

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

SCHEDULE 13G

**Under the Securities Exchange Act of 1934
(Amendment No. ____)***

Innovative Solutions and Support, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

45769N 105

(CUSIP Number)

December 31, 2003

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1. Names of Reporting Persons
I.R.S. Identification Nos. of above persons (entities only).

Parker-Hannifin Corporation

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

Not Applicable

3. SEC Use Only

4. Citizenship or Place of Organization

Ohio

5. Sole Voting Power

1,086,287

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

6. Shared Voting Power

-0-

7. Sole Dispositive Power

1,086,287

8. Shared Dispositive Power

-0-

9. Aggregate Amount Beneficially Owned by Each Reporting Person

1,086,287

10. Check Box if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

Not applicable

11. Percent of Class Represented by Amount in Row (9)

9.5%

12. Type of Reporting Person (See Instructions)

CO

Item 1. (a) Name of Issuer: Innovative Solutions and Support, Inc.

(b) Address of Issuer's Principal Executive Offices:

720 Pennsylvania Drive
Exton, PA 19341

Item 2. (a) Name of Person Filing: Parker-Hannifin Corporation

(b) Address of Principal Business Office or, if none, Residence:

6035 Parkland Boulevard
Cleveland, OH 44124

(c) Citizenship: Ohio corporation

(d) Title of Class of Securities: Common Stock

(e) CUSIP Number: 45769N105

Item 3. If this statement is filed pursuant to §§240.13d-1(b), or 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e) An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with §240.13d-1(b)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with §240.13d-1(b)(1)(ii)(J).

Not Applicable.

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned: 1,086,287
- (b) Percent of class: 9.5%
- (c) Number of shares as to which the person has:
 - (i) Sole power to vote or to direct the vote: 1,086,287
 - (ii) Shared power to vote or to direct the vote: 0
 - (iii) Sole power to dispose or to direct the disposition of: 1,086,287
 - (iv) Shared power to dispose or to direct the disposition of: 0

Instruction. For computations regarding securities which represent a right to acquire an underlying security see §240.13d3(d)(1).

Item 5. Ownership of Five Percent or Less of a Class.

Not Applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not Applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person.

Not Applicable.

Item 8. Identification and Classification of Members of the Group.

Not Applicable.

Item 9. Notice of Dissolution of Group.

Not Applicable.

Item 10. Certification.

Not Applicable.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

February 3, 2004

(Date)

PARKER-HANNIFIN CORPORATION

/s/ Thomas A. Piraino, Jr.

(Signature)

Thomas A. Piraino, Jr.
Vice President, General Counsel and Secretary

(Name/Title)