               |
| Notes receivable from participants    | 4,310,775     | 4,704,138     |
| Employer profit sharing contributions | 2,524,643     | 2,380,244     |
| Employer contributions                | 876,128       | 741,965       |
| Total receivables                     | 7,711,546     | 7,826,347     |
| Net assets available for benefits     | \$279,259,211 | \$261,903,555 |
| See accompanying notes.               |               |               |

Barnes Group Inc. Retirement Savings Plan  
 Statements of Changes in Net Assets Available for Benefits

|  | Year Ended December 30, |               |
|--|-------------------------|---------------|
|  | 2016                    | 2015          |
| Additions  |                         |               |
| Investment income:                                       |                         |               |
| Interest and dividend income                             | \$7,286,980             | \$9,522,460   |
| Net appreciation in fair value of investments            | 19,326,477              | —             |
| Total investment income                                  | 26,613,457              | 9,522,460     |
| Contributions:   |                         |               |
| Employer match   | 3,700,215               | 3,609,824     |
| Participant and rollover                                 | 9,388,816               | 9,364,851     |
| Profit sharing   | 2,526,846               | 2,381,329     |
| Total contributions                                      | 15,615,877              | 15,356,004    |
| Interest on notes receivable from participants           | 174,921                 | 176,108       |
| Total additions  | 42,404,255              | 25,054,572    |
| Deductions   |                         |               |
| Net depreciation in fair value of investments            | —                       | 8,223,413     |
| Benefit payments   | 24,981,183              | 27,756,505    |
| Administrative expenses                                  | 67,416                  | 75,804        |
| Total deductions   | 25,048,599              | 36,055,722    |
| Net increase (decrease) in assets available for benefits | 17,355,656              | (11,001,150 ) |
| Net assets available for benefits:                       |                         |               |
| Beginning of year  | 261,903,555             | 272,904,705   |
| End of year  | \$279,259,211           | \$261,903,555 |
| See accompanying notes.                                  |                         |               |

Barnes Group Inc. Retirement Savings Plan

Notes to Financial Statements

1. Description of Plan

The following description of the Barnes Group Inc. (the "Company") Retirement Savings Plan (the "Plan") provides only general information. Participants should refer to the Plan document for a more complete description on the Plan's provisions.

General

The Plan is a defined contribution plan. Full-time salaried and non-union hourly United States employees of the Company are eligible to participate in the Plan. Members of collective bargaining units are not eligible to participate. Eligible employees may elect to enroll in the Plan immediately, however all newly eligible employees are automatically enrolled in the Plan sixty days following the date of hire.

Participant Accounts

Each participant's account is credited with (1) the participant's contribution and allocations of (2) the Company's contributions, if any, and (3) Plan earnings, and is charged with an allocation of administrative expenses. Allocations are based on participant earnings or account balances, as defined. Forfeited balances of terminated participants' nonvested accounts are used to reduce future Company contributions and offset administrative expenses of the Plan. The benefit to which a participant is entitled is the benefit that can be provided from the participant's account.

Investment Options

All investment programs are fully participant-directed. Participants may direct the investment of their contributions, the Company's discretionary matching contributions, retirement contributions, and profit sharing contributions, if any, into any of the Plan's available investment options.

Contributions

Subject to certain restrictions which may be applied to highly-compensated employees, participants may elect to make contributions to the Plan through payroll deductions of between 1% and 75% (in whole percentages) of their Plan compensation. In accordance with the Internal Revenue Code, participant pre-tax contributions could not exceed \$18,000 in 2016 and \$18,000 in 2015, with the exception of certain allowable catch-up contributions for participants who will be at least 50 by the end of the year. Such contributions may be made on a pre-tax or after-tax basis. After-tax contributions are not subject to matching Company contributions and the combined pre-tax and after-tax deduction cannot exceed 75% of Plan compensation (the after-tax portion of which cannot exceed 10% of Plan compensation). A participant may also elect to increase or reduce the amount of contributions at any time.

All profit sharing contributions are made by the Company. For all participating divisions, a minimum contribution is equal to 3.5% of each eligible employee's paid compensation which includes base wages, overtime, shift differential and commissions. Profit sharing contributions for the years ended December 30, 2016 and 2015 were \$2,526,846 and \$2,381,329, respectively.

The Company match is equal in value to 50% of the participants' pre-tax contribution up to 6% of their Plan compensation and may be invested in any of the Plan's investment alternatives. The Company matching contributions

for the years ended December 30, 2016 and 2015 were \$2,824,088, and \$2,867,859, respectively.

The Company closed its U.S. salaried defined benefit pension plan to employees hired on or after January 1, 2013 with no impact to the benefits of existing participants. The Retirement Savings Plan was therefore amended and restated effective January 1, 2013 to incorporate a new retirement contribution for certain eligible participating division employees. Each participating division employee hired, rehired or reclassified by the Company from an ineligible to eligible participation category under the Plan on or after January 1, 2013 will be eligible to receive a Company contribution equal to 4% of their Plan compensation for each Plan year.

All retirement contributions are made by the Company. For all participating employees, a contribution equal to 4% of each eligible employee's compensation which includes base wages, overtime, shift differential and commissions. Retirement contributions for the years ended December 30, 2016 and 2015 were \$876,127 and \$741,965, respectively.



## Benefits

Upon a participant's separation from service due to termination, death, disability or retirement, benefits may be distributed to him or her or his or her beneficiary (in the event of death) in a single lump-sum amount equal to the vested value of his or her account. Active participants may also withdraw funds from their accounts due to age or under certain hardship conditions.

## Notes Receivable from Participants

Notes receivable from participants represent participant loans that are recorded at their unpaid principal balance plus any accrued but unpaid interest. Interest income on notes receivable from participants is recorded when it is earned. No allowances for credit losses have been recorded as of December 30, 2016 and 2015. If a participant ceases to make loan repayments and the Plan administrator deems the participant loan to be a distribution, the participant loan balance is reduced and a benefit payment is recorded.

Participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50% of their vested account balance, whichever is lower, not including the profit sharing portion or the incremental discretionary retirement Company contribution of 4%. Loan transactions are treated as a transfer to (from) the investment fund from (to) the participant loans fund. Personal loan terms can be up to five years. The loans are collateralized by the balance in the participant's account and bear a reasonable rate of interest as established by the Benefits Committee in a nondiscriminatory manner.

## Vesting

A participant is 100% vested in the Company match following two completed years of service with the Company. Participants are always 100% vested with respect to their own contributions plus actual earnings thereon. In addition, Company matching contributions become 100% vested upon death, permanent disability or when the participant reaches age 55. Profit sharing or 4% retirement contribution become 100% vested upon death, permanent disability or when the participant reaches age 65.

Profit sharing vesting is as follows:

(1) For employees of participating divisions other than Bowman U.S.:

| Period of Service       | Vested and<br>Nonforfeitable<br>Percentage |   |
|-------------------------|--|---|
| Less than 1 year        | 0  | % |
| 1 but less than 2 years | 20   | % |
| 2 but less than 3 years | 40   | % |
| 3 but less than 4 years | 60   | % |
| 4 but less than 5 years | 80   | % |
| 5 or more years         | 100  | % |

(2) For employees of Bowman U.S.:

| Period of Service | Vested and<br>Nonforfeitable<br>Percentage |  |
|-------------------|--|--|
|-------------------|--|--|

|                   |     |   |
|-------------------|-----|---|
| Less than 5 years | 0   | % |
| 5 or more years   | 100 | % |

Retirement contribution vesting is as follows:

| Period of Service       | Vested and<br>Nonforfeitable<br>Percentage |   |
|-------------------------|--|---|
| Less than 1 year        | 0  | % |
| 1 but less than 2 years | 20   | % |
| 2 but less than 3 years | 40   | % |
| 3 but less than 4 years | 60   | % |
| 4 but less than 5 years | 80   | % |
| 5 or more years         | 100  | % |

#### Trustee

Fidelity Management Trust Company ("Fidelity") is the trustee for all Plan assets. The Benefits Committee, appointed by the Board of Directors of the Company, is responsible for the general administration of the Plan.

#### Plan Termination

The Company presently intends to continue the Plan indefinitely; however, the Company's Board of Directors may terminate the Plan at any time. Upon termination of the Plan, all participants become fully vested in all Company contributions and earnings credited to their accounts as of the date of such termination.

## 2. Summary of Significant Accounting Policies

#### Basis of Accounting

The financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America ("GAAP").

#### Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

#### Risks and Uncertainties

The Plan provides for various investment options in mutual funds, a managed income portfolio fund and Barnes Group Inc. common stock. These investments are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

#### New Accounting Pronouncements

In May 2015, the FASB amended its guidance with the Accounting Standards Update ("ASU") 2015-07 which clarified how investments that are valued using the net asset value ("NAV") practical expedient within the fair value hierarchy

should be classified. This amended guidance is effective for fiscal years beginning after December 15, 2015. The Company adopted the guidance as of December 30, 2016 and retrospectively applied this guidance to the period ended December 30, 2015. The amended guidance changed the presentation of The Fidelity Managed Income Portfolio Fund (the "Managed Income Fund") within Note 4 of the Financial Statements. Specifically, the amended guidance eliminated the requirement to categorize investments for which fair values are measured using the net asset value per share as a practical expedient. See Note 4 of the Financial Statements.

In July 2015, the FASB also amended its guidance related to the measurement of defined benefit pension plans, defined contribution pension plans, and health and welfare benefit plans with the ASU 2015-12. The amended guidance includes three parts which (I) amends current guidance to only require the use of contract value for the measurement, presentation, and disclosure of fully benefit

responsive investment contracts (eliminates the requirement to present the fair value), (II) simplifies the disclosure requirements for certain Plan investments, and (III) simplifies accounting for plans with fiscal year ends that are different than a calendar month end. The amended guidance is effective for fiscal years beginning after December 15, 2015. The Company adopted the guidance as of December 30, 2016. The amended guidance resulted in the Company simplifying its investment disclosures within the Notes of the Financial Statements and eliminated the fair value to contract value adjustment for the Managed Income Fund. The Company did not elect to modify its fiscal year end reporting date.

#### Investment Valuation and Income Recognition

The Plan's mutual funds are stated at fair value, which is based on quoted market prices in an active market. The market value of mutual funds is based on the net asset value of shares held by the Plan at year-end. Purchases and sales of securities are recorded on the trade-date. Interest is recorded on the accrual basis and dividend income on the ex-dividend date.

The Plan's investment in the Managed Income Fund is accounted for in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 962, Plan Accounting - Defined Contribution Pension Plans (ASC 962) which incorporates ASUs 2015-07 and 2015-12. The Managed Income Fund has been reported using its NAV which represents the fair value of the fund.

The fair value of investments in the Company's common stock is based upon quoted market prices.

The Plan presents, in the statements of changes in net assets available for benefits, the net appreciation (depreciation) in the fair value of investments, which consists of the realized and unrealized gains or losses on those investments.

#### Fair Value of Investments

The Plan follows FASB ASC 820, Fair Value Measurements and Disclosures (ASC 820), for all financial assets and liabilities and nonfinancial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis. ASC 820 defines fair value, establishes a fair value hierarchy, and expands disclosures about fair value measurements.

ASC 820 defines fair value as the price that would be received upon sale of an asset or paid upon transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability.

The fair value should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity. In addition, the fair value of liabilities should include consideration of non-performance risk including the Plan's own credit risk.

In addition to defining fair value, ASC 820 expands the disclosure requirements around fair value and establishes a fair value hierarchy for valuation inputs. The hierarchy prioritizes the inputs into three levels based on the extent to which inputs used in measuring fair value are observable in the market. Each fair value measurement is reported in one of three levels which are determined by the lowest level input that is significant to the fair value measurement in its entirety.

These levels are:

Level 1 - Inputs are based upon unadjusted quoted prices for identical instruments traded in active markets.

Level 2 - Inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant

assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 - Inputs are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based valuation techniques that include option pricing models, discounted cash flow models, and similar techniques.

#### Payment of Benefits

Benefits are recorded when paid.

### Administrative Expenses

The Plan provides that all expenses incurred in administering the Plan may be paid by the Plan or the Company. During 2016 and 2015, the Company elected to pay for all Plan administrative expenses other than certain record keeping fees, loan origination fees and redemption charges on certain funds.

### Contributions

Employee contributions are recorded in the period in which the employee payroll deductions are made.

### 3. Fair Value Measurements

The following table summarizes the fair values and levels within the fair value hierarchy in which the fair value measurements fall for assets measured on a recurring basis as of December 30, 2016:

| Description                                   | Level 1        | Level 2 | Level 3 | Total           |
|---|----------------|---------|---------|-----------------|
| Investments:                                  |                |         |         |                 |
| Mutual funds                                  | \$ 159,745,270 | \$ —    | \$ —    | —\$ 159,745,270 |
| Barnes Group Inc. common stock                | 58,138,532     | —       | —       | 58,138,532      |
| Total investments in the fair value hierarchy | 217,883,802    | —       | —       | 217,883,802     |
| Managed Income Fund*                          |                |         |         | 50,521,242      |
| Total investments at fair value               | \$ 217,883,802 | \$ —    | \$ —    | —\$ 268,405,044 |

\*Investments measured at fair value using the NAV as a practical expedient have not been classified within the fair value hierarchy, pursuant to ASU 2015-07.

The following table summarizes the fair values and levels within the fair value hierarchy in which the fair value measurements fall for assets measured on a recurring basis as of December 30, 2015:

| Description                                   | Level 1        | Level 2 | Level 3 | Total           |
|---|----------------|---------|---------|-----------------|
| Investments:                                  |                |         |         |                 |
| Mutual funds                                  | \$ 151,418,280 | \$ —    | \$ —    | —\$ 151,418,280 |
| Barnes Group Inc. common stock                | 56,156,144     | —       | —       | 56,156,144      |
| Total investments in the fair value hierarchy | 207,574,424    | —       | —       | 207,574,424     |
| Managed Income Fund*                          |                |         |         | 43,543,884      |
| Total investments at fair value               | \$ 207,574,424 | \$ —    | \$ —    | —\$ 251,118,308 |

\*Investments measured at fair value using the NAV as a practical expedient have not been classified within the fair value hierarchy, pursuant to ASU 2015-07.

### 4. Managed Income Portfolio Fund

The Plan maintains a managed income portfolio fund with Fidelity. The fund is included in the statements of net assets available for benefits at contract value, which represents the fund's fair value. Contract value represents contributions made, plus earnings, less participant withdrawals and administrative expenses. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value. The average yield and crediting rates for 2016 were 2.01% and 1.58%, respectively. The average yield and crediting rates for 2015 were 1.97% and 1.52%, respectively.

There were no unfunded commitments on the Fidelity stable value commingled pools as of December 30, 2016. Participant level transactions take place daily with the liquidation typically being requested one day and processed the next business day. The Plan level liquidations require notice to Fidelity and could result in the MIP II investment being placed into an account for investments only for up to one year.



## 5. Notes Receivable from Participants

Participants may elect to take loans from their accumulated vested account balances in the Plan subject to certain limitations. The loans are withdrawn from the participants' fund balances based upon the percentages in which they were invested and in a sequence as prescribed by the Plan. Interest is charged on the loans at a rate determined quarterly at prime as published in the Wall Street Journal plus one half of one percent (interest rates on outstanding loans at December 30, 2016 ranged from 3.75% to 9.50%). Interest charges commence sixty days subsequent to the initial loan date.

Loan repayments are made in equal periodic installments for a period not to exceed five years and are invested on the participant's behalf in the investment funds per the participant's investment elections. As of December 30, 2016 and 2015, there were 429 and 460 participants with loans outstanding, respectively.

## 6. Benefit Payments and Forfeitures

During 2016 and 2015, benefit payments amounted to \$24,981,183 and \$27,756,505, respectively.

If a participant terminates their employment with the Company, the portion of Company contributions not vested is forfeited. Such forfeitures amounted to \$345,169 and \$272,188 in 2016 and 2015, respectively. The amount of forfeitures used to reduce Company contributions and Plan expenses were \$269,571 and \$294,754 in 2016 and 2015, respectively. Unallocated forfeitures at December 30, 2016 and 2015 were \$481,681 and \$400,086, respectively. Profit sharing forfeitures are reallocated as Company contributions.

## 7. Federal Income Tax Status

The U.S. Treasury Department has determined, most recently as of October 31, 2016, that the Plan as originally adopted and amended through January 8, 2016 is a qualified plan under the applicable provisions of the Internal Revenue Code and, as such, is exempt from Federal income taxes. The Plan administrator, which consults regularly with outside legal counsel regarding Plan matters, believes that the Plan is designed and is currently being operated in compliance with the applicable requirements of the Code. Therefore, no provision for income taxes has been included in the Plan's financial statements.

Employees are not taxed currently on Company contributions to the Plan, contributions made under the salary deferral provisions of the Plan, or on income earned by the Plan. However, employees are currently taxed on any after-tax contributions. Internal Revenue Service and applicable state regulations in effect in the year participant distributions are made determine the tax status of such distributions. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress. The Plan administrator believes it is no longer subject to income tax examinations for years prior to 2013.

## 8. Exempt Party-In-Interest / Related Party

In 2016, the Plan purchased on the open market 480,038 shares of Barnes Group Inc. common stock at a cost of \$17,436,526. The Plan also sold on the open market 820,540 shares for proceeds of \$30,820,405. In addition, participant distributions of stock resulted in the transfer out of 758 shares from the Plan, with a market value of \$26,826. The Plan received no shares as matching contributions from the Company.

In 2015, the Plan purchased on the open market 575,300 shares of Barnes Group Inc. common stock at a cost of \$21,446,905. The Plan also sold on the open market 783,483 shares for proceeds of \$30,545,448. In addition, participant distributions of stock resulted in the transfer out of 64,955 shares from the Plan, with a market value of

\$2,458,090. The Plan received no shares as matching contributions from the Company.

The Plan owned 1,226,034 shares of Barnes Group Inc. common stock or approximately 2% of the outstanding common shares of the Company at December 30, 2016. The Plan owned 1,567,294 shares of Barnes Group Inc. common stock or approximately 3% of the outstanding common shares of the Company at December 30, 2015.

Certain Plan investments are shares of registered investment companies managed by the Trustee. Therefore, these transactions qualify as exempt party-in-interest transactions. Fees paid by the Plan for the investment management services amounted to \$67,416 and \$75,804 for the years ended December 30, 2016 and 2015, respectively.

#### 9. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to Form 5500 as of December 30:

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|   | 2016          | 2015          |
|---|---------------|---------------|
| Net assets available for benefits per the financial statements            | \$279,259,211 | \$261,903,555 |
| Deemed defaulted loans  | (59,038 )     | (62,302 )     |
| Adjustments from contract value to fair value for the Managed Income Fund | 174,970       | 312,619       |
| Net assets available for benefits per Form 5500                           | \$279,375,143 | \$262,153,872 |

The following is a reconciliation of the net change in net assets available for benefits per the financial statements to Form 5500 as of and for the years ended December 30:

|   | 2016         | 2015           |
|---|--------------|----------------|
| Total net change per the financial statements                                       | \$17,355,656 | \$(11,001,150) |
| Change in deemed defaulted loans  | 3,264        | (11,094 )      |
| Change in adjustments from contract value to fair value for the Managed Income Fund | (137,649 )   | (335,197 )     |
| Total net change per Form 5500  | \$17,221,271 | \$(11,347,441) |

Barnes Group Inc. Retirement Savings Plan  
 EIN #06-0247840 Plan #012  
 Schedule H, Line 4(i) - Schedule of Assets (Held at End of Year)

December 30, 2016

| (a) Borrower,<br>Lessor or<br>Similar Party            | (b) Identity of<br>Issue,<br>(c) Description of Investment, Including Maturity<br>Date, Rate of Interest, Par or Maturity Value | (d) Cost    | Number of<br>Units/Shares | (e) Current<br>Value |
|--|---|-------------|---------------------------|----------------------|
| * Fidelity<br>Management<br>Trust Company              | Fidelity Equity - Income K Fund   | \$8,995,657 | 179,913                   | \$10,305,418         |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Spartan 500 Index Fund   | 9,529,949   | 148,456                   | 11,630,015           |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Blue Chip Growth K Fund  | 19,520,533  | 297,365                   | 20,051,295           |
| Eaton Vance<br>Fidelity<br>Management<br>Trust Company | Eaton Vance Parametric Structured Emerging Markets<br>Fund  | 1,449,197   | 104,928                   | 1,335,740            |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Stock Selector Small Cap Fund  | 7,302,752   | 345,821                   | 9,053,582            |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Diversified International K Fund   | 9,240,225   | 273,773                   | 9,097,482            |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Freedom K Income Fund  | 1,392,933   | 120,010                   | 1,393,311            |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Freedom K 2010 Fund  | 3,508,835   | 280,015                   | 3,533,791            |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Freedom K 2020 Fund  | 34,991,852  | 2,611,754                 | 36,460,082           |
| * Fidelity<br>Management<br>Trust Company              | Fidelity Freedom K 2030 Fund  | 20,447,414  | 1,449,816                 | 21,573,268           |
| * Fidelity<br>Management                               | Fidelity Freedom K 2040 Fund  | 10,947,958  | 746,984                   | 11,533,437           |

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|  |   |            |            |               |
|--|---|------------|------------|---------------|
| Trust Company<br>Fidelity                |   |            |            |               |
| * Management                             | Fidelity Freedom K 2050 Fund                                  | 6,443,764  | 418,384    | 6,706,703     |
| Trust Company<br>Fidelity                |   |            |            |               |
| * Management                             | Fidelity Freedom K 2060 Fund                                  | 471,688    | 46,653     | 486,123       |
| Trust Company<br>Dreyfus                 | Dreyfus Bond Market Index Fund                                | 7,002,670  | 662,613    | 6,785,161     |
| Victory Munder                           | Munder Mid Cap Core Growth R6 Fund                            | 4,777,713  | 128,054    | 4,551,036     |
| Fidelity                                 |   |            |            |               |
| * Management                             | Government Cash Reserve                                       | 16,256     | 16,256     | 16,256        |
| Trust Company<br>Fidelity                |   |            |            |               |
| * Management                             | Fidelity Spartan Extended Market Index                        | 4,627,161  | 94,213     | 5,232,570     |
| Trust Company                            |   |            |            |               |
| Total mutual<br>funds                    |   |            |            | 159,745,270   |
| Fidelity                                 |   |            |            |               |
| * Management                             | Fidelity Managed Income Portfolio II                          | 50,521,242 | 50,521,242 | 50,521,242    |
| Trust Company                            |   |            |            |               |
| * Barnes Group<br>Inc.                   | Common stock  | 39,053,255 | 1,226,034  | 58,138,532    |
| Fidelity                                 |   |            |            |               |
| * Management                             | Cash and cash equivalents                                     | 3,142,621  | —          | 3,142,621     |
| Trust Company                            |   |            |            |               |
| Notes                                    | Interest rates ranging from 3.75% - 9.50%, with               |            |            |               |
| * receivable from<br>participants        | maturity dates ranging from December 2016 to<br>December 2021 | —          | —          | 4,310,775     |
| Total assets<br>(held at end of<br>year) |   |            |            | \$275,858,440 |
| *party-in-interest                       |   |            |            |               |

Barnes Group Inc. Retirement Savings Plan

EIN #06-0247840, Plan #012

Form 5500, Schedule H, Part IV, Line 4(j) - Schedule of Reportable Transactions

As of December 30, 2016

| (a)<br>Identity of Party Involved                                      | (b)<br>Description of Assets | (c)<br>Number of Purchases | (e)<br>Purchase Price | (e)<br>Number of Sales | (g)<br>Selling Price | (g)<br>Cost of Asset | (h)<br>Current Value of Asset on Transaction Date | (i)<br>Net Gain/(Loss) |
|--|------------------------------|----------------------------|-----------------------|------------------------|----------------------|----------------------|---|------------------------|
| Category (iii) - Series of transactions in excess of 5% of Plan assets |                              |                            |                       |                        |                      |                      |   |                        |
| * Fidelity Management Trust Company                                    | MIP II CL 1                  | —                          | —                     | 189                    | \$15,863,865         | \$15,863,865         | \$15,867,865                                      | —                      |
| * Fidelity Management Trust Company                                    | MIP II CL 1                  | 219                        | \$19,277,234          | —                      | —                    | —                    | \$19,277,234                                      | —                      |

\*Party-in-Interest

There were no category (i), (ii) or (iv) reportable transactions

Columns for "Lease Rental" and "Expenses Incurred with Transactions" are not applicable

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Benefits Committee of the Board of Directors of Barnes Group Inc. has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Barnes Group Inc.  
Retirement Savings Plan  
(Registrant)

Date: June 26, 2017 By: /s/ DAWN N. EDWARDS  
Dawn N. Edwards  
Member of the Benefits Committee of Barnes Group Inc.

EXHIBIT INDEX

Exhibit No. Description

23.1 Consent of Independent Registered Public Accounting Firm.

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