



FORM 10-K

ATS MEDICAL INC - ATSI

Exhibit:

Filed: March 30, 1998 (period: December 31, 1997)

Annual report which provides a comprehensive overview of the company for the past year

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

X Annual report pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 1997
COMMISSION FILE NO. 0-18602

ATS MEDICAL, INC.
(Exact name of registrant as specified in its charter)

MINNESOTA 41-1595629
(State or other jurisdiction of (I.R.S. Employer Identification No.)
incorporation or organization)

3905 ANNAPOLIS LANE 55447
MINNEAPOLIS, MINNESOTA (Zip Code)
(Address of principal executive offices)

Registrant's telephone number, including area code: (612) 553-7736

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Common Stock
\$.01 par value

Indicate by check mark whether the registrant (1) has filed all reports
required to be filed by Section 13 or 15(d) of the Securities Exchange Act of
1934 during the preceding 12 months (or for such shorter period that the
registrant was required to file such reports), and (2) has been subject to such
filing requirements for the past 90 days.

Yes X No _____

Indicate by check mark if disclosure of delinquent filers pursuant to
Item 405 of Regulation S-K is not contained herein, and will not be contained,
to the best of registrant's knowledge, in definitive proxy or information
statements incorporated by reference in Part III of this Form 10-K or any
amendment to this Form 10-K. ()

The aggregate market value of voting stock held by nonaffiliates of the
registrant as of March 13, 1998 was approximately \$109,087,237 (based on the
last sale price of such stock as reported by the NASDAQ National Market).

The number of shares outstanding of each of the registrant's classes of
common stock as of March 13, 1998 was:

Common Stock, \$.01 par value 17,589,058 shares

DOCUMENTS INCORPORATED BY REFERENCE

Pursuant to General Instruction G(3), the responses to Items 10, 11, 12
and 13 of Part III of this report are incorporated herein by reference to
certain information contained in the Company's definitive proxy statement for
its 1998 Annual Meeting of Shareholders to be filed with the Securities and
Exchange Commission on or before April 30, 1998.

PART I

ITEM 1. BUSINESS

GENERAL

ATS Medical, Inc. ("ATS Medical" or the "Company") manufactures and markets a pyrolytic carbon bileaflet mechanical heart valve. The Company began selling the ATS Medical(TM) valve (the "Valve") in international markets in 1992. In December, 1996 the U.S. Food and Drug Administration ("FDA") approved the Company's Investigational Device Exemption ("IDE") allowing the Company to initiate a clinical study of the Valve with the eventual goal of regulatory approval in the United States.

THE ATS OPEN PIVOT VALVE

The ATS Open Pivot valve is designed to advance the standard of existing mechanical heart valves by combining a proprietary open pivot design and certain innovative features with the widely accepted biocompatibility and durability of pyrolytic carbon. The following characteristics are the primary advances of the ATS Medical valve:

POTENTIAL FOR REDUCED RATES OF THROMBOEMBOLIC COMPLICATIONS

The proprietary open pivot areas of the ATS Medical valve feature spherical protrusions from the orifice that match spherical notches in the leaflets. The pivot areas project into the normal blood flow pattern where the pivots are washed by the flowing blood.

POTENTIAL FOR IMPROVED BLOOD FLOW EFFICIENCIES

The Valve's orifice is a solid pyrolytic carbon ring. By eliminating the graphite substrate used in some valves, the Company is able to make the orifice durable and thin, thereby resulting in a larger average inside diameter. This design characteristic results in blood flow efficiencies which should reduce the workload on the heart.

POTENTIAL FOR EASE OF IMPLANT

The ATS Medical valve has a low profile design to avoid complications in the implant procedure. The orifice also is rotatable, thereby allowing the surgeon to optimize valve orientation by adjusting the position of the leaflets after the Valve has been sutured in the natural anatomical position in the patient's heart. The packaging and accessories of the Valve also are designed to facilitate the implant procedure by including all of the required items pre-assembled in a sterilized dual barrier container.

POTENTIAL FOR IMPROVED FOLLOW-UP DIAGNOSTIC CAPABILITY

The ATS Medical valve eases the follow-up diagnostic process by being highly visible to x-rays. The titanium stiffening ring provides a clear image on x-rays taken from any angle. The leaflets also have a high percentage of tungsten impregnated in the substrate, making them highly visible to x-rays. This increased visibility to x-rays assists cardiologists during follow-up examinations.

POTENTIAL FOR IMPROVED PATIENT QUALITY OF LIFE THROUGH LOWER NOISE LEVELS

Initial clinical reports and preliminary studies indicate that the ATS Medical valve is substantially quiet and below the threshold of hearing for most patients. The Company believes that the reduced noise level of the Valve further improves the quality of life of the patient.

CLINICAL DATA AND TESTING RESULTS

The Company began the development of the ATS Medical valve in November 1990. During 1991 and 1992, the Company performed in vitro and animal testing of the Valve. The in vitro testing included accelerated wear testing which subjected the Valves to repeated opening and closing at speeds and forces greatly in excess of those found in the human heart. The Company has accumulated wear data in excess of 600 million cycles or equivalent to 15 years of performance in a human. The results of these accelerated wear tests show average wear rates similar to control valves. The results of the animal testing and the other in vitro testing also show performance characteristics similar to control valves.

Beginning in May 1992, after obtaining approval from its Medical Advisory Board, the Company commenced human implants in international markets. Through January 1, 1998, the Company estimates that over 20,000 ATS Medical valves have been implanted in patients outside of the United States. The Company has received implant registration data from over 130 institutions in 29 countries which have implanted the ATS Medical valve in patients. Published reports have documented the clinical performance of the ATS Medical valve.

PROSTHETIC HEART VALVE MARKET

Prosthetic heart valves have been in general use since the 1960's and represent an estimated \$600 million worldwide market. The worldwide prosthetic heart valve market has consistently grown at a rate of over 5 percent annually over the last 20 years, principally due to the expansion of cardiovascular surgery facilities and the acceptance of valve replacement.

The worldwide prosthetic heart valve market is projected to continue to increase at annual rates of 4 to 5 percent due to the aging of the population and the expansion of cardiovascular surgery in international markets. One of the principal causes of valve replacement is the deterioration of natural valves through the aging process, with the average age of valve replacement patients in excess of 50 years. As this segment of the population increases, the market for prosthetic heart valves is expected to increase. In addition, rheumatic heart disease is a principal cause of valve replacement, particularly in areas where penicillin has been unavailable until relatively recently.

As cardiovascular surgery facilities expand in developing markets, the number of prosthetic heart valve implants is expected to increase.

Replacement heart valves are categorized as one of two types: mechanical or tissue. Mechanical valves are made from materials such as metals, ceramics, carbon or plastics. Tissue valves are made from animal or cadaver tissue or in some cases the patient's own tissue. A majority of the prosthetic heart valves implanted worldwide are mechanical valves. As life expectancies increase, cardiac surgeons have been less likely to use tissue valves in older patients and thereby subject the patient to the risks of a possible re-operation. Mechanical valves are also used in many instances to replace degenerative prosthetic tissue valves. In 1997, however, two of the largest competitors in the industry introduced new tissue valves. The impact of these new tissue valves on the relative number of mechanical and tissue valves implanted remains to be seen.

MARKETING AND SALES

The Company's marketing strategy is to combine the substantial cardiovascular sales experience of its senior officers with a network of experienced independent distributors to sell the Valve internationally while pursuing regulatory approval in the United States.

Manuel A. Villafana and Richard W. Kramp, the Company's Chief Executive Officer and Chief Operating Officer, respectively, previously recruited, selected and managed the independent distributor network of St. Jude Medical, Inc. ("St. Jude"). St. Jude was founded in 1976 by Mr. Villafana to develop a bileaflet mechanical heart valve that has become the world's most frequently implanted prosthetic heart valve and is currently the industry standard. Mr. Kramp headed St. Jude's worldwide sales and marketing efforts for almost 10 years.

Since 1992, the Company has contracted with independent distributors in most of the developed international markets. The Company believes that this independent distributor network provides a rapid and cost efficient means of introducing the Valve in a wide range of international markets through an experienced sales force. The selection of an independent distributor does not involve significant expense to the Company and does not expose the Company to currency fluctuation risk because the distributor purchases Valves directly from the Company in United States dollars. The Company has been able to attract experienced mechanical valve sales organizations familiar with local markets and customs to act as distributors.

The Company has a standard distributor agreement with variations for certain distributors. Most of the distributor agreements establish quotas for sales of the Valve in the distributor's territory. Most of the distributor agreements also provide for termination at the option of the Company upon the departure of certain key employees of the distributor or the change in control of ATS Medical.

At December 31, 1997, the Company had contracts with 30 distributors covering 42 countries outside the United States. Sales to four (three in 1995) of these distributors represented over 50% of total sales for each of the past three years. The table below outlines these significant distributors:

Sales as a Percentage of Total Revenue

	1997	1996	1995
Century Medical, Inc.	17.2%	14.0%	---
Biomed, S.A.	9.4	11.3	20.0%
Gemettron GmbH & Co. KG	16.7	24.0	25.4
Medi-Service	11.2	9.2	10.4

The Company sells the Valves to each distributor F.O.B. Minneapolis. The Company allows the return of unused Valves as long as the Valve has not been opened and the sterilization date has not expired.

The loss of any one distributor or group of distributors could cause a disruption in sales and have an adverse impact on the Company's reported financial results. Management attempts to foster good working relationships with its distributors and believes that there would be alternative distributors available to represent the Valve in most markets should it become necessary to replace one or more of the distributors.

The Company supports its independent distributors through the Company's sales, marketing and customer service personnel. The Company displays the Valve at major international, national and regional medical meetings attended by cardiovascular surgeons and cardiologists. The Company also develops and distributes product brochures and product information bulletins and conducts product training sessions. When feasible, the Company also responds to special requests from physicians for supporting accessories and custom devices.

During 1997 the exchange rate for many international currencies fell in value relative to the U.S. Dollar. In Europe, these changes caused the value of some currencies to decrease by as much as 15% relative to the U.S. Dollar. The consequence of this currency change is the same as a price increase to the Company's distributors. The Company responded in select countries by lowering the U.S. Dollar price of the Valve.

COMPETITION

The mechanical heart valve market is highly competitive with one dominant company, St. Jude Medical, Inc. Other companies that sell mechanical valves include Medtronic, Inc., CarboMedics, Inc. ("CMI"), Baxter Edwards and Sorin Biomedica sPa. Medtronic, Inc. sells a monoleaflet mechanical valve that was introduced in the late 1970's as well as a tissue valve. CMI, which manufactures pyrolytic carbon components for the Company's valve, markets a bileaflet pyrolytic carbon valve with cavity pivot areas resembling those in the St. Jude valve. CMI introduced its bileaflet valve in international markets in 1986 and in 1993 received FDA approval to sell the valve in the United States. Baxter Edwards reintroduced a bileaflet valve in international markets. Sorin Biomedica sPa is an Italian company that sells a monoleaflet and a bileaflet mechanical valve. These and other competitors have significantly greater financial resources than the Company. The Company is aware of several companies that are developing new prosthetic heart valves. Several companies are developing and testing new autologous (created from the patient's own tissue) valves, more durable tissue valves and new bileaflet and trileaflet mechanical valves. Advancements also

are being made in surgical procedures such as mitral valve reconstruction, whereby the natural mitral valve is repaired, thereby delaying the need for a replacement valve. Other companies are pursuing biocompatible coatings to be applied to mechanical valves in an effort to reduce the incidence of thromboembolic events.

The Company believes that the most important factors in a physician's selection of a particular prosthetic valve are the physician's perceived benefits of the valve and the physician's confidence in the valve design. As a result, valves that have developed a favorable clinical performance record have a significant marketing advantage over new valves. In addition, negative publicity resulting from isolated incidents can have a significant negative effect on a valve's overall acceptance. The Company competes with existing mechanical heart valves by combining the technical features of the Valve with the sales and heart valve marketing experience of its key management and independent distributors. The Company's success is dependent upon the surgeon's willingness to use a new prosthetic heart valve as well as the future clinical performance of the Valve compared with the more established competition.

The Company believes that mechanical heart valves are currently being marketed to hospitals at prices that vary significantly from country to country due to market conditions, currency valuations, distributor mark-ups and government regulations. The Company believes that, after distributor mark-up, the ATS Medical valve sells at or above the current price of other valves in most markets. In many markets, government agencies are imposing or proposing price controls or restrictions on medical products. The Company works with its independent distributors to price the Valve in each market to meet these limitations. In addition, the Company's primary competitors have the ability, due to their internal carbon manufacturing facilities and economies of scale, to manufacture their valves at lower cost than the Company can manufacture the ATS Medical valve.

MANUFACTURING AND COMPONENT SUPPLY

The basic design from which the ATS Medical valve evolved was developed by CMI. CMI is the largest and most experienced manufacturer of pyrolytic carbon components used in mechanical heart valves. CMI has designed and patented numerous mechanical valves, and was in the process of pursuing the regulatory and marketing steps for another mechanical valve that it had developed when it agreed to license its patent (the "CMI Patent") on the basic design of an open pivot bileaflet mechanical valve to the Company in 1990.

The Company commenced its valve development program by entering into four agreements with CMI: a license agreement, a development agreement, a supply agreement and an option agreement. Under the terms of the license agreement with CMI (the "License Agreement"), the Company received a royalty-free worldwide exclusive license to the licensed patent. The License Agreement does not include the right to manufacture the pyrolytic carbon components, except that if CMI is unable to produce the components, the Company has the right and license to make or have made components. The License Agreement may be terminated by CMI or CMI may declare the license to be non-exclusive if the Company fails to meet the minimum purchase requirements under a supply agreement with CMI (the "Supply Agreement"). Upon satisfaction of the Company's minimum purchase requirements under the Supply Agreement, the Company will have a paid-up, exclusive, royalty-free, worldwide license to the licensed patent. At the same time it entered into the License Agreement, the Company entered into a development agreement (the "Development Agreement")

with CMI to complete design development of the pyrolytic carbon components and perform testing of the Valve. The Development Agreement provided that CMI, at the Company's direction, perform preliminary tests of the Valve and assist the Company in making changes in the design. As a result of these tests and certain design changes initiated by the Company, the Company finalized the design of the Valve and filed and received an additional U.S. patent covering the design modifications. The design improvements and the U.S. patent covering the modifications are the exclusive property of the Company. This today is the ATS Open Pivot valve.

In late 1992, upon completion of the Development Agreement, the Company began purchasing sets of Valve components from CMI under the Supply Agreement. The Company and CMI entered into an amendment to the Supply Agreement in December 1993 that modified the minimum purchase requirements. The Supply Agreement, as amended, has a term of 15 contract years and provides that the Company purchase a minimum number of Valve components in each of the first eight contract years. The fifth contract year was completed in December 1997. The total commitment for the next three contract years is approximately \$47 million. If the minimum purchase requirements are not met during any of the first eight contract years, CMI may terminate the License Agreement or may declare the License Agreement to be non-exclusive. The Company may not purchase Valve components from any source other than CMI during the first eight contract years unless CMI is unable to deliver suitable components. After the eighth contract year, the Company must purchase the lower of either certain specified amounts or the number of Valves sold and/or disposed of by any means by the Company. The price for each Valve component set is determined for all fifteen contract years, with a price reduction for volume purchases and sales into certain developing countries, and a yearly price adjustment for changes in the U.S. Department of Labor Employment Cost Index.

The Company's manufacturing operation consists of fabricating the sewing cuff and assembling, inspecting, testing and packaging all of the components into a finished Valve. The standard Valve is available in seven sizes ranging from 19mm to 31mm in diameter, with each size available with sewing cuffs for either aortic valve or mitral valve replacement. An extended sewing cuff is available with the pyrolytic carbon components of a 31mm mitral valve to create a 33mm valve for special mitral valve replacements.

The Company introduced the Advanced Performance ("AP") series of the ATS Medical valve in international markets in early 1994 and is available in seven sizes ranging from 16mm to 28mm in diameter. The AP series consists of a reconfigured sewing cuff, allowing a larger valve to be used in small anulus situations.

The Company receives, inspects and assembles components in its Minneapolis, Minnesota facility. The Valve is then assembled, inspected, packaged and sterilized for shipment to distributors.

At any time during the ninth through the fifteenth contract years of the Supply Agreement, the Company may exercise an option to acquire the carbon technology necessary to manufacture the Valve under an option agreement with CMI (the "Option Agreement"). The option may be exercised by paying a one time fee to CMI. The Option Agreement may be terminated by CMI if the Company fails to meet the minimum purchase levels for any of the first eight contract years of the Supply Agreement or if the Company purchases carbon components from a source other than CMI at any time during the term of the Supply Agreement.

PATENTS AND PROPRIETARY TECHNOLOGY

The Company's policy is to protect its proprietary position by, among other methods, obtaining United States and international patents to protect technology, inventions and improvements important to the development of its business. The Company has received a royalty-free license under the CMI Patent, subject to certain continuing component purchase requirements. See "Business--Manufacturing and Component Supply." The Company refined the design of the Valve to make it suitable for implantation and filed an additional United States patent application covering the design improvements. The United States patent on the design improvements was issued in October 1994. The Company also has filed patent applications in Japan, Belgium, France, Germany, Netherlands, Spain, Switzerland and the United Kingdom relating to the design improvements, and patents have been granted in all countries except Japan, where the application remains pending. No assurance can be given that pending patent applications will be approved or that any patents will not be challenged or circumvented by competitors.

The Company also relies on trade secrets and technical know-how in its manufacture and marketing of the Valve. The Company typically requires its employees, consultants and contractors to execute appropriate confidentiality agreements with respect to the Company's proprietary information.

The Company claims trademark protection to ATS Medical(TM) and ATS Open Pivot(TM).

FDA AND OTHER GOVERNMENT REGULATIONS

As a manufacturer of medical devices, the Company is subject to extensive regulation by the United States Food and Drug Administration (the "FDA") and, in some jurisdictions, by state and foreign governmental authorities. These regulations govern the introduction of new medical devices, the observance of certain standards with respect to the manufacture, testing and labeling of such devices, the maintenance of certain records, the ability to track devices and the reporting of potential product defects and other matters. These regulations have a material impact on the Company. Developments such as the enactment of the Safe Medical Devices Act of 1990 reflect a trend toward more stringent product regulation by the FDA. Recently, the FDA has pursued a more rigorous enforcement program to ensure that regulated businesses comply with applicable laws and regulations.

The sale and use of mechanical heart valves is regulated extensively in the United States by the FDA. Pursuant to the Medical Device Amendments of 1976 to the Federal Food, Drug and Cosmetic Act, medical devices intended for human use are classified into three categories, Classes I, II and III, depending on the degree of regulatory control to which they will be subject. Mechanical heart valves are considered to be Class III devices which are subject to the strictest testing requirements. Before clinical studies to determine safety and effectiveness in humans can begin, a battery of laboratory and animal tests must be conducted. The Company has proceeded with these pre-clinical tests on the Valve since 1991.

The Company received approval of an Investigational Device Exemption ("IDE") Application in December, 1996. The IDE allows limited clinical studies in the U.S. during which the Company must submit reports to the FDA regarding testing and patient follow-up. The IDE study and follow-up is expected to take at least one more year. After obtaining sufficient data from its

clinical studies, the Company may submit a Pre-Market Approval ("PMA") application. The PMA review process is extremely lengthy and no assurance can be given concerning the ultimate timing or outcome of a PMA application. Upon approval of a PMA, the Company would be able to commence full marketing of the Valve in the United States.

In addition to the FDA approval process, the Company is subject to significant additional FDA and other United States regulations. The Company's standard operating procedures and system of documentation used in the manufacturing process will be subject to the FDA's Quality Systems Regulations ("QSR's") which incorporates guidelines for Good Manufacturing Practices ("GMP's"). The Company also will become subject to periodic inspections by the FDA to audit compliance with QSR's. To the extent the Company will sell the Valve to Medicare or Medicaid beneficiaries, the Company will become subject to the "fraud and abuse" laws and regulations promulgated by the U.S. Department of Health and Human Services and the U.S. Health Care Finance Administration. These regulations prohibit direct or indirect payment arrangements designed to induce or encourage the purchase or recommendation of products reimbursable under Medicaid or Medicare. The Company also will be required to comply with various FDA regulations for advertising, labeling, patient tracking, post market studies and reporting of any adverse experience. The FDA actively enforces regulations and the failure to comply with applicable regulatory requirements can result in fines, seizures, recalls and criminal prosecutions.

Regulation of heart valves varies widely in foreign countries, but generally is less stringent than in the United States. Foreign countries vary from having no regulations to having pre-market notice to a pre-market approval process. The Company or its independent distributor must obtain the appropriate approval, if any, from each country's regulatory agency prior to marketing the Valve in that country. The Company received CE Mark approval for all European Union Countries in March, 1995. The Company will continue to be subjected to various audits and tests under the European Community directives. In June, 1996, the Company received approval to begin commercial sales in the Japanese market through a Shonin regulatory approval obtained by its distributor, Century Medical, Inc. The Company is in the process of pursuing regulatory approval for the Valve in Australia and Canada.

PRODUCT LIABILITY AND INSURANCE

Cardiovascular device companies are subject to an inherent risk of product liability and other liability claims in the event that the use of their products results in personal injury. A mechanical heart valve is a life-sustaining device, and the failure of any mechanical heart valve usually results in the death of the patient. ATS Medical has not received any reports of mechanical failure of the Valves implanted to date and has not experienced any product liability claims. Any future significant failure of the ATS Medical Valve would subject the Company to substantial litigation, damages and adverse publicity.

The Company currently maintains a \$10 million product liability insurance policy. A \$5 million product liability insurance policy is required by the Supply Agreement. The Company is financially responsible for any uninsured claims or claims which exceed the insurance policy limits. At the present time, product liability insurance is expensive for mechanical valves. If insurance becomes completely unavailable, the Company must either develop a self-insurance program or sell without insurance, and the Company would be required to obtain the consent of CMI. The development of a self-insurance program would require significant capital.

CMI has made no warranty on the Valve components. The Company has agreed to hold CMI harmless and indemnify CMI in the event claims are made or damages are assessed against CMI as a result of the Valve.

EMPLOYEES

As of January 1, 1998, the Company had 62 full-time employees, of whom 15 were engaged in regulatory affairs and quality assurance, 26 in production and 21 in administrative, purchasing and marketing activities.

ITEM 2. PROPERTIES

The Company currently maintains administrative offices, production and engineering facilities in 23,912 square feet of leased space in a suburb of Minneapolis, Minnesota. The lease expires on February 28, 2003. The Company believes the current facility is adequate for its near-term needs.

ITEM 3. LEGAL PROCEEDINGS

None

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None

EXECUTIVE OFFICERS OF THE COMPANY

The executive officers of the Company are as follows:

NAME	AGE	POSITION
- - - - -	---	-----
Manuel A. Villafana	57	Chairman and Chief Executive Officer
Richard W. Kramp	52	President and Chief Operating Officer
Russell W. Felkey	47	Executive Vice President of Regulatory Affairs and Secretary
John H. Jungbauer	48	Vice President, Treasurer and Chief Financial Officer

MANUEL A. VILLAFANA, a founder of the Company, has served as Chief Executive Officer and Chairman of the Board since the Company's inception in 1987. From 1983 to 1987, Mr. Villafana served as Chairman of GV Medical, Inc., a company co-founded by Mr. Villafana to develop, manufacture and market the LASTAC System, a laser transluminal angioplasty catheter system. From 1976 to 1982, Mr. Villafana served as President and Chairman of St. Jude Medical, Inc., a company founded by Mr. Villafana to develop, manufacture and market a prosthetic bileaflet heart valve manufactured from pyrolytic carbon. From 1972 to 1976, Mr. Villafana served as President and Chairman of Cardiac Pacemakers, Inc., a company founded by Mr. Villafana to develop, manufacture and market a new generation of lithium powered pacemakers.

RICHARD W. KRAMP has served as President and Chief Operating Officer and a Director of the Company since joining the Company in March 1988. Prior to joining the Company, Mr. Kramp was Vice President of Sales and Marketing for St. Jude Medical, Inc., where Mr. Kramp served in a variety of sales and marketing capacities from 1978 to 1988. From 1976 through 1978, Mr. Kramp served as Illinois Sales Manager for Life Instruments, a distributor of cardiovascular products. From 1972 to 1976, Mr. Kramp was the Senior Design Engineer and then Supervisor of Electrical Design for Cardiac Pacemakers, where he designed the first lithium powered demand pacemaker for which he received a U.S. patent. Mr. Kramp also is a director of MedAmicus, Inc., a medical products company.

RUSSELL W. FELKEY has served as Executive Vice President of Regulatory Affairs of the Company since April 1991 and has served as Secretary since October, 1995. From 1989 to 1991, Mr. Felkey was Vice President of Regulatory Affairs and Quality Assurance at Cardiovascular Imaging Systems, Inc., a company involved in the development of peripheral and coronary ultrasound catheters. From 1984 to 1989, Mr. Felkey was Vice President of Regulatory Affairs at GV Medical, Inc.

JOHN H. JUNGBAUER has served as Vice President of the Company since April 1, 1995 and has served as Treasurer and Chief Financial Officer of the Company since October 1990. From 1988 to 1990, Mr. Jungbauer was Executive Vice President of Titan Medical, Inc., a medical products company. Prior to 1987, Mr. Jungbauer was Vice President of Finance at St. Jude Medical, Inc.

MEDICAL ADVISORY BOARD

The Company has a Medical Advisory Board that meets periodically to review and guide the design and testing of the Valve as well as to provide assessments of potential new cardiovascular products. The members of the Medical Advisory Board are as follows:

DR. DEMETRE M. NICOLOFF is a world-renowned cardiac surgeon practicing with Cardiac Surgical Associates in association with the Minneapolis Heart Institute and St. Paul Heart and Lung Center. Previously, Dr. Nicoloff was an Associate Professor of Surgery at the University of Minnesota and taught in the Department of Surgery at the University of Minnesota for over 15 years. Dr. Nicoloff participated in the first human implant of the ATS Medical valve in May 1992. Dr. Nicoloff also participated in the design of the first generation of bileaflet valves and performed the first human implant of the most frequently implanted mechanical bileaflet valve. Dr. Nicoloff previously was a member of the Scientific Advisory Board of St. Jude Medical, Inc. Dr. Nicoloff received his medical degree from Ohio State University.

DR. H. DAVID FRIEDBERG is a Clinical Professor of Medicine and Cardiology at the University of South Florida. Dr. Friedberg is certified in cardiac pacing and electrophysiology. He is a Fellow of the American College of Cardiology, American College of Chest Physicians and the Council of Clinical Cardiology of the American Heart Association. Dr. Friedberg participated in the first implant of the ATS Medical valve in May 1992. Dr. Friedberg previously was a member of the Scientific Advisory Board of St. Jude Medical, Inc. Dr. Friedberg obtained his medical degree in South Africa and performed his internal medicine studies and residencies in London, England.

PART II

ITEM 5. MARKET OR REGISTRANT'S COMMON EQUITY AND RELATED
SHAREHOLDER MATTERS

The Company's common stock (the "Common Stock") is traded on the Nasdaq National Market under the symbol "ATSI." The following table sets forth the high and low sale prices since January 1, 1996. Prices represent transactions between dealers and do not reflect retail markups, markdowns or commissions.

1997	HIGH	LOW	1996	HIGH	LOW
First Quarter	\$8.50	\$6.50	First Quarter	\$12.00	\$9.00
Second Quarter	7.00	4.75	Second Quarter	11.88	9.38
Third Quarter	6.63	5.00	Third Quarter	11.00	7.00
Fourth Quarter	7.25	4.75	Fourth Quarter	8.63	6.25

As of December 31, 1997 there were 628 record holders of the Common Stock. The Company has not paid cash dividends and has no present intentions of paying cash dividends on its Common Stock.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data of the Company have been derived from its financial statements for the years ended December 31, 1997, 1996, 1995, 1994 and 1993, which financial statements have been audited by Ernst & Young LLP. The data should be read in conjunction with the Company's audited financial statements and the notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere herein.

STATEMENTS OF OPERATIONS DATA:	Year ended December 31,				
	1997	1996	1995	1994	1993
REVENUES:					
Net sales	\$ 14,515,915	\$ 11,859,765	\$ 9,300,540	\$ 6,763,408	\$ 5,057,640
Less cost of goods sold	9,428,959	7,474,065	6,011,025	4,189,426	3,082,169
GROSS PROFIT FROM OPERATIONS	5,086,956	4,385,700	3,289,515	2,573,982	1,975,471
OPERATING EXPENSES:					
Research, development and engineering	1,058,318	617,571	718,189	640,032	679,675
Selling, general and administrative	3,339,488	3,065,402	2,549,570	1,993,447	2,428,630
TOTAL EXPENSES FROM OPERATIONS	4,397,806	3,682,973	3,267,759	2,633,479	3,108,305
Interest income	1,427,363	641,375	752,880	74,706	165,202
Other income	0	0	0	0	599,218
Interest expense	0	0	(31,224)	(31,317)	0
Income taxes	(13,846)	(22,500)	(28,888)	(25,243)	0
NET INCOME (LOSS)	\$ 2,102,667	\$ 1,321,602	\$ 714,524	(\$ 41,351)	(\$ 368,414)
NET INCOME (LOSS) PER SHARE-DILUTED(1)	\$ 0.12	\$ 0.08	\$ 0.05	\$ 0.00	(\$ 0.03)
Cash dividends declared	0	0	0	0	0
Weighted average number of shares outstanding during the period	17,872,989	16,303,317	15,328,596	11,177,881	10,841,123

(1) All earnings per share data has been restated. See Note 1 to the financial statements

December 31,

BALANCE SHEET DATA:

	1997	1996	1995	1994	1993
	-----	-----	-----	-----	-----
Cash and cash equivalents	\$ 4,568,332	\$ 2,320,010	\$ 2,213,632	\$ 628,368	\$ 2,735,421
Working capital	52,375,893	30,643,942	27,802,438	11,214,977	10,983,019
Total assets	54,386,031	33,320,300	31,329,128	14,558,450	13,887,233
Long-term debt	0	0	0	0	0
Total liabilities	863,292	1,393,561	2,269,707	1,790,773	1,171,733
Accumulated deficit	(18,491,255)	(20,593,921)	(21,915,523)	(22,630,047)	(22,588,696)
Shareholders' equity	53,522,739	31,926,739	29,059,421	12,767,677	12,715,500

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL
CONDITION AND RESULTS OF OPERATIONS

RESULTS OF OPERATIONS

YEAR ENDED DECEMBER 31, 1997 COMPARED TO 1996

Net sales totaled \$14,515,915 for the year ended December 31, 1997, an increase of \$2,656,150 or 22% over the net sales of \$11,859,765 reported for the year ended December 31, 1996. Unit sales increased 25% from 1996 which is about five times the rate of unit growth in the overall heart valve market. The Company sells to independent distributors with assigned territories (generally a specific country or region) who in turn sell the valve to a hospital or clinic. The Company sells in U.S. dollars so currency risk is borne by the distributor. During 1997 the exchange rate for many currencies fell in value relative to the U.S. dollar. In Europe, these changes caused a decrease in value for some currencies by as much as 15%. The consequence of this currency change is the same as a price increase to our distributors. The Company responded in select countries by lowering the dollar price of the Valve. During 1997 the Company was selling Valves in most developed countries and several lesser developed countries ("LDC's") so sales growth came primarily from increased usage in existing markets. In 1996 and each of the previous years, a portion of the sales increase came from opening new markets as well as increased usage within existing markets.

The average selling price of the Valve declined 3% from 1996 to 1997. The average selling price of the Valve increased 3% from 1995 to 1996. Given the current strength of the U.S. dollar and the pricing strategies of its competitors the Company does not expect to be able to raise prices in 1998.

Prior to January 1997, all sales of Valves were to customers outside of the United States. The Company initiated a clinical study of the Valve at nine hospitals in the United States in 1997. During the study, Valves are provided to the hospitals at prices designed to recover some of the costs of the clinical study. The Company may expand the study to six additional hospitals in 1998.

Cost of goods sold increased 26% to \$9,428,959 for the year ended December 31, 1997 from \$7,474,065 total cost of goods sold for the year ended December 31, 1996. Cost of goods sold as a percentage of sales increased from 63% for the year ended December 31, 1996 to 65% for the year ended December 31, 1997, primarily due to lower average selling prices.

The Company purchases pyrolytic carbon components for the Valve from CarboMedics, Inc. ("CMI"). Approximately 80% of the total cost of a valve is contained in the cost of the carbon components. The price of the components is set under a multi-year supply agreement between the Company and CMI. The price was established in 1990, and varies according to annual volume and is adjusted annually according to increases in the U.S. Department of Labor Employment Cost Index. The Company uses the first-in first-out ("FIFO") method of accounting for inventory. Approximately 75% of the valves sold in 1997 were made with carbon purchased in 1995 (under FIFO) and the remainder with carbon purchased in 1996. The cost of carbon components, after giving effect to volume discounts and inflationary adjustments rose 3.3% in 1995 (the third contract year), decreased .07% in 1996, and rose 3% in 1997.

For 1998 (the sixth contract year) the Company expects to pay 3.2% more for carbon components than in 1997.

Gross profit increased from \$4,385,700 for the twelve months ended December 31, 1996 to \$5,086,956 for the twelve months ended December 31, 1997. Gross profit as a percent of sales was 35% in 1997 and 37% in 1996. The decrease in the average selling price per unit was the most significant factor in the erosion of the gross margin.

Research, development and engineering expenses totaled \$1,058,318 for the year ended December 31, 1997 compared to \$617,571 for the year ended December 31, 1996. During 1997 the Company completed design and testing on a product extension, the aortic valved graft (AVG). This effort accounted for 20% of 1997 research and development expense with most of the remainder being spent on the clinical study of the Valve. The Company's research efforts in 1996 were on improved package design and tooling for valve assembly. Approximately 58% of 1997 and 56% of 1996 R & D expenses related to the clinical study of the Valve outside the United States and physical testing of the Valve and related consulting to support the Company's IDE application to the FDA.

Selling, general and administrative expenses increased 9% from \$3,065,402 for the year ended December 31, 1996 to \$3,339,488 for the year ended December 31, 1997. This increase resulted from primarily two factors in 1997. In October 1997 the Company closed its facility in Scotland and consolidated those operations at its Plymouth, Minnesota headquarters. One time costs associated with this closing of approximately \$225,000 were charged to selling, general and administrative expense in 1997. Second, the Company increased the number of employees from 50 in 1996 to 62 in 1997. In November, 1996 the Company sponsored the Second International Symposium on the ATS Medical Heart Valve at an expense of approximately \$333,000.

The Company did not have any interest expense in 1996 or 1997.

Following the Company's \$14.75 million stock sale in February 1997 and \$4.7 million warrant exercise in March 1997, the Company had substantially more cash, cash equivalents and short-term investments earning interest. Interest income in 1997 increased to \$1,427,363 for the year ended December 31, 1997 compared to \$641,375 for the year ended December 31, 1996.

The Company recorded \$13,846 and \$22,500 in income tax expense for 1997 and 1996, respectively. These taxes arose from certain items of income in the United Kingdom.

Net income increased to \$2,102,667 for the twelve months ended December 31, 1997 from \$1,321,602 for the twelve months ended December 31, 1996. The increase in interest income was the major factor in the increase in net income.

Net income per share (diluted) increased from \$.08 for 1996 to \$.12 for 1997. Weighted average number of shares outstanding increased 14% due to option and warrant exercises, and the sale of shares to ITOCHU Corp.

The Company has accumulated net operating loss carryforwards in both the U.S. and the U.K. Section 382 of the Internal Revenue Code of 1986, as amended, provides, in part, that if an "ownership change"

occurs with respect to any corporation with net operating loss carryforwards, such as the Company, the net operating loss carryforwards can be used to offset future income only to the extent of the annual "Section 382 limitation." An ownership change generally occurs if there has been more than a 50 percent change in the stock ownership of a corporation over a three year period. The Section 382 limitation is an amount determined by multiplying the value of the corporation's stock on the date of an ownership change by the federal long-term tax-exempt rate which is published by the Internal Revenue Service as in effect for the month of the ownership change. As a result of Section 382, utilization of all or a portion of a corporation's net operating loss carryforwards may be limited. The Company believes that as a result of the Company's registered direct equity offering in early 1995 and the sale of 1,568,940 shares of common stock in 1997, the Company experienced an ownership change, and the Company's ability to fully utilize \$18 million of its existing net operating loss carryforwards will be restricted to approximately \$3 million per year. Due to the application of the annual Section 382 limitation and the other provisions of Section 382, some of the net operating loss carryforwards of the Company may expire before they can be used by the Company to reduce its federal income tax liabilities.

YEAR ENDED DECEMBER 31, 1996 COMPARED TO 1995

Net sales totaled \$11,859,765 for the year ended December 31, 1996, an increase of \$2,559,225 or 28% over the net sales of \$9,300,540 reported for the year ended December 31, 1995. Unit sales increased 17% overall from 1995. During 1996 the Company's heart valve ("Valve") was approved for commercial distribution in Japan which accounted for a majority of the sales growth. An average price increase of 3% was achieved.

Cost of goods sold increased 24% to \$7,474,065 for the year ended December 31, 1996 from \$6,011,025 total cost of goods sold for the year ended December 31, 1995. Cost of goods sold as a percentage of sales declined from 65% for the year ended December 31, 1995 to 63% for the year ended December 31, 1996, due to the price increase as well as an increased absorption of overhead which was the result of an approximate 14% increase in unit production.

Gross profit increased from \$3,289,515 for the twelve months ended December 31, 1995 to \$4,385,700 for the twelve months ended December 31, 1996. Gross profit as a percent of sales was 37% in 1996 and 35% in 1995. The increase in the average selling price per unit was the most significant factor in the improvement in the gross margin.

Research, development and engineering expenses totaled \$617,571 for the year ended December 31, 1996 compared to \$718,189 for the year ended December 31, 1995. The Company's research efforts in 1996 were on improved package design and tooling for valve assembly. Approximately 56% of 1996 and 62% of 1995 R & D expenses related to the clinical study of the Valve outside the United States and physical testing of the Valve and related consulting to support the Company's IDE application for the FDA.

Selling, general and administrative expenses increased 20% from \$2,549,570 for the year ended December 31, 1995 to \$3,065,402 for the year ended December 31, 1996. In November 1996 the Company sponsored the Second International Symposium on the ATS Medical Heart Valve. This meeting accounted for almost two-thirds of the SG&A increase with salaries and benefits increases accounting for the remainder. No equivalent meeting was held in 1995. The personnel hired in the sales

and marketing department in the middle of 1995 were on board for all of 1996. The Company also had directors and officers liability insurance (D&O in place from November 1995 (2 months) and through all of 1996 (12 months).

In early 1995, the Company borrowed against its line of credit and incurred \$31,224 of interest expense. The Company did not have any interest expense in 1996.

Interest income in 1996 declined to \$641,375 for the year ended December 31, 1996 compared to \$752,880 for the year ended December 31, 1995. A decrease in the amount of cash invested and lower market interest rates account for the decline.

The Company recorded \$22,500 and \$28,888 in income tax expense for 1996 and 1995, respectively. These taxes arose from certain items of income in the United Kingdom.

Net income increased \$607,078 from \$714,524 for the twelve months ended December 31, 1995 to \$1,321,602 for the twelve months ended December 31, 1996. The increase in income from operations more than offset the decline in interest income. This was due to the increased volume of business and the corresponding increase in gross profit.

Net income per share increased from \$.05 for 1995 to \$.08 for 1996. The weighted average number of shares outstanding increased 6% due to option and warrant exercises.

YEAR 2000 SITUATION

The Company has been assessing the software and hardware used in daily operations so that all systems will function properly with respect to dates in the Year 2000 and beyond. Until recently, computer programs were written to store only two digits of date-related information in order to more efficiently handle and store data. Thus, some software programs are unable to distinguish between the year 1900 and the year 2000. This is frequently referred to as the "Year 2000 Problem."

Utilizing internal and external resources, the Company determined that modification or replacement of various programs would be necessary so that all software, hardware and instrumentation systems are Year 2000 compliant.

Business applications and data for the Company are stored on a local area network and accessed by personal computers when necessary. In 1997, a significant number of employee workstations and manufacturing hardware were upgraded and are now Year 2000 compliant. All future hardware purchases are required to be Year 2000 compliant.

The Company has purchased "off the shelf" manufacturing and accounting software supported by vendors who provide updated versions of the software program. These vendors have indicated that the software upgrades available will be Year 2000 compliant.

The Company also has custom software programs and databases that are used for manufacturing. These programs are being reviewed and tested for Year 2000 issues. As a part of this process, the Company

has been negotiating conversion of these programs. Requirements of the software programming include testing and revision for Year 2000 issues.

While the Company believes that its planning efforts are adequate to address Year 2000 concerns, there is no guarantee that the systems of other companies on which the Company's systems and operations rely will be converted on a timely basis and will not have a material effect on the Company. Costs of the Year 2000 initiatives are not expected to be material to the Company's results of operations or financial position.

LIQUIDITY AND CAPITAL RESOURCES

Cash, cash equivalents, and short-term investments increased by \$15,362,879 from \$10,187,629 at December 31, 1996 to \$25,550,508 at December 31, 1997. Inventory increased by \$4,444,207 from \$18,242,066 at December 31, 1996 to \$22,686,273 at December 31, 1997. Under the terms of the multi-year agreement with CarboMedics, Inc., the Company is required to purchase annual minimum quantities of components. The minimum number of units which the Company purchased during each of the first five years of the contract have exceeded unit sales and the Company expects that until the Valve is approved for sale in the United States by the FDA, the minimum required purchases will continue to exceed sales. During 1998, the Company is obligated to purchase \$13.9 million of heart valve components. Over the two contract years subsequent to 1998, the aggregate purchases total approximately \$33 million.

Accounts receivable increased by \$1,307,275 from \$3,139,559 at December 31, 1996 to \$4,446,834 at December 31, 1997. Most of the Company's sales have been to customers in international markets and, while the Company attempts to get standard 60 day terms for receivables, competitive pressures and geographical economic situations have caused the Company to selectively extend the terms for payment. Accounts receivable represented 112 Days Sales Outstanding (DSO) at December 31, 1997 and 98 DSO at December 31, 1996.

Accounts payable decreased by \$569,250 from \$1,190,958 December 31, 1996 to \$621,708 at December 31, 1997. In 1996 and 1997, the Company scheduled the receipt of over 50% of the entire year's components during the fourth quarter. The decrease in accounts payable at December 31, 1997 is due to timing of component shipments from CMI.

In June 1997 the Company renewed its line of credit agreement with a bank. Under the agreement, the Company may borrow up to \$5,000,000 as long as it maintains collateral defined as cash and marketable securities with a discounted value at least equal to the line amount. The agreement expires on June 30, 1998. There were no borrowings under the line at December 31, 1997.

The Company received \$14.75 million in cash on February 7, 1997 through the sale of 1,568,940 shares of Common Stock.

The Company expects the obligations under the supply agreement with CMI to require more cash than will be generated by operations through the year 2000. During these same years (1998 through 2000) the Company will be conducting a clinical study of the Valve in the United States and submitting data obtained from the study to the FDA for Pre-Market Approval Application (PMA) and the opportunity to

sell the Valve in the United States. The Company estimates that existing cash, cash equivalents and short-term investments will be sufficient to satisfy its capital requirements through at least the year 2000.

The Private Securities Litigation Reform Act of 1995 (the "Act") provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information about their business, so long as those statements are identified as forward-looking and are accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those discussed in the statement. ATS Medical, Inc. desires to take advantage of the safe harbor provisions with respect to any forward-looking statements it may make in this filing, other filings with the Securities and Exchange Commission and any public oral statements or written releases. The words or phrases "will likely," "is expected," "will continue," "is anticipated," "estimate," "projected," "forecast," or similar expressions are intended to identify forward-looking statements within the meaning of the Act. Such statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those projected. The Company cautions readers not to place undue reliance on any such forward-looking statements, which speak only as of the date made.

In accordance with the Act, the Company identifies the following important general factors which if altered from the current status could cause the Company's actual results to differ from those described in any forward-looking statements: the continued acceptance of the Company's only product, a mechanical heart Valve in international markets; the acceptance by the FDA of the Company's regulatory submissions; the continued performance of the Company's mechanical heart valve without structural failure; the actions of the Company's competitors including pricing changes and new product introductions; the continued performance of the Company's independent distributors in selling the Valve; and the actions of the Company's supplier of pyrolytic carbon components for the Valve. This list is not exhaustive, and the Company may supplement this list in any future filing or in connection with the making of any specific forward-looking statement.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The consolidated financial statements of the Company are included (with an index listing all such statements) in a separate financial section at the end of this Annual Report on Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

See Part I of this Report. Pursuant to General Instruction G(3), reference is made to information contained under the heading "Election of Directors" and "Section 16(a) Beneficial Ownership Reporting Compliance" in the Company's definitive proxy statement for its 1998 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 1998, which information is incorporated herein.

ITEM 11. EXECUTIVE COMPENSATION

Pursuant to General Instruction G(3), reference is made to information contained under the heading "Executive Compensation" in the Company's definitive proxy statement for its 1998 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 1998, which information is incorporated herein.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Pursuant to General Instruction G(3), reference is made to information contained under the headings "Security Ownership of Certain Beneficial Owners and Management" and "Election of Directors" in the Company's definitive proxy statement for its 1998 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 1998, which information is incorporated herein.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Pursuant to General Instruction G(3), reference is made to information contained under the headings "Election of Directors" and "Executive Compensation" in the Company's definitive proxy statement for its 1998 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 1998, which information is incorporated herein.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS
ON FORM 8-K

(a) 1. FINANCIAL STATEMENTS

The financial statements of the Company are included (with an index listing all such statements) in a separate financial section at the end of this Annual Report on Form 10-K.

(a) 2. FINANCIAL STATEMENT SCHEDULES

The financial statement schedule is included (with an index listing such schedule) in a separate financial section at the end of this Annual Report on Form 10-K.

All other schedules have been omitted because of absence of conditions under which they are required or because the required information is included in the financial statements or notes thereto.

(a) 3. LISTING OF EXHIBITS

EXHIBIT NUMBER	DESCRIPTION
3.1	Restated Articles of Incorporation, as amended to date (Incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (the "1993 Form 10-K")).
3.2	Bylaws of the Company, as amended to date. (Incorporated by Reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 1996 (the "1996 Form 10-K")).
4.1	Specimen certificate for shares of Common Stock of the Company.
4.2	Form of Warrant issued in 1993 Private Placement (Incorporated by reference to Exhibit 4.4 to the 1993 Form 10-K).
10.1**	1987 Stock Option and Stock Award Plan, as restated and amended to date (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1997).
10.2**	Agreement between the Company and Manuel A. Villafana dated January 26, 1995 (Incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 1994 (the "1994 Form 10-K")).

- 10.3 Lease Agreement between the Company and Crow Plymouth Land Limited Partnership dated December 22, 1987 (Incorporated by reference to Exhibit 10(d) to the Form S-18).
- 10.4 Amendment No. 1 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 5, 1989 (Incorporated by reference to Exhibit 10(e) to the Form S-18).
- 10.5 Amendment No. 2 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 1989 (Incorporated by reference to Exhibit 10(f) to the Form S-18).
- 10.6 Amendment No. 3 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated June 14, 1989 (Incorporated by reference to Exhibit 10(g) to the Form S-18).
- 10.7 Amendment No. 4 to Lease Agreement between the Company and Plymouth Business Center Limited Partnership, dated February 10, 1992 (Incorporated by reference to Exhibit 10.8 to the 1996 Form 10-K).
- 10.8 Development Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.9 to the 1996 Form 10-K).
- 10.9 O.E.M. Supply Contract dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.10 to the 1996 Form 10-K).
- 10.10 License Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.11 to the 1996 Form 10-K).
- 10.11 Option Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.12 to the 1996 Form 10-K).
- 10.12 Helix BioCore, Inc. Self-Insurance Trust Agreement dated February 28, 1991 (Incorporated by reference to Exhibit 10.13 to the 1996 Form 10-K).
- 10.13 Amendment 1 to License Agreement dated December 16, 1993, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.17 to the 1993 Form 10-K).
- 10.14 Amendment 4 to O.E.M. Supply Contract dated December 16, 1993, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.18 to the 1993 Form 10-K).

- 10.15 Amendment 5 to O.E.M. Supply Contract dated September 1, 1994, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.19 to the 1994 Form 10-K).
- 10.16 Amendment 1 to Option Agreement dated December 16, 1993, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.19 to the 1993 Form 10-K).
- 10.17 Line of Credit dated August 11, 1994, between the Company and First Bank National Association (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended September 30, 1994).
- 10.18 Form of Distributor Agreement. (Incorporated by reference to Exhibit 10.22 to the 1994 Form 10-K).
- 10.19** Form of Agreement between ATS Medical, Inc. and each officer dated June 30, 1995 concerning severance benefits upon a change in control. (Incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 1995 (The "1995 Form 10-K")).
- 10.20 ATS Medical, Inc. Change in Control Severance Pay Plan. (Incorporated by reference to Exhibit 10.24 to the 1995 Form 10-K).
- 10.21 Amendment No. 5 to Lease Agreement between the Company and St. Paul Properties, Inc., dated May 30, 1996 (Incorporated by reference to Exhibit 10.22 to the 1996 Form 10-K).
- 10.22 Stock Purchase Agreement dated February 3, 1997 between ITOCHU Corporation and the Company (Incorporated by reference to Exhibit 1 to Schedule 13D filed with respect to the Company by ITOCHU Corporation on February 18, 1997).
- 10.23 Amendment No. 6 to Lease Agreement between the Company and St. Paul Properties, Inc., dated November 25, 1997.
- 23 Consent of Ernst & Young LLP.
- 24 Power of Attorney.
- 27 Financial Data Schedule.

*Pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, confidential portions of this exhibit have been redacted.

**Represents a management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K.

(b) Reports on Form 8-K

None

(c) Exhibits

See Exhibit Index and Exhibits attached as a separate section of this report.

(d) Financial Statement Schedule

See Financial Statement Schedule attached on a separate section of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 27, 1998

ATS MEDICAL, INC.

By /s/ John H. Jungbauer

John H. Jungbauer
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

SIGNATURE

TITLE

Manuel A. Villafana*

Chairman, Chief Executive Officer, and Director (principal executive officer)

Richard W. Kramp*

President, Chief Operating Officer and Director

John H. Jungbauer*

Vice President, Treasurer and Chief Financial Officer (principal financial and accounting officer)

Charles F. Cuddihy, Jr.*

Director

David L. Boehnen*

Director

A. Jay Graf*

Director

By: /s/ John H. Jungbauer

John H. Jungbauer
Pro se and
Attorney-in-fact

Dated: March 27, 1998

*By Power of Attorney filed with this report as Exhibit 24 hereto.

ATS MEDICAL, INC.
ANNUAL REPORT ON FORM 10-K
YEAR ENDED DECEMBER 31, 1997

ITEM 8 AND ITEM 14(a) (1) AND (2) AND (d)
FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE
COMMISSION FILE NUMBER 0-18602

ATS MEDICAL, INC.

FORM 10-K ITEM 8 AND ITEM 14(a) (1) and (2) and (d)
LIST OF FINANCIAL STATEMENTS AND STATEMENT SCHEDULE

The following financial statements of ATS Medical, Inc. are incorporated in Part II, Item 8 and Part IV, Item 14(a) (1) of this Annual Report on Form 10-K by this reference:

Report of Independent Auditors.

Consolidated Statements of Financial Position at December 31, 1997 and 1996.

Consolidated Statements of Income for the years ended December 31, 1997, 1996 and 1995.

Consolidated Statement of Changes in Shareholders' Equity for the years ended December 31, 1997, 1996 and 1995.

Consolidated Statements of Cash Flows for the years ended December 31, 1997, 1996 and 1995.

Notes to Consolidated Financial Statements.

The following financial statement schedule of ATS Medical, Inc. is incorporated in Part IV, Item 14(a) (2) and (d) of this Annual Report on Form 10-K by this reference:

Schedule II - Valuation and Qualifying Accounts and Reserves

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Report of Independent Auditors	F-1
Consolidated Statements of Financial Position as of December 31, 1997 and 1996	F-2
Consolidated Statements of Income for the years ended December 31, 1997, 1996 and 1995	F-3
Consolidated Statement of Changes in Shareholders' Equity for the years ended December 31, 1997, 1996 and 1995	F-4
Consolidated Statements of Cash Flows for the years ended December 31, 1997, 1996 and 1995	F-5
Notes to Consolidated Financial Statements	F-6

Report of Independent Auditors

Board of Directors and Shareholders
ATS Medical, Inc.

We have audited the accompanying consolidated statements of financial position of ATS Medical, Inc. and subsidiary as of December 31, 1997 and 1996, and the related consolidated statements of income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 1997. Our audit also included the financial statement schedule listed in the index at

Item 14(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards 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. An audit also includes 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 consolidated financial position of ATS Medical, Inc. and subsidiary at December 31, 1997 and 1996, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 1997, in conformity with generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

Ernst & Young LLP

Minneapolis, Minnesota
February 6, 1998

ATS Medical, Inc.

Consolidated Statements of Financial Position

	DECEMBER 31	
	1997	1996
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 4,568,332	\$ 2,320,010
Short-term investments	20,982,176	7,867,619
	-----	-----
	25,550,508	10,187,629
Accounts receivable, less allowance of \$260,000 in 1997 and \$200,000 in 1996	4,446,834	3,139,559
Inventories	22,686,273	18,242,066
Prepaid expenses	555,570	468,249
	-----	-----
Total current assets	53,239,185	32,037,503
Furniture and equipment, net	776,187	894,564
Other assets	370,659	388,233
	-----	-----
Total assets	\$54,386,031	\$33,320,300
	=====	=====
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 621,708	\$ 1,190,958
Accrued payroll and expenses	241,584	202,603
	-----	-----
Total current liabilities	863,292	1,393,561
Shareholders' equity:		
Common Stock, \$.01 par value:		
Authorized shares--40,000,000		
Issued and outstanding shares--17,589,058 in 1997 and 15,288,042 in 1996	175,891	152,880
Additional paid-in capital	71,797,797	52,313,315
Other	40,306	54,465
Accumulated deficit	(18,491,255)	(20,593,921)
	-----	-----
Total shareholders' equity	53,522,739	31,926,739
Commitments		
	-----	-----
Total liabilities and shareholders' equity	\$54,386,031	\$33,320,300
	=====	=====

SEE ACCOMPANYING NOTES.

ATS Medical, Inc.
Consolidated Statements of Income

	YEAR ENDED DECEMBER 31		
	1997	1996	1995
Net sales	\$14,515,915	\$11,859,765	\$9,300,540
Cost of goods sold	9,428,959	7,474,065	6,011,025
Gross profit	5,086,956	4,385,700	3,289,515
Expenses:			
Research, development and engineering	1,058,318	617,571	718,189
Selling, general and administrative	3,339,488	3,065,402	2,549,570
	4,397,806	3,682,973	3,267,759
Operating income	689,150	702,727	21,756
Other income (expense):			
Interest income	1,427,363	641,375	752,880
Interest expense	-	-	(31,224)
	1,427,363	641,375	721,656
Income before income taxes	2,116,513	1,344,102	743,412
Income taxes	13,846	22,500	28,888
Net income	\$ 2,102,667	\$ 1,321,602	\$ 714,524
Net income per share:			
Basic	\$.12	\$.09	\$.05
Diluted	\$.12	\$.08	\$.05
Weighted average number of shares outstanding:			
Basic	17,284,784	15,168,958	14,184,395
Diluted	17,872,989	16,303,317	15,116,443

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SEE ACCOMPANYING NOTES.

ATS Medical, Inc.

Consolidated Statement of Changes in Shareholders' Equity

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	OTHER	ACCUMULATED DEFICIT
	SHARES	AMOUNT			
Balance at January 1, 1995	11,177,881	\$111,779	\$35,253,360	\$32,585	\$(22,630,047)
Common Stock issued in public offering, net of selling expenses of \$1,400,447	3,600,000	36,000	14,763,553	-	-
Compensation expense on stock options	-	-	13,666	-	-
Change in unrealized gains on short-term investments, net of tax	-	-	-	12,852	-
Stock options exercised	81,143	811	273,161	-	-
Stock warrants exercised	104,580	1,046	473,414	-	-
Change in foreign currency translation	-	-	-	2,717	-
Net income for the year	-	-	-	-	714,524
Balance at December 31, 1995	14,963,604	149,636	50,777,154	48,154	(21,915,523)
Change in unrealized gains on short-term investments, net of tax	-	-	-	(7,262)	-
Stock options exercised	58,643	586	129,804	-	-
Stock warrants exercised	265,795	2,658	1,406,357	-	-
Change in foreign currency translation	-	-	-	13,573	-
Net income for the year	-	-	-	-	1,321,602
Balance at December 31, 1996	15,288,042	152,880	52,313,315	54,465	(20,593,921)
Common stock issued in a private placement, net of selling expenses of \$27,627	1,568,940	15,690	14,706,683	-	-
Change in unrealized gain (loss) on short-term investments, net of tax	-	-	-	(5,591)	-
Stock options exercised	26,327	263	41,451	-	-
Stock warrants exercised	705,749	7,058	4,736,348	-	-
Change in foreign currency translation	-	-	-	(8,568)	-
Net income for the year	-	-	-	-	2,102,666
Balance at December 31, 1997	17,589,058	\$175,891	\$71,797,797	\$40,306	\$(18,491,255)

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SEE ACCOMPANYING NOTES.

ATS Medical, Inc.

Consolidated Statements of Cash Flows

	YEAR ENDED DECEMBER 31		
	1997	1996	1995
OPERATING ACTIVITIES			
Net income	\$ 2,102,667	\$ 1,321,602	\$ 714,524
Adjustments to reconcile net income to net cash used in operating activities:			
Depreciation	246,140	233,867	229,736
Loss on disposal of equipment	50,985	17,925	916
Compensation expense on stock options	-	-	13,666
Changes in operating assets and liabilities:			
Accounts receivable	(1,307,275)	85,548	(437,975)
Prepaid expenses	(87,322)	(27,567)	(182,574)
Other assets	17,574	(18,799)	255,764
Inventories	(4,444,207)	(4,820,321)	(4,089,603)
Accounts payable and accrued expenses	(530,269)	(876,146)	1,728,934
Net cash used in operating activities	(3,951,707)	(4,083,891)	(1,766,612)
INVESTING ACTIVITIES			
Purchases of short-term investments	(29,435,865)	(9,486,341)	(16,564,890)
Maturities of short-term investments	16,315,717	12,382,440	5,806,763
Purchases of furniture and equipment	(178,748)	(258,808)	(190,699)
Net cash (used in) provided by investing activities	(13,298,896)	2,637,291	(10,948,826)
FINANCING ACTIVITIES			
Payments on notes payable	-	-	(1,250,000)
Net proceeds from issuance of Common Stock	19,507,493	1,539,405	15,547,985
Net cash provided by financing activities	19,507,493	1,539,405	14,297,985
Effect of exchange rate changes on cash	(8,568)	13,573	2,717
Increase in cash and cash equivalents	2,248,322	106,378	1,585,264
Cash and cash equivalents at beginning of year	2,320,010	2,213,632	628,368
Cash and cash equivalents at end of year	\$ 4,568,332	\$ 2,320,010	\$ 2,213,632

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SEE ACCOMPANYING NOTES.

ATS Medical, Inc.

Notes to Consolidated Financial Statements

December 31, 1997

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BUSINESS ACTIVITY

ATS Medical, Inc. (the "Company") manufactures and sells a bileaflet mechanical heart valve. The principal markets for the Company's mechanical heart valve include Europe, Asia, South Africa and South America. The Company is sponsoring clinical trials of the valve in Australia, Canada and the United States in order to demonstrate safety and effectiveness and be allowed to market the valve in these countries.

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, ATS Medical, Ltd., after elimination of significant intercompany accounts and transactions.

CASH EQUIVALENTS

The Company considers all highly liquid investments with maturities of three months or less at the time of purchase to be cash equivalents. Cash equivalents are carried at cost which approximates market value.

SHORT-TERM INVESTMENTS

Short-term investments are composed of debt securities and are classified as available-for-sale. Available-for-sale securities are carried at fair value, with the unrealized gains and losses, net of tax, reported as a separate component of shareholders' equity. Realized gains and losses and declines in value judged to be other than temporary on available-for-sale securities are included in other income.

INVENTORIES

Inventories are carried at the lower of cost (first-in, first-out basis) or market. The majority of inventory consists of purchased components.

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

OTHER ASSETS

Prior to obtaining directors' and officers' liability insurance, the Company had placed \$370,659 and \$353,987 as of December 31, 1997 and 1996, respectively, in a self-insurance trust. A VAT deferment account of \$34,246 at December 31, 1996 had been established to guarantee VAT liabilities for inventory transferred to Scotland for manufacturing. The account was closed in 1997.

FURNITURE AND EQUIPMENT

Furniture and equipment are stated at cost. Depreciation is provided for at rates calculated to amortize the cost of the property over its estimated useful life (three to ten years) using the straight-line method. Leasehold improvements are amortized over the related lease term or estimated useful life, whichever is shorter.

REVENUE RECOGNITION

The Company recognizes revenue at the time of shipment of the product.

USE OF ESTIMATES

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

INCOME TAXES

Income taxes are accounted for under the liability method. Deferred income taxes are provided for temporary differences between financial reporting and tax bases of assets and liabilities.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

STOCK-BASED COMPENSATION

The Company follows Accounting Principles Board Opinion No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES ("APB 25"), and related interpretations in accounting for its stock options. Under APB 25, when the exercise price of stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized.

NET INCOME PER SHARE

In February 1997, the Financial Accounting Standards Board (FASB) issued Statement No. 128, EARNINGS PER SHARE. Statement 128 replaced the previously reported primary and fully diluted earnings per share with basic and diluted earnings per share. Unlike primary earnings per share, basic earnings per share excludes any dilutive effects of options, warrants, and convertible securities. Diluted earnings per share is very similar to the previously reported fully diluted earnings per share. All earnings per share amounts for all periods have been presented, and where necessary, restated to conform to the Statement 128 requirements.

RECLASSIFICATIONS

Certain reclassifications have been made to the 1995 and 1996 financial statements to conform to the 1997 presentation.

2. SHORT-TERM INVESTMENTS

As of December 31, 1997, the cost of short-term investments held by the Company approximated their fair market value of \$20,982,176. As a result no unrealized gain (loss) was recognized at December 31, 1997. As of December 31, 1996, the cost of short-term investments and fair market value were \$7,858,301 and \$7,867,619, respectively.

An unrealized gain of \$9,318 was recognized at December 31, 1996.

All investments have maturity dates of one year or less.

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

3. FURNITURE AND EQUIPMENT

Furniture and equipment consists of the following:

	DECEMBER 31	
	1997	1996
Furniture and fixtures	\$ 155,363	\$ 168,960
Equipment	1,321,068	1,347,034
Leasehold improvements	479,795	474,042
Construction in progress	67,420	24,403
	2,023,646	2,014,439
Less accumulated depreciation	1,247,459	1,119,875
	\$ 776,187	\$ 894,564

4. FINANCING ARRANGEMENT

The Company has a \$5 million revolving line of credit with a bank which accrues interest at a rate .5% below the bank's reference rate (8% at December 31, 1997) and is secured by a portion of the Company's short-term investments. The Company must repay any amounts owed under the line of credit by June 30, 1998. Interest on the line of credit is payable monthly. The Company had no borrowings against this facility at December 31, 1997.

5. COMMON STOCK

In connection with its initial public offering, the Company sold a warrant to the underwriters to purchase 160,000 shares of Common Stock exercisable at \$4.20 per share. At December 31, 1996, there were 8,000 of the warrants outstanding. In November 1997, the remaining warrants were exercised.

In connection with a private placement of Common Stock, the Company had issued warrants to purchase an additional share of Common Stock at \$9.00 per share. The Company also issued warrants to the agent in the private placement to purchase 161,394 shares of Common Stock at \$7.00 per share and 161,394 shares of Common Stock at \$9.00 per share. As of December 31, 1996, the Company had 1,850,485 of these warrants outstanding. These warrants expired on November 18, 1997.

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

5. COMMON STOCK (CONTINUED)

In 1993, the Company completed a private placement of 416,667 units at \$6.00 per unit. Each unit consisted of one share of the Company's Common Stock and a warrant to purchase an additional share of Common Stock at \$9.00 per share. The warrants expire on December 22, 1998 and none have been exercised as of December 31, 1997.

On March 2, 1995, the Company completed a public offering in which the Company sold 3,600,000 shares of Common Stock at \$4.50 per share, including warrants to purchase an additional 900,000 shares of Common Stock exercisable at \$6.75 per share. As of December 31, 1996, the Company had 826,813 of these warrants outstanding. During 1997, the holders exercised 697,749 of these warrants. The remaining 129,064 warrants expired on March 2, 1997. The Company also issued a warrant to the agent to purchase 180,000 shares of Common Stock at \$5.40 per share. In 1996, 121,059 shares were tendered in the exercise of the warrant to purchase the 180,000 shares for a net issuance of 58,941 shares.

The Company has 2,808,514 shares of Common Stock reserved for issuance under various options and warrant grants.

6. STOCK OPTIONS

The Company has a Stock Option and Stock Award Plan (the "Plan") under which options to purchase Common Stock of the Company may be awarded to employees and non-employees of the Company. The options may be granted under the Plan as incentive stock options (ISO) or as non-qualified stock options (non-ISO).

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

6. STOCK OPTIONS (CONTINUED)

The following table summarizes the options to purchase shares of the Company's Common Stock under the Plan:

	SHARES RESERVED FOR GRANT	STOCK OPTIONS OUTSTANDING UNDER THE PLAN		WEIGHTED AVERAGE EXERCISE PRICE PER SHARE
		ISO	NON-ISO	
Balance January 1, 1995	466,754	477,750	617,500	\$2.60
Options granted	(12,500)	2,500	10,000	7.90
Options exercised	-	(66,687)	(18,500)	3.62
Options canceled	15,750	(7,750)	(8,000)	3.63
Balance December 31, 1995	470,004	405,813	601,000	2.56
Options granted	(395,000)	299,500	95,500	9.00
Options exercised	-	(29,643)	(29,000)	2.22
Options canceled	38,125	(21,000)	(17,125)	6.07
Balance December 31, 1996	113,129	654,670	650,375	4.37
Additional shares reserved	1,000,000	-	-	
Options granted	(374,600)	284,928	89,672	5.51
Options exercised	-	(7,500)	(18,827)	1.59
Options canceled	151,250	(123,125)	(28,125)	9.15
Balance December 31, 1997	889,779	808,973	693,095	4.23

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

6. STOCK OPTIONS (CONTINUED)

The following table summarizes information about stock options outstanding at December 31, 1997:

RANGE OF EXERCISE PRICES	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
	NUMBER OUTSTANDING	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE	WEIGHTED AVERAGE EXERCISE PRICE	NUMBER EXERCISABLE	WEIGHTED AVERAGE EXERCISE PRICE
\$0.0042	271,173	0.20 years	\$0.0042	271,173	\$0.0042
1.00 - 3.63	612,295	5.11 years	3.38	570,795	3.37
5.06 - 8.25	553,600	9.04 years	6.25	99,875	6.83
9.00 - 10.13	97,500	7.79 years	9.73	42,375	9.66
\$0.0042 - \$10.13	1,534,568	5.84 years	4.22	984,218	\$3.06

The weighted-average fair value of options granted during the years ended December 31, 1997 and 1996 was \$5.51 and \$9.00, respectively.

Non-Plan options to purchase 32,500 and 35,000 shares exercisable at \$3.63 per share were outstanding at December 31, 1997 and 1996, respectively.

At December 31, 1997, 1996 and 1995, Plan and non-Plan options for 984,218, 816,421 and 744,687 shares of Common Stock, respectively, were exercisable at a weighted-average price of \$3.06, \$2.44 and \$2.09 per share, respectively. Options can be exercised by tendering shares previously acquired. In 1995, 4,044 shares were tendered in the exercise of 85,187 options for a net issuance of 81,143 shares.

The issuance of certain stock options to employees and consultants caused the Company to account for the excess of the fair market value of the Company's Common Stock on the date of grant over the option exercise prices as compensation. The expense is recognized over the period of expected services. The compensation expense does not involve the outlay of cash. During the year ended December 31, 1995, \$13,666, of expense was recognized for the unexercised options. There was no expense recognized in 1997 and 1996.

Notes to Consolidated Financial Statements (continued)

6. STOCK OPTIONS (CONTINUED)

The Company has elected to follow Accounting Principles Board Opinion No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES ("APB 25"), and related interpretations in accounting for its employee stock options because, as discussed below, the alternative fair value accounting provided for under FASB Statement No. 123, ACCOUNTING FOR STOCK-BASED COMPENSATION ("Statement 123"), requires use of option valuation models that were not developed for use in valuing employee stock options.

Pro forma information regarding net loss and loss per share is required by Statement 123, and has been determined as if the Company had accounted for its employee stock options under the fair value method of Statement 123. The fair value of these options was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions for 1997 and 1996: risk-free interest rate of 5.20% and 6.03%, respectively; dividend yield of 0%; volatility factor of the expected market price of the Company's common stock of .80 and .46 and a weighted-average expected life of the option of 5 and 4 years, respectively.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The Company's pro forma information is as follows:

	1997	1996	1995

Pro forma net income	\$1,634,401	\$1,122,778	\$679,801
Pro forma net income per share - basic and diluted	\$.09	\$.07	\$.04

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

6. STOCK OPTIONS (CONTINUED)

The pro forma effect on net income is not representative of the pro forma effect on net income in future years because it does not take into consideration pro forma compensation expense related to grants made prior to 1995.

7. LEASES

The Company has amended its operating lease for facilities in Plymouth, Minnesota. The lease is for a period of 62 months and expires February 28, 2003. Future minimum lease payments under the agreement are as follows:

1998	\$ 200,308
1999	204,108
2000	204,108
2001	219,608
2002	222,708
Thereafter	37,118

	\$1,087,958
	=====

The rent expense was \$159,096, \$147,101 and \$143,000 for 1997, 1996, and 1995, respectively.

8. INCOME TAXES

At December 31, 1997, the Company had net operating loss carryforwards of approximately \$17,750,000 plus credits for increasing research and development costs of approximately \$616,000 which are available to offset future taxable income through 2012. The net operating loss carryforwards exclude results of operations for ATS Medical, Ltd. for 1997, 1996 and 1995. The Company paid income taxes of \$13,800, \$23,000 and \$29,000 in 1997, 1996 and 1995, respectively.

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

8. INCOME TAXES (CONTINUED)

Components of deferred tax assets and liabilities are as follows:

	DECEMBER 31	
	1997	1996
Deferred tax assets:		
Net operating loss carryforwards	\$7,100,000	\$7,513,000
Research and development credits	616,000	620,000
Accrued compensation	335,000	341,000
Other accrued expenses	49,000	27,000
	-----	-----
	8,100,000	8,501,000
Deferred tax liabilities:		
Depreciation	(567,000)	(555,000)
	-----	-----
Net deferred tax assets before valuation allowance	7,533,000	7,946,000
Less valuation allowance	(7,533,000)	(7,946,000)
	-----	-----
Net deferred tax assets	\$ -	\$ -
	=====	=====

The Company's ability to utilize its net operating loss carryforwards to offset future taxable income is subject to certain limitations under Section 382 of the Internal Revenue Code due to changes in the equity ownership of the Company.

Income tax expense consists of:

	DECEMBER 31		
	1997	1996	1995
Current:			
Federal	\$ 3,846	\$ -	\$ -
State	10,000	-	-
Foreign	-	22,500	28,888
	-----	-----	-----
	\$13,846	\$22,500	\$28,888
	=====	=====	=====

Reconciliation of the statutory federal income tax rate to the Company's effective tax rate is as follows:

	DECEMBER 31		
	1997	1996	1995
Tax at statutory rate	34.0%	34.0%	34.0%
State income taxes	6.0	6.0	6.0
Foreign income taxes	-	1.7	3.9
Impact of net operating loss carryforwards	(39.0)	(40.0)	(40.0)
	-----	-----	-----
	1.0%	1.7%	3.9%
	=====	=====	=====

9. COMMITMENTS

On September 24, 1990, the Company entered into various agreements with CarboMedics, Inc. giving the Company the exclusive worldwide license to manufacture and sell a bileaflet mechanical heart valve under patents held by CarboMedics, Inc. As part of the agreements, the Company entered into a 15 year supply contract that was amended in December 1993. Under the amended supply contract, as of December 31, 1997, the Company remains obligated to purchase a minimum of \$47 million of component sets through December 7, 2000. Thereafter, the Company must purchase the lower of either certain specified amounts or the number of component sets sold and/or disposed of by the Company. Payments to CarboMedics, Inc. were \$12,478,323, \$11,289,218 and \$6,182,596 in 1997, 1996 and 1995, respectively.

At December 31, 1997, the Company's inventory is in excess of its current requirements based on the recent level of sales. Management feels that excess quantities will be utilized upon FDA approval of its technology and believes no loss will be incurred on its disposition. As of December 31, 1997, management cannot estimate a range of amounts of loss that could occur if FDA approval is not granted. Management is unable to make a meaningful estimate of inventory usage for the next twelve months and, accordingly, inventory is classified as a current asset as of December 31, 1997.

10. BENEFIT PLAN

The Company has a defined contribution salary deferral plan covering substantially all employees under Section 401(k) of the Internal Revenue Code. The plan allows eligible employees to contribute up to 12% of their annual compensation with the Company contributing an amount equal to 25% of each employee's contribution. The Company realized expense for contributions to the plan of \$40,920, \$38,125 and \$32,911 during 1997, 1996 and 1995, respectively.

11. SIGNIFICANT CUSTOMERS AND CONCENTRATION OF CREDIT RISK

The Company sells to independent distributors who cover assigned international territories. Approximately 46%, 49%, and 56% of net sales for 1997, 1996, and 1995, respectively, were a result of sales to three distributors.

ATS Medical, Inc.

Notes to Consolidated Financial Statements (continued)

12. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per share:

	1997	1996	1995
Numerator:			
Net income	\$2,102,667	\$1,312,602	\$714,524
Denominator:			
Denominator for basic earnings per share-weighted-average shares	17,284,784	15,168,958	14,184,395
Effect of dilutive securities:			
Stock options	585,908	720,851	729,024
Warrants	2,297	413,508	203,024
Dilutive potential common shares			
Denominator for diluted earnings per share-adjusted weighted-average shares and assumed conversions	17,872,989	16,303,317	15,116,443
Basic earnings per share	\$.12	\$.09	\$.05
Diluted earnings per share	\$.12	\$.08	\$.05

ATS MEDICAL, INC.

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

COL. A	COL. B	COL. C		COL. D	COL. E
Description	Balance at Beginning of Period	Additions		Deductions- Describe	Balance at End of Period
		(1) Charged to Costs and Expenses	(2) Charged to Other Accounts- Describe		
Year ended December 31, 1997:					
Deducted from asset accounts:					
Allowance for doubtful accounts	\$200,000	\$ 60,000	--	--	\$260,000
	-----	-----	-----	-----	-----
Totals	\$200,000	\$ 60,000	\$ 0	\$ 0	\$260,000
Year ended December 31, 1996:					
Deducted from asset accounts:					
Allowance for doubtful accounts	\$150,000	\$ 50,000	--	--	\$200,000
	-----	-----	-----	-----	-----
Totals	\$150,000	\$ 50,000	\$ 0	\$ 0	\$200,000
Year ended December 31, 1995:					
Deducted from asset accounts:					
Allowance for doubtful accounts	\$ 30,000	\$120,000	--	--	\$150,000
	-----	-----	-----	-----	-----
Totals	\$ 30,000	\$120,000	\$ 0	\$ 0	\$150,000

EXHIBIT INDEX

EXHIBIT NUMBER	DESCRIPTION	PAGE
3.1	Restated Articles of Incorporation, as amended to date (Incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (the "1993 Form 10-K")).	
3.2	Bylaws of the Company, as amended to date. (Incorporated by Reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 1996 (the "1996 Form 10-K")).	
4.1	Specimen certificate for shares of Common Stock of the Company.	
4.2	Form of Warrant issued in 1993 Private Placement (Incorporated by reference to Exhibit 4.4 to the 1993 Form 10-K).	
10.1**	1987 Stock Option and Stock Award Plan, as restated and amended to date (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1997).	
10.2**	Agreement between the Company and Manuel A. Villafana dated January 26, 1995 (Incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 1994 (the "1994 Form 10-K")).	

- 10.3 Lease Agreement between the Company and Crow Plymouth Land Limited Partnership dated December 22, 1987 (Incorporated by reference to Exhibit 10(d) to the Form S-18).
- 10.4 Amendment No. 1 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 5, 1989 (Incorporated by reference to Exhibit 10(e) to the Form S-18).
- 10.5 Amendment No. 2 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 1989 (Incorporated by reference to Exhibit 10(f) to the Form S-18).
- 10.6 Amendment No. 3 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated June 14, 1989 (Incorporated by reference to Exhibit 10(g) to the Form S-18).
- 10.7 Amendment No. 4 to Lease Agreement between the Company and Plymouth Business Center Limited Partnership, dated February 10, 1992 (Incorporated by reference to Exhibit 10.8 to the 1996 Form 10-K).
- 10.8 Development Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.9 to the 1996 Form 10-K).
- 10.9 O.E.M. Supply Contract dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.10 to the 1996 Form 10-K).
- 10.10 License Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.11 to the 1996 Form 10-K).
- 10.11 Option Agreement dated September 24, 1990, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.12 to the 1996 Form 10-K).
- 10.12 Helix BioCore, Inc. Self-Insurance Trust Agreement dated February 28, 1991 (Incorporated by reference to Exhibit 10.13 to the 1996 Form 10-K).
- 10.13 Amendment 1 to License Agreement dated December 16, 1993, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.17 to the 1993 Form 10-K).
- 10.14 Amendment 4 to O.E.M. Supply Contract dated December 16, 1993, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.18 to the 1993 Form 10-K).

- 10.15 Amendment 5 to O.E.M. Supply Contract dated September 1, 1994, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.19 to the 1994 Form 10-K).
- 10.16 Amendment 1 to Option Agreement dated December 16, 1993, with CarboMedics, Inc. (confidential treatment granted)* (Incorporated by reference to Exhibit 10.19 to the 1993 Form 10-K).
- 10.17 Line of Credit dated August 11, 1994, between the Company and First Bank National Association (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended September 30, 1994).
- 10.18 Form of Distributor Agreement. (Incorporated by reference to Exhibit 10.22 to the 1994 Form 10-K).
- 10.19** Form of Agreement between ATS Medical, Inc. and each officer dated June 30, 1995 concerning severance benefits upon a change in control. (Incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 1995 (The "1995 Form 10-K")).
- 10.20 ATS Medical, Inc. Change in Control Severance Pay Plan. (Incorporated by reference to Exhibit 10.24 to the 1995 Form 10-K).
- 10.21 Amendment No. 5 to Lease Agreement between the Company and St. Paul Properties, Inc., dated May 30, 1996 (Incorporated by reference to Exhibit 10.22 to the 1996 Form 10-K).
- 10.22 Stock Purchase Agreement dated February 3, 1997 between ITOCHU Corporation and the Company (Incorporated by reference to Exhibit 1 to Schedule 13D filed with respect to the Company by ITOCHU Corporation on February 18, 1997).
- 10.23 Amendment No. 6 to Lease Agreement between the Company and St. Paul Properties, Inc., dated November 25, 1997.
- 23 Consent of Ernst & Young LLP.
- 24 Power of Attorney.
- 27 Financial Data Schedule.

*Pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, confidential portions of this exhibit have been redacted.

**Represents a management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K.

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SEE LEGEND ON REVERSE SIDE

COMMON STOCK
NUMBER

SEE REVERSE FOR RESTRICTIVE LEGEND

COMMON STOCK
SHARES

INCORPORATED UNDER THE LAWS
OF THE STATE OF MINNESOTA

SEE REVERSE FOR CERTAIN DEFINITIONS

ATS MEDICAL, INC.

CUSIP 002083 10 3

THIS CERTIFIES THAT

is the owner of

FULLY PAID AND NONASSESSABLE SHARES OF COMMON STOCK OF THE
PAR VALUE OF ONE CENT EACH, OF

=====ATS MEDICAL, INC.=====

transferable upon the books of the corporation by the holder thereof, in person
or by duly authorized attorney, upon surrender of this certificate
properly endorsed. This certificate is not valid unless countersigned
by the Transfer Agent

WITNESS The facsimile signatures of its duly authorized officers.

Dated

Richard W. Kramp
President

Manuel A. Villafana
Chairman and Chief Executive Officer

Countersigned: Norwest Bank Minnesota N.A.
Transfer Agent
Authorized Signature

The issuer of these securities will furnish to any shareholder upon request and without charge, a full statement of the designation, preferences, limitations and relative rights of the shares of each class or series authorized to be issued, so far as they have been determined, and the authority of the board of directors to determine the relative rights and preferences of subsequent classes or series.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	--	as tenants in common	UNIF GIFT MIN ACT-	_____	Custodian
TEN ENT	--	as tenants by the entireties		(Cust)	(Minor)
JT TEN	--	as joint tenants with right of survivorship and not as tenants in common			
					under Uniform Gifts to Minors Act _____ (State)

Additional abbreviations may also be used though not in the above list

For Value Received, _____ hereby sell, assign and transfer unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE OF ASSIGNEE)

_____ Shares of the capital stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

_____ Attorney to transfer the said stock on the books of the within-named Corporation with full power of substitution in the premises

Dated _____

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATEVER

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AMENDMENT NO. 6
TO
LEASE AGREEMENT

This Amendment No. 6 is made this 25th day of November, 1997 by and between St. Paul Properties, Inc., (a Delaware corporation), (as "Landlord") and ATS Medical, Inc., (a Minnesota corporation), (as "Tenant").

WITNESSETH:

WHEREAS, Crow-Plymouth Land Limited Partnership and tenant are the parties to that certain lease agreement dated December 22, 1987 (the "Lease") with regard to the leasing of approximately 18,305 square feet (the "Original Leased Premises") in the building owned by Landlord and located at 3905 Annapolis Lane, Plymouth, Minnesota as more particularly described on Exhibit A to the Lease; and

WHEREAS, Plymouth Business Center 1 Partnership is the successor to Crow- Plymouth Land Limited Partnership's interest in the Lease and St. Paul Properties, Inc. as the successor of Plymouth Business Center 1 Partnership is hereinafter referred to as "Landlord"; and

WHEREAS, Landlord and Tenant entered into a certain Amendment No. 1 to Lease Agreement on January 5, 1989 to provide for the leasing to Tenant of an additional 21,205 square feet in the Building (the "Surrender Space"); and

WHEREAS, Landlord and Tenant entered into a certain Agreement No. 2 to Lease Agreement on January 12, 1989 in order to evidence their agreement in regard to the use of the Original Leased Premises for manufacturing purposes; and

WHEREAS, Landlord and Tenant entered into a certain Amendment No. 3 to Lease Agreement in order to allow Tenant to vacate and surrender to Landlord the Surrender Space and to evidence their agreement to extend the term of the Lease as to the Original Leased Premises, as amended, for a period of three (3) additional months; and

WHEREAS, Landlord and Tenant have entered into a certain Amendment No. 4 to Lease Agreement in order to evidence their agreement to extend the term of the Lease as to the Original Leased Premises, as amended, for a period of thirty (30) additional months.

WHEREAS, Landlord and Tenant have entered into a certain Amendment No. 5 to Lease Agreement in order to evidence their agreement to expand the Demised Premises by Tenant leasing 2,230 square feet adjacent to the Demised Premises ("Expansion Space") commencing June 1, 1996 and expiring December 31, 1997. The total Leased Premises is 20,535 square feet.

WHEREAS, Landlord and Tenant have entered into this certain Amendment No. 6 to Lease Agreement in order to evidence their agreement to expand the Demised Premises by Tenant leasing 3,377 square feet adjacent to the Demised Premises, commencing March 1, 1998 and expiring February 28, 2003 ("Expansion Space"); and the extension of the Lease for the additional term of sixty-two (62) months, commencing January 1, 1998 and expiring on February 28, 2003 ("Extension Term, Original Leased Premises").

NOW, THEREFORE, in consideration of the foregoing, and the following covenants and agreements and for other good and valuable consideration, the receipt and adequacy whereof is hereby acknowledged by the parties, Landlord and Tenant hereby agree as follows:

1. Interpretation of Amendment. The Lease is hereby modified and supplemented. Wherever there exists a conflict between this Amendment No. 6 to Lease Agreement and the Lease, as amended, the provisions of this Amendment No. 6 shall control. Unless otherwise indicated, capitalized terms shall be defined in the manner set forth in the Lease, as amended.

2. Base Rent. During the Extension Term Tenant shall Base Rent for the Original Leased Premises consisting of 20,535 square feet as follows:

	Monthly Rent -----
January 1, 1998 through and including February 28, 1998	\$15,109.00
Tenant shall pay Base Rent for the Original Leased Premises and Expansion Space consisting of 23,912 square feet as follows:	
March 1, 1998 through and including February 28, 2001	\$17,009.00
March 1, 2001 through and including February 28, 2003	\$18,559.00

3. Landlord's Leasehold Improvements. Landlord agrees to provide the Leasehold Improvements as indicated on the attached Exhibit B at Landlord's cost. Such Improvement cost shall not exceed \$14,243.00.

4. Option to Terminate. Tenant shall have one option to terminate the Lease at the end of the thirty-sixth (36th) month if Landlord cannot accommodate Tenant's needs for expansion space. Tenant shall notify Landlord by the end of the twenty-fourth (24th) month of the Lease of its need for additional space. Landlord

and Tenant agree that any offer space and its terms and conditions shall be agreed upon within ninety (90) days from the date of Tenant's notice. If Landlord cannot accommodate Tenant's expansion needs, then Tenant shall have the option to terminate the Lease at the end of the thirty-sixth (36th) month by paying Landlord any unamortized transaction costs (to include commissions) plus interest at 12% and four (4) months gross rental equal to months 37-40 and the corresponding additional rent.

5. Reference to an Effect on the Lease.

a) Upon the effectiveness on this Amendment, each reference in the Lease to "this Lease", "hereunder", "hereof", "therein" or word of like import referring to the Lease shall mean and be a reference to the Lease as amended hereby.

b) Except as specifically set forth above, the Lease remains of full force and effect and is hereby ratified and confirmed.

6. Governing Law. This Amendment shall be governed by and construed in accordance with the laws of the State of Minnesota.

7. Headings. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Agreement for any other purpose.

IN WITNESS WHEREOF, the parties have executed this Amendment No. 6 to Lease Agreement as of the year and date first above written.

LANDLORD:

St. Paul Properties, Inc.
(a Delaware corporation)

By: _____

R. William Inserra
Its: Vice President

TENANT:

ATS Medical, Inc.
(a Minnesota corporation)

By: _____

John H. Jungbauer
Its: Vice President

EXHIBIT A

[Site Plan showing Current Premises and Expansion under Lease Agreement]

EXHIBIT B

[Site Plan showing Base Bid/Expansion Area under Lease Amendment]

BASE BID/EXPANSION AREA:

GENERAL CONDITIONS

1. Building permit
2. Supervision
3. General labor
4. Clean up

DEMOLITION

1. Demo and remove (18) sq yds of existing carpeting.
2. Demo and remove (16) lf of existing cabinetry.
3. Demo and remove (2) existing break-type sinks.
4. Demo and remove (1) existing janitor's sink.
5. Demo and remove (3) doors and frames.
6. Demo and remove (36) lf of 9-ft wall.
7. Demo and remove (6) lf of existing 13'-6" wall.

DRYWALL

1. Construct (29) lf of new 9-ft wall.
2. Construct (4) lf of new 13'-6" wall.
3. Patch walls where demolition occurs.

CABINETRY

Relocate (8) lf of existing cabinetry to new location.

DOORS/FRAMES/HARDWARE

1. Provide and install (1) new 6'-0" x 6'-8" pair of doors.
2. Provide and install (1) new 3'-0" x 6'-8" door.
3. Relocate (3) existing doors.
4. Provide and install (3) new lever-handle latch sets.

ACOUSTICAL

Patch ceiling tile as required due to construction.

FLOORING

1. Provide and install new direct-glue carpeting throughout new corridor area.
2. Patch existing carpet where demolition occurs.

PAINT

1. Paint new corridor area and walls affected by cabinet relocation.
2. Finish new doors and frames.

PLUMBING

1. Demo and cap (2) existing sinks and (1) janitor's sink.
2. Re-plumb for existing sink at new location.

FIRE PROTECTION

Add and relocate sprinkler heads as required by code compliance.

HVAC

1. Relocate (1) existing supply diffuser.
2. Service and report on condition of existing rooftop units.

ELECTRICAL (Allowance)

1. Relocate (3) 2 x 4 light fixtures.
2. Relocate (3) recessed downlights.
3. Wire and install (2) single-pole switches.
4. Relocate (1) exit sign.
5. Wire and install (2) duplex general-duty receptacles.
6. Separate circuits between spaces as may be required.

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Consent of Independent Auditors

We consent to the incorporation by reference in the Registration Statements on Form S-3 No. 333-33017 pertaining to the registration of 1,568,940 shares of ATS Medical, Inc. common stock, Form S-8 No. 33-44940 pertaining to the 1987 Stock Option and Stock Award Plan of ATS Medical, Inc. (formerly Helix BioCore, Inc.), Form S-3 No. 33-60104 pertaining to the registration of 3,710,676 shares of ATS Medical, Inc. common stock, and Post-Effective Amendment No. 1 to Form S-3 No. 33-89070 pertaining to the registration of 900,000 shares of ATS Medical, Inc. common stock, of our report dated February 6, 1998 with respect to the consolidated financial statements and schedule of ATS Medical, Inc. included in the Annual Report (Form 10-K) for the year ended December 31, 1997.

Ernst & Young LLP

Minneapolis, Minnesota
March 25, 1998

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POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS that each person whose signature appears below hereby constitutes and appoints Manuel A. Villafana and John H. Jungbauer, and each of them, his attorney-in-fact, with full power of substitution, for the purpose of signing on his behalf, in any and all capacities, the Annual Report on Form 10-K of ATS Medical, Inc. pursuant to Section 13 of the Securities and Exchange Act of 1934, as amended, for the fiscal year ended December 31, 1997 (the "10-K Report") and of signing any and all amendments to the 10-K Report and to deliver the 10-K Report and any and all amendments thereto as each thereof is so signed for filing with the Securities and Exchange Commission.

/s/ Manual A. Villafana

Manual A. Villafana

Dated: March 19, 1998

/s/ Richard W. Kramp

Richard W. Kramp

Dated: March 19, 1998

/s/ John H. Jungbauer

John H. Jungbauer

Dated: March 19, 1998

/s/ Charles F. Cuddihy, Jr.

Charles F. Cuddihy, Jr.

Dated: March 19, 1998

/s/ David L. Boehnen

David L. Boehnen

Dated: March 19, 1998

/s/ A. Jay Graf

A. Jay Graf

Dated: March 19, 1998

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