

Thompson Mark  
Form 4  
November 19, 2009

**FORM 4** UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
Thompson Mark

2. Issuer Name and Ticker or Trading Symbol  
AMERICAN SCIENCE & ENGINEERING INC [ASEI]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction (Month/Day/Year)  
11/17/2009

Director  10% Owner  
 Officer (give title below)  Other (specify below)

C/O AMERICAN SCIENCE & ENGINEERING, INC., 829 MIDDLESEX TURNPIKE

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 Form filed by More than One Reporting Person

BILLERICA, MA 01821

(City) (State) (Zip)

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price
Common Stock	11/17/2009		M		6,090	A	\$ 57.68
Common Stock	11/17/2009		M		7,000	A	\$ 63.71
Common Stock	11/17/2009		S		11,994	D	\$ 71.9345
							(1)

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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(9-02)

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned**  
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Amount or Number of Shares
Stock Options	\$ 57.68	11/17/2009		M	6,090	11/03/2006 11/03/2015	Common Stock	6,090
Stock Options	\$ 63.71	11/17/2009		M	7,000	09/13/2008 09/13/2017	Common Stock	7,000

## Reporting Owners

### Reporting Owner Name / Address

### Relationships

Director 10% Owner Officer Other

Thompson Mark  
C/O AMERICAN SCIENCE & ENGINEERING, INC.  
829 MIDDLESEX TURNPIKE  
BILLERICA, MA 01821

X

## Signatures

Michelle Bielunis, 11/19/2009  
Attorney-in-Fact

\*\*Signature of Reporting Person

Date

## Explanation of Responses:

\* If the form is filed by more than one reporting person, see Instruction 4(b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

(1) The shares of common stock were sold in multiple open market transactions at a price per share range from a low of \$71.78 to a high of \$72.09 for an average of \$71.9345 per share.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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