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

FORM S-8  
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933  

MOOG INC.  
(Exact name of registrant as specified in its charter)  

New York  
(State or other jurisdiction of incorporation or organization)  

16-0757636  
(I.R.S. Employer Identification No.)  

East Aurora, New York 14052-0018  
(Address of Principal Executive Offices, Including Zip Code)  

MOOG INC. EMPLOYEE STOCK PURCHASE PLAN  
(Full Title of the Plan)  

Donald R. Fishback  
Vice President and Chief Financial Officer  
Moog Inc.  
East Aurora, New York 14052-0018  
716-652-2000  
(Name, address and telephone number of agent for service)  

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act.  
Large accelerated filer ☑  Accelerated filer ☐  Non-accelerated filer ☐ (Do not check if smaller reporting company)  
Smaller reporting company ☐  Emerging growth company ☐  

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for the complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2) (B) of the Securities Act. ☐  

Calculation of Registration Fee  

<table>
<thead>
<tr>
<th>Title of Securities to be Registered</th>
<th>Amount to be Registered(1)</th>
<th>Proposed Maximum Offering Price Per Share</th>
<th>Proposed Maximum Aggregate Offering Price(2)</th>
<th>Amount of Registration Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A Common Stock, par value $1.00</td>
<td>2,000,000 shares</td>
<td>$69.63</td>
<td>$139,260,000</td>
<td>$16,140.23</td>
</tr>
<tr>
<td>Class B Common Stock, par value $1.00</td>
<td>2,000,000 shares</td>
<td>$69.13</td>
<td>$138,260,000</td>
<td>$16,024.34</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,000,000 shares</td>
<td>$69.47</td>
<td>$138,260,000</td>
<td>$32,164.57</td>
</tr>
</tbody>
</table>

(1) Represents additional shares that may be issued under the Employee Stock Purchase Plan (the “Plan”). This Registration Statement shall also cover any additional shares of Class A or Class B Common Stock which become issuable under the Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration, which results in an increase in the number of outstanding shares of the Registrant’s Class A or Class B Common Stock.
Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h)(1). Pursuant to Rule 457(c), the price per share and aggregate offering price are based upon the average of the reported high and low prices for the shares on the New York Stock Exchange on May 31, 2017.

Part I

Information Required in the Section 10(a) Prospectus

The information specified in Part I of Form S-8 (Items 1 and 2) are not being filed with the Securities and Exchange Commission (the “Commission”) as part of this Registration Statement, but will be sent or given to plan participants as specified by Rule 428 promulgated under the Securities Act of 1933, as amended (the “Securities Act”).

Part II

Information Required in the Registration Statement

ITEM 3. Incorporation of Documents by Reference.

The following documents of Moog Inc. (“Moog”) are incorporated by reference into this Registration Statement:

(a) Moog’s Annual Report on Form 10-K for the year ended October 1, 2016, filed with the Commission on November 14, 2016;

(b) Moog’s Quarterly Reports on Form 10-Q for the quarters ended December 31, 2016 and April 1, 2017, filed with the Commission on January 31, 2017 and April 28, 2017, respectively;

(c) All other reports filed by Moog pursuant to Section 13(a) of 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) since the end of the fiscal year covered by the Annual Report referred to in (a) above, including Moog’s Current Reports on Form 8-K filed with the Commission on January 27, 2017, February 21, 2017, March 6, 2017 and April 28, 2017; and,

(d) The description of Moog’s Class A Common Stock and Class B Common Stock contained in the Registration Statement on Form 8-A filed with the Commission on August 21, 2001 under Section 12(g) of the Exchange Act, including any amendments or reports filed for the purpose of updating such description.

In addition, all documents subsequently filed by Moog pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, subsequent to the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall also be deemed to be incorporated by reference into this Registration Statement and to be a part hereof commencing on the date of the filing of such documents.

Any statement contained herein or in a document all or a portion of which is incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or amended, to constitute a part of this Registration Statement.

ITEM 4. Description of Securities.

Not applicable.
ITEM 5. Interests of Named Experts and Counsel.

Hodgson Russ LLP will advise Moog regarding certain legal matters in connection with the issuance of shares of the Company’s Class B Common Stock registered under this Registration Statement. Robert J. Olivieri, Secretary of Moog, is a partner in Hodgson Russ LLP and attorneys at Hodgson Russ LLP own approximately 2,795 shares of the Company’s Class A Common Stock and 6,427 shares of the Company’s Class B Common Stock.

ITEM 6. Indemnification of Directors and Officers.

Sections 722 through 726 of the New York Business Corporation Law, or BCL, grant New York corporations broad powers to indemnify their present and former directors and officers and those of affiliated corporations against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with threatened, pending or completed actions, suits or proceedings to which they are parties or are threatened to be made parties by reason of being or having been such directors or officers, subject to specified conditions and exclusions; give a director or officer who successfully defends an action the right to be so indemnified; and permit a corporation to buy directors’ and officers’ liability insurance. Such indemnification is not exclusive of any other rights to which those indemnified may be entitled under any by-laws, agreement, vote of shareholders or otherwise.

Section 402(b) of the BCL permits a New York corporation to include in its certificate of incorporation a provision eliminating the potential monetary liability of a director to the corporation or its shareholders for breach of fiduciary duty as a director, provided that such provision shall not eliminate the liability of a director (i) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (ii) for improper payment of dividends, or (iii) for any transaction from which the director receives an improper personal benefit. Moog’s Restated Certificate of Incorporation includes the provisions permitted by Section 402(b) of the BCL.

Moog’s By-Laws provide that Moog shall indemnify such directors and officers against expenses, judgments, fines or amounts paid in settlement in connection with any action, suit or proceeding, or threat thereof, to the maximum extent permitted by applicable law.

Moog has indemnification agreements with its directors. These agreements provide that directors are covered under Moog’s directors and officers liability insurance, indemnify directors to the extent permitted by law and advance to directors funds to cover expenses subject to reimbursement if it is later determined indemnification is not permitted.

ITEM 7. Exemption from Registration Claimed.

Not applicable.

ITEM 8. Exhibits.

The exhibits to this Registration Statement are described in the Exhibit Index below.

ITEM 9. Undertakings.

(a) Moog hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set
forth in the Registration Statement. Notwithstanding the foregoing, any increase or
decrease in volume of securities offered (if the total dollar value of securities offered
would not exceed that which was registered) and any deviation from the low or high end
of the estimated maximum offering range may be reflected in the form of prospectus filed
with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume
and price represent no more than 20 percent change in the maximum aggregate offering
price set forth in the “Calculation of Registration Fee” table in the effective registration
statement.

(iii) To include any material information with respect to the plan of distribution not previously
disclosed in the Registration Statement or any material change to such information in the
Registration Statement; provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not
apply if the information required to be included in a post-effective amendment by those
paragraphs is contained in periodic reports filed with or furnished to the Commission by
Moog pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated
by reference in this Registration Statement.

(2) That for the purpose of determining any liability under the Securities Act, each such post-effective
amendment shall be deemed to be a new registration statement relating to the securities offered
therein, and the offering of such securities at that time shall be deemed to be the initial bona fide
offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities remaining unsold at the termination of the offering.

(b) Moog hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing
of Moog’s annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act, (and, where
applicable, each filing of an employee benefit plan’s annual report pursuant to section 15(d) of the
Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new
registration statement relating to the securities offered therein, and the offering of such securities at that
time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors,
officers and controlling persons of Moog pursuant to the foregoing provisions, or otherwise, Moog has
been advised that in the opinion of the Commission such indemnification is against public policy as
expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for
indemnification against such liabilities (other than the payment by Moog of expenses incurred or paid by a
director, officer or controlling person of Moog in the successful defense of any action, suit or proceeding) is
asserted by such director, officer or controlling person in connection with the securities being registered,
Moog will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit
to a court of appropriate jurisdiction the question of whether such indemnification by it is against public
policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.
SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, Moog certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in East Aurora, New York on June 7, 2017.

MOOG INC.

By:  /s/ Donald R. Fishback
     Donald R. Fishback
     Vice President and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John R. Scannell and Donald R. Fishback, and each acting alone, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any or all amendments to this Registration Statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done with respect to this Registration Statement or any amendments or supplements hereto in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.
<table>
<thead>
<tr>
<th>Signature</th>
<th>Title</th>
<th>Date</th>
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<tbody>
<tr>
<td>/s/ John R. Scannell</td>
<td>Chairman of the Board, Chief Executive Officer (Principal Executive Officer) and Director</td>
<td>June 7, 2017</td>
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<tr>
<td>John R. Scannell</td>
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<tr>
<td>/s/ Donald. R. Fishback</td>
<td>Vice President and Chief Financial Officer (Principal Financial Officer) and Director</td>
<td>June 7, 2017</td>
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<td>Donald R. Fishback</td>
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<tr>
<td>/s/ Jennifer Walter</td>
<td>Controller (Principal Accounting Officer)</td>
<td>June 7, 2017</td>
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<tr>
<td>Jennifer Walter</td>
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<tr>
<td>/s/ Richard A. Aubrecht</td>
<td>Director</td>
<td>June 7, 2017</td>
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<td>Richard A. Aubrecht</td>
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<tr>
<td>/s/ William G. Gisel Jr.</td>
<td>Director</td>
<td>June 7, 2017</td>
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<td>William G. Gisel Jr.</td>
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<tr>
<td>/s/ Peter J. Gundermann</td>
<td>Director</td>
<td>June 7, 2017</td>
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<tr>
<td>/s/ Kraig H. Kayser</td>
<td>Director</td>
<td>June 7, 2017</td>
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<tr>
<td>/s/ R. Bradley Lawrence</td>
<td>Director</td>
<td>June 7, 2017</td>
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<td>R. Bradley Lawrence</td>
<td></td>
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<tr>
<td>/s/ Brian J. Lipke</td>
<td>Director</td>
<td>June 7, 2017</td>
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<tr>
<td>/s/ Brenda L. Reichelderfer</td>
<td>Director</td>
<td>June 7, 2017</td>
</tr>
<tr>
<td>Brenda L. Reichelderfer</td>
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<tr>
<td>EXHIBIT NO.</td>
<td>DESCRIPTION</td>
<td></td>
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<tr>
<td>4.1</td>
<td>Moog Inc. Employee Stock Purchase Plan (incorporated by reference to Exhibit A in Moog Inc.’s Definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on January 19, 2017)</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Opinion of Hodgson Russ LLP.</td>
<td></td>
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<td>23.1</td>
<td>Consent of Ernst &amp; Young LLP.</td>
<td></td>
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<tr>
<td>23.2</td>
<td>Consent of Hodgson Russ LLP (included in exhibit 5.1).</td>
<td></td>
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<tr>
<td>24.1</td>
<td>Power of attorney (included on signature page).</td>
<td></td>
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</table>
Moog Inc.
East Aurora, New York 14052-0018

Ladies and Gentlemen:

Re: Registration Statement on Form S-8 (File No. 333-_______)

We are delivering this opinion at your request in connection with the registration by Moog Inc. (the “Company”) under the Securities Act of 1933, as amended, and the rules and regulations thereunder (the “Act”), of (i) 2,000,000 shares of Class A Common Stock, with a par value of $1.00 per share (ii) 2,000,000 shares of Class B Common Stock, with a par value of $1.00 per share, (such shares of Class A Common Stock and Class B Common Stock being collectively, the “Shares”), for issuance and sale pursuant to the above-referenced registration statement (the “Registration Statement”) under the Moog Inc. Employee Stock Purchase Plan (the “Plan”).

The opinion set forth in this letter is based upon (1) our review of (a) the Registration Statement, (b) the Plan, (c) originals, or copies authenticated to our satisfaction, of the Company’s Restated Certificate of Incorporation, its Restated By-laws, as amended, and records of certain of its corporate proceedings and (d) such other certificates, opinions and instruments as we have deemed necessary (items 1(a) through (d) being collectively the “Reviewed Documents”) and (2) our review of such published sources of law as we have deemed necessary.

We have assumed without any inquiry or other investigation (a) the legal capacity of each natural person, (b) the accuracy on the date of this letter as well as the date made of each statement as to any factual matter contained in any of the Reviewed Documents, (c) the genuineness of each signature on any of the Reviewed Documents, the completeness of each of the Reviewed Documents, the authenticity of each of the Reviewed Documents submitted to us as an original, the conformity to the original of each of the Reviewed Documents submitted to us as a copy and the authenticity of the original of each of the Reviewed Documents submitted to us as a copy and (d) that, when issued in accordance with the Plan, appropriate certificates complying with applicable law evidencing the Shares will be properly executed or the Shares will be uncertificated shares complying with applicable law.

Based upon the foregoing, it is our opinion that the Shares have been duly authorized, and when issued in accordance with the Plan, will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement.

Very truly yours,

HODGSON RUSS LLP

By: /s/ Robert J. Olivieri

Robert J. Olivieri
EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Moog Inc. Employee Stock Purchase Plan of our reports dated November 14, 2016, with respect to the consolidated financial statements and schedule of Moog Inc. and the effectiveness of internal control over financial reporting of Moog Inc. included in its Annual Report (Form 10-K) for the year ended October 1, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Buffalo, New York
June 7, 2017