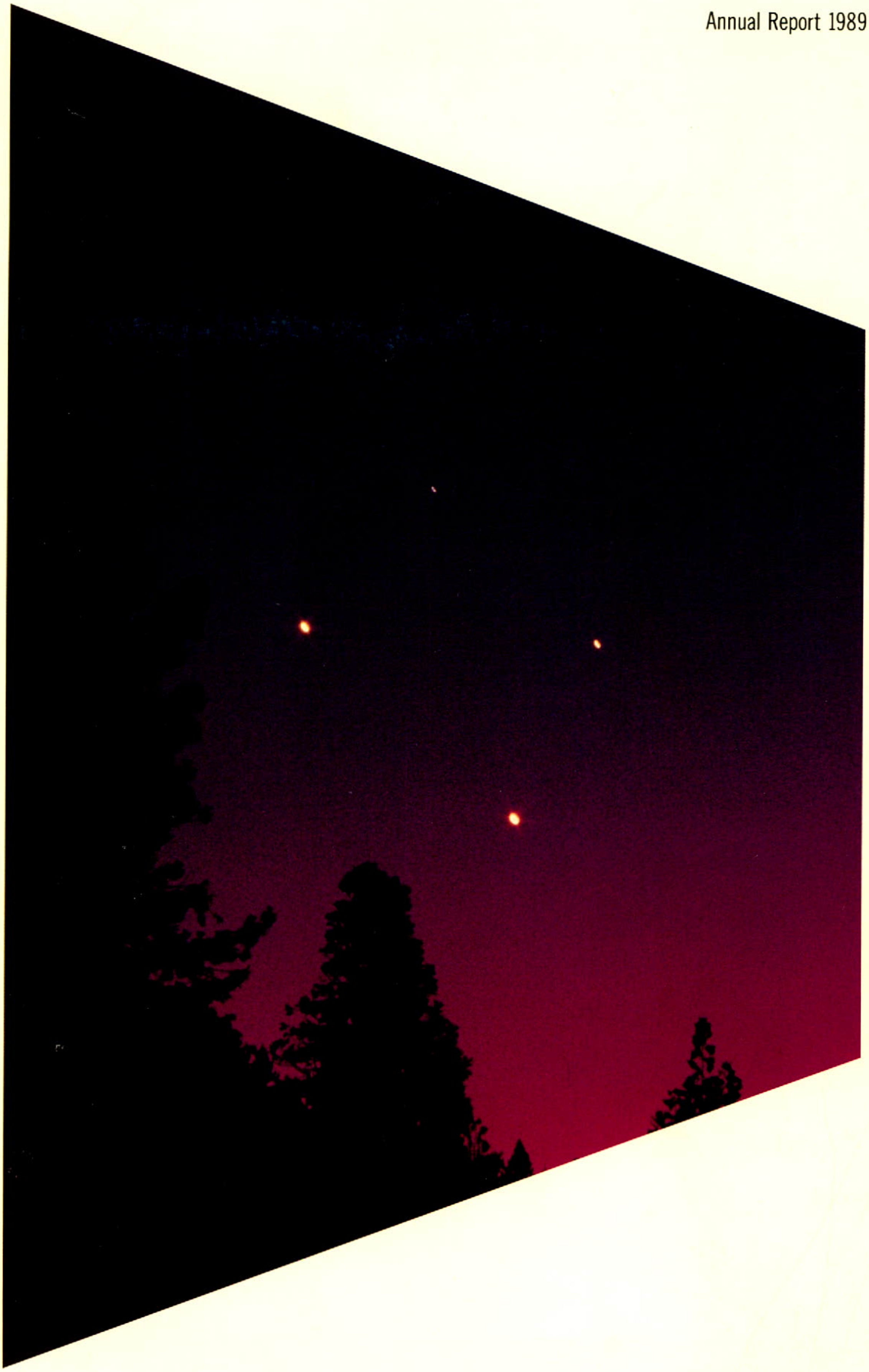
SPAR AEROSPACE LIMITED

Annual Report 1989



SPAR

Spar Aerospace Limited is a Canadian shareholder-owned company engaged in the design, development, manufacture and servicing of systems for the space, robotics, communications, electro-optics and aviation markets. The company employs over 2,000 people, including about 600 engineers and technicians – one of the largest technological groups in the private sector in Canada.

Since its inception in 1967, Spar has gained international recognition as an advanced technology company. Approximately 50% of Spar's sales are in international markets. Spar devotes 20% of its engineering activities to research and development, including cooperative programs with several Canadian universities.

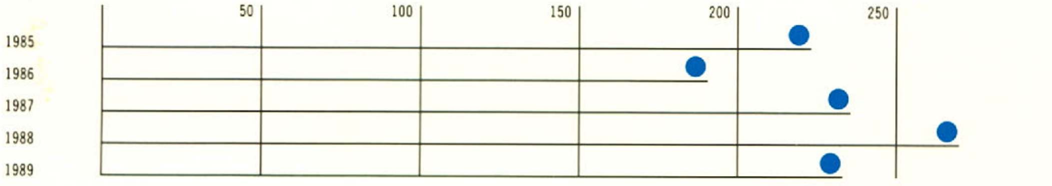
Vous pouvez vous procurer cette brochure en français.

FINANCIAL HIGHLIGHTS

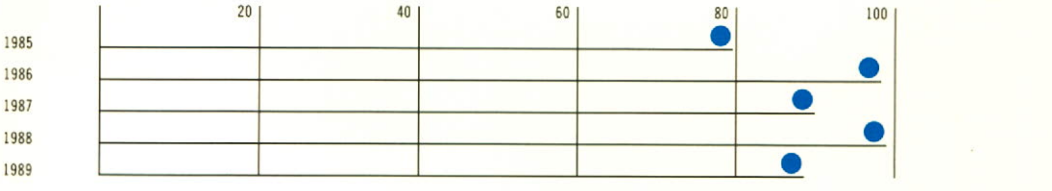
December 31, 1989 and 1988

($000s)	1989	1988
Revenues	$233,163	$269,967
Income (loss) before extraordinary item	(11,818)	6,189
Net income (loss) for the year	(9,218)	6,189
Working capital	14,997	27,844
Long term debt	5,218	2,581
Dividends on subordinate voting shares	2,261	3,125
Shareholders' equity	88,589	99,041
(in dollars)		
Income (loss) before extraordinary item per subordinate voting share	$(1.05)	$0.56
Net income (loss) per subordinate voting share	(0.82)	0.56
Shareholders' equity per subordinate voting share outstanding at year end	7.81	8.79

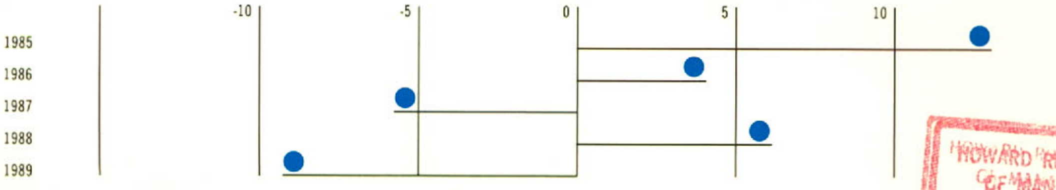
REVENUES ($ millions)

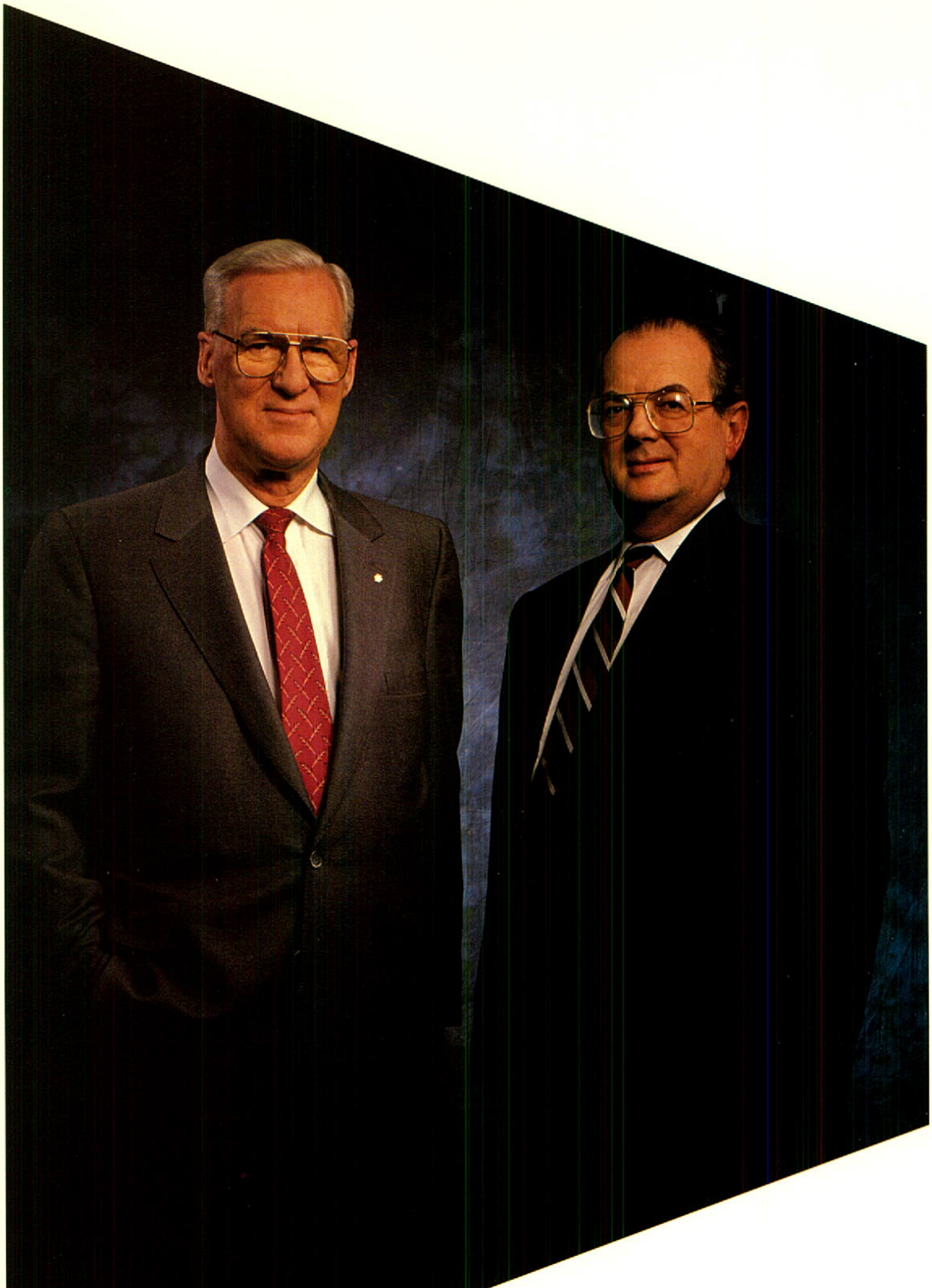


SHAREHOLDERS' EQUITY ($ millions)



NET INCOME (LOSS) ($ millions)





- The financial results for 1989 were the worst in Spar's history. Your Board has considered the problems concerning corporate profitability in considerable detail and is confident that management has taken the appropriate steps to turn the company around.
- Nineteen eighty-nine was an important year in Spar's evolution. At the Annual General Meeting in May, John MacNaughton, who has made a major contribution to Spar since its formation in 1967, was elected President and Chief Executive Officer. John brings to the job an in-depth knowledge of all aspects of Spar's operations and of its customers. He is particularly well-versed in the key technologies that are the foundation of the company's future growth.
- This change in leadership was most timely. It occurred shortly after the Federal Government announced the formation of the Canadian Space Agency earlier in the year. The establishment of the Space Agency clearly indicates a long term commitment by the Government of Canada to Canada's industrial role in space. This Federal support has been augmented and complemented by commitments from all of the Provinces to participate in the new space programs which the Agency will administer and in particular, by British Columbia, Saskatchewan, Ontario and Quebec, who contribute financially to the Radarsat program.

< Larry D. Clarke, Chairman of the Board (left) and John D. MacNaughton, President and Chief Executive Officer.

- The first major project to be announced by the Agency involves Canada's participation in the United States-led International Space Station Freedom program with Spar as the Canadian prime contractor. Subsequently, in January 1990, the Canadian Space Agency announced the award to Spar of the first phase of the Radarsat remote sensing satellite. We anticipate a decision involving Spar's participation in the MSAT mobile communications program later this year. The management of these three major space projects constitutes an exciting challenge to the new management of Spar and will provide a firm base on which to develop the company's business in the 1990s.
- Unfortunately, the complexities related to the establishment of the Space Agency took far longer to be resolved than had been anticipated. The resulting delays in the implementation of the Agency's new projects have had a major adverse impact on Spar's earnings over the past two years.
- With the new Space Agency in business and projects moving ahead, Spar's management faces an exciting and challenging task over the next several years. I am convinced that John MacNaughton and his team will rise to this challenge and ensure that the company and its shareholders participate fully in the opportunities arising from the resurgence of Spar's space and communications businesses.

Larry D. Clarke
Chairman of the Board
March 6, 1990

► For the year ending December 31, 1989, Spar had revenues of $233 million and a net loss of $9.2 million. As discussed in greater detail in the body of this report, these unsatisfactory results reflect program delays beyond Spar's control, and the attendant operating cost increases, together with substantial provisions for unusual items including $8.6 million to rationalize Spar's organization, to focus the business and improve productivity.

► Recognizing, as I did, the circumstances which would give rise to these results, my appointment as President last May was an exciting experience to say the least. I was awed by the size of the shoes I was being asked to fill. Yet, I knew Spar intimately and believed that I could make the required contribution.

► The immediate challenge confronting me was – and continues to be – to stablilize Spar's operating performance.

► I have therefore been moving on a number of fronts: to establish effective control of ongoing operations; to progressively simplify the organizational structure; and to deal with a number of specific issues facing the business. Much remains to be done, however, before we can focus our attention fully on the future. For some months yet, the highest priority must continue to be stabilization and a return to profitable operations including the capture of new business as well as the on-time, on-budget delivery of work in progress.

► Clearly these steps are of a near term nature – today in fact. I see them as the vital first steps towards creating the conditions – the stable platform – from which we can launch the work of tomorrow – the future.

► Tomorrow's work is indeed exciting! The outlook is full of bright promise and opportunity. Spar is well positioned to seize these opportunities and contribute to the realization of this promise. Many of the core projects that we have been pursuing for so long are now either reality or close to reality.

► My vision for Spar reaches farther into the future than this. The very essence of Spar is that we dare to reach beyond tomorrow. Our driving force is man's continued quest in outer space to find his beginnings, allied with the technological genius to move him there: robotics; communications; remote sensing and the enabling software, hardware, manufacturing and services. These technologies are the strength of Spar and, as "accelerator technologies" for the future, allow application here on earth for the betterment of mankind.

► Spar's role is to extend the reach of the human mind: to continuously expand the limits of the possible within an environment of accelerating change, innovation and discovery. In doing so, Spar can enhance its leadership position in Canada's industrial pursuit of mankind's quest into space while at the same time enhancing our shareholders' value.

► Working together, each one of us within Spar will find continuous challenge, excitement, growth and personal satisfaction, and we will transmit this excitement and satisfaction to all Canadians. In particular, we will reach and inspire tomorrow's leaders – young Canadians everywhere.

► This year should see an improved performance across the board, thanks to the initiatives undertaken in 1989. By year-end I am confident that our energies will be fully and clearly focussed on the future, and that I will be able to report to you on our renewed spirit of enthusiasm and confidence.

► In conclusion, I would like to thank all the people of Spar, and Spar's extensive team of associates and suppliers across Canada for their dedication to excellence, as well as our 4,000 shareholders for their continuing confidence and support.

J. MacNaughton

John D. MacNaughton
President and Chief Executive Officer
March 6, 1990

> From left to right: John D. MacNaughton, President and Chief Executive Officer, J. Ron McCullough, Vice President, Corporate Planning and Affairs, Anthony L. Anderson, Executive Vice President, Bryan H. Held, Vice President and Corporate Controller and Pat Cross, Manager, Planning.

1989 RESULTS

- For the year ended December 31, 1989 Spar Aerospace Limited had revenues of $233 million compared to $270 million in 1988 and a net loss of $9.2 million (82¢ per share) after an extraordinary income tax recovery of $2.6 million (23¢ per share) compared to a net income of $6.2 million (56¢ per share) the previous year, when there were no extraordinary items.
- Profit for 1989 was adversely affected by delays in the delivery of structural equipment produced by a major subcontractor for the Anik E communications satellite project and by delays in the start of the Radarsat program. The Anik E equipment, due in 1988, was received in 1989 and the spacecraft are undergoing final test in preparation for delivery in 1990.
- Special provisions totalling $11.6 million were made for unusual items in 1989 and are more fully explained in the Management's Discussion and Analysis.

BUSINESS HIGHLIGHTS

- Significant progress was achieved in 1989 with respect to new satellite opportunities. The Federal and Provincial governments approved the Radarsat remote sensing satellite program and contracts for this leading edge entry into the world market for remote sensing were signed early in 1990. The North American Mobile Satellite (MSAT) received final regulatory approvals and Spar and Hughes Aircraft submitted a joint bid to construct two satellites for service in Canada and the United States. Brazil continued to evaluate the Spar, MATRA Espace and Alcatel Espace bid which is competing for the Brasilsat III and IV communications satellites. Customer decisions on both these bids are expected in 1990. Spar's fully integrated communications capability was demonstrated through contracts awarded in Canada, Mexico and Africa. Management expects further growth from this expanding market.
- The International Space Station Freedom proceeded into the detailed hardware design phase. Spar completed the assembly of the cross-Canada design team for the Canadian component, the advanced robotic Mobile Servicing System, being produced for the Canadian Space Agency. In addition, Astro Aerospace and the Satellite and Communications Systems Division are each supplying major subsystems for the U.S. portion of the Space Station Freedom directly to U.S. contractors.
- In August, Spar delivered the first AN/SAR-8 to the U.S. Navy for test and evaluation, a significant step forward in the evolution of this advanced electro-optical sensing system.

SATELLITE COMMUNICATIONS SYSTEMS

► The company continued its role as Canada's satellite Prime Contractor as the Anik E communications satellites being built for Telesat Canada entered the final stages of assembly and test in preparation for launch in 1990 and 1991. Spar and Hughes Aircraft submitted a joint bid to provide the Mobile Satellite (MSAT) spacecraft for a cooperative North American satellite communications system and it is expected that the customers will proceed with a procurement in 1990. In international markets Spar, MATRA Espace and Alcatel Espace of France have submitted a bid to Brazil for a second generation communications satellite system which will replace the Spar satellites launched in 1985 and 1986. Brazil is expected to select the contractor in 1990.

► Spar continued work on telecommunications payload equipment for the French Telecom II satellites under contract from Alcatel Espace and the Tracking and Data Relay Satellite System (TDRSS) for TRW. Spar was also a part of the MATRA Espace team which was awarded the contract for the Spanish telecommunications satellite HISPASAT where Spar's leading antenna technology will be used for Spain's first communications satellite. In addition, General Electric selected Spar to supply communications antennas and equipment for the Space Station Freedom, further reinforcing Spar's position in international satellite communications markets.

<
Preparation of the Anik E communications satellite for Spacecraft Thermal Vacuum Tests (SCTV).

>
Spar engineers Joanna Boshouwers and Jean-Paul Langevin review the CAD/CAM design of the high performance tracking antenna for communications between Space Station Freedom and the earth via NASA's Tracking and Data Relay Satellite System.

GROUND COMMUNICATIONS SYSTEMS

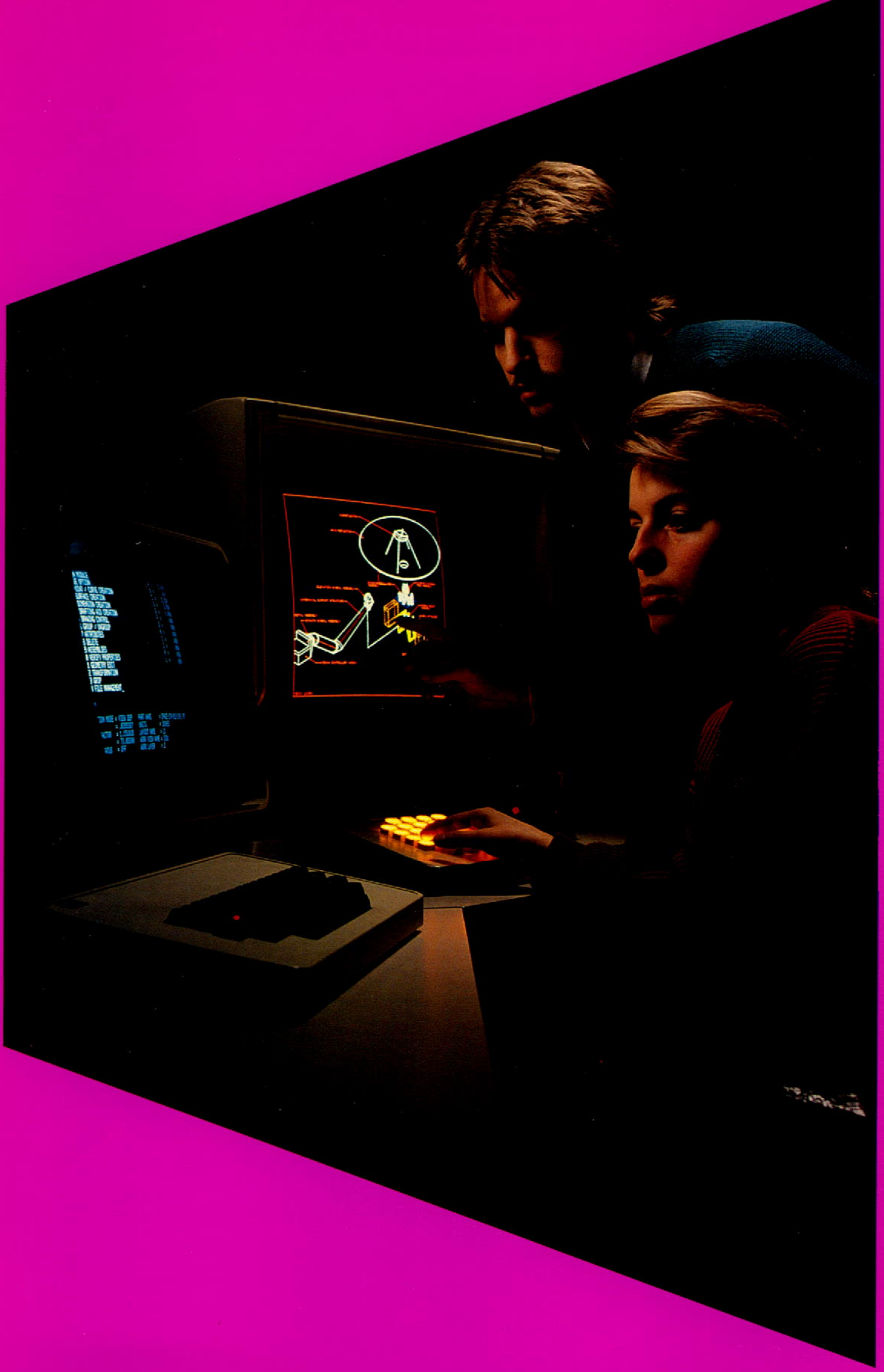
► Spar enhanced its position in the field of satellite telecommunications networks through the award to COMTEL of three large networks in Mexico with a total value of $US16 million, demonstrating the company's ability to compete in the world market for turnkey satellite telecommunications systems. Spar was also awarded a contract by Transport Canada for an advanced system for air traffic control communications.

<
Artist's concept of a Spar satellite communications network using advanced TDMA (Time Division Multiple Access) technology.

SATELLITE REMOTE SENSING SYSTEMS

► Last year, the Canadian Federal and Provincial governments reached agreement on and approved the procurement of Radarsat, the world's first operational radar remote sensing satellite. Contract award for the first phase of Radarsat took place in January 1990. Spar, Intera Technologies Limited, COM DEV Limited and MacDonald Dettwiler and Associates Limited have formed a company, Radarsat International (RSI), which will have the exclusive mandate to process, market and distribute Radarsat data in domestic and international markets. A key RSI objective is to maximize the commercial returns from this unique Canadian technology initiative.

<
Artist's rendering of the remote sensing satellite, Radarsat.



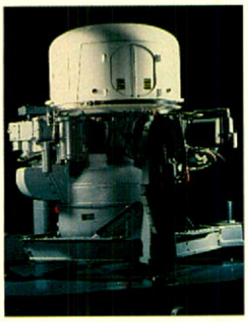
SPACE ROBOTIC SYSTEMS

- Canada's contribution to the International Space Station Freedom, the Mobile Servicing System, proceeded into the phase of detailed design and development of the world's most advanced space robotic system. Spar, and its Canada-wide Space Team, continue to bring subcontractors and suppliers across Canada into the advanced technology world of space via this leading edge program under the overall direction of the Canadian Space Agency.
- In mid year, the European Space Agency's Olympus communications satellite was launched after undergoing integration and test at the David Florida Laboratories in Ottawa. The high powered solar arrays designed and built by Spar were successfully deployed, supplying the satellite with electrical power. Spar continues to support the Canadarm, a vital part of the NASA Space Shuttle, and is proceeding with work for TRW on the NASA Orbital Maneuvering Vehicle.

< The Ground Test Bed for the Special Purpose Dextrous Manipulator which is part of the Mobile Servicing System for Space Station Freedom.

> Assembly of the electrical breadboard for the Radarsat synthetic aperture radar antenna.

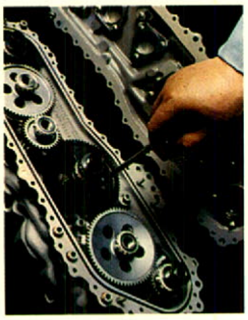
ELECTRO-OPTICAL SENSING SYSTEMS



- The first AN/SAR-8 Infra-red Search and Target Designation System was delivered to the U.S. Navy Test Site in preparation for test for the U.S. and Canadian Navies. Successful demonstrations of its advanced capabilities in 1990 will reinforce the fleet's need for the system and its progress into production orders for Spar. The AN/SAR-8 was also baselined in joint NATO studies as the infra-red sensor of choice for future fleet defence.
- Production continued on the "Tiger Eye" long range night observation device (NODLR) for the Canadian Forces and the electro-optical sensor for the Canadian Forces Air Defence Anti-Tank System (ADATS™) and the U.S. Forward Area Air Defense System (FAADS) for Martin Marietta. In 1989 the company received an order from the Korean Army for 49 NODLR units, marking the first entry of the "Tiger Eye" into international markets.

< AN/SAR-8 Infra-red Search and Target Designation System.

AVIATION SERVICES



- Spar solidified its position as an industry leader in the production of high precision aerospace gears and transmission with the award from General Electric of multi-year contracts valued at more than $35 million for the CT7 and CFM-56 gas turbine engine power transmission gearboxes. The company continues to supply Blackhawk helicopter transmission modules to Sikorsky. Contracts were received from the Canadian Forces for a further three years' activities relating to repair and overhaul of aircraft components. Spar expanded its world markets for the repair and overhaul of aircraft and helicopter components and for sales of aviation products and accessories.

< Final assembly of General Electric T700 accessory gearbox.

CONSOLIDATED BALANCE SHEETS

December 31, 1989 and 1988

($000s)	1989	1988
ASSETS		
Current assets:		
Marketable securities (note 2)	$ 66,250	$ 62,110
Accounts receivable	76,185	60,276
Inventories (note 3)	34,747	52,534
Prepaid expenses and other	1,923	1,208
Total current assets	179,105	176,128
Accrued incentive revenue	17,027	16,401
Fixed assets (note 4)	37,129	39,236
Employee loans receivable (note 8)	2,320	3,575
Long term investments (note 5)	2,255	2,152
Deferred pension costs	12,667	12,071
Deferred development costs	7,412	6,755
TOTAL ASSETS	$257,915	$256,318
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Bank indebtedness	$ 84,673	$ 66,379
Accounts payable and accrued charges	64,212	71,155
Customer advance payments (note 3)	13,321	8,753
Current portion of long term debt (note 6)	186	618
Current deferred income taxes	1,716	1,379
Total current liabilities	164,108	148,284
Long term debt (note 6)	5,218	2,581
Deferred income taxes	—	6,412
Shareholders' equity		
Share capital (note 8)	72,371	71,344
Retained earnings	16,218	27,697
Total shareholders' equity	88,589	99,041
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$257,915	$256,318

(See accompanying notes to consolidated financial statements)

On behalf of the Board:

W. Clarke

Director

J. MacNaughton

Director

Spar Aerospace Limited amalgamated under the Canada Business Corporations Act.

CONSOLIDATED STATEMENTS OF INCOME

For the years ended December 31, 1989 and 1988

($000s)	1989	1988
REVENUES	$233,163	$269,967
Cost of revenues including all expenses except items shown below (note 7)	184,279	210,523
Administrative and selling expenses	34,604	33,571
Research and development costs (notes 7 and 11)	4,042	4,199
Depreciation and amortization	14,448	12,306
Interest and other expenses (income), net	2,938	(701)
	240,311	259,898
Income (loss) before the undernoted items	(7,148)	10,069
Unusual items (note 13)	(11,600)	–
Income (loss) before income taxes and extraordinary item	(18,748)	10,069
Income tax recovery (expense) (note 7)	6,930	(3,880)
Income (loss) before extraordinary item	(11,818)	6,189
Extraordinary item – income tax recovery (note 7)	2,600	–
NET INCOME (LOSS) FOR THE YEAR	$ (9,218)	$ 6,189
EARNINGS (LOSS) PER SUBORDINATE VOTING SHARE (IN DOLLARS)		
Income (loss) before extraordinary item	$ (1.05)	$ .56
Net income (loss)	$ (0.82)	$ .56

CONSOLIDATED STATEMENTS OF RETAINED EARNINGS

For the years ended December 31, 1989 and 1988

($000s)	1989	1988
RETAINED EARNINGS, BEGINNING OF YEAR	$ 27,697	$ 24,633
Net income (loss)	(9,218)	6,189
Dividends on subordinate voting shares	(2,261)	(3,125)
RETAINED EARNINGS, END OF YEAR	$ 16,218	$ 27,697

(See accompanying notes to consolidated financial statements)

CONSOLIDATED STATEMENTS OF CASH FLOW

For the years ended December 31, 1989 and 1988

($000s)	1989	1988
OPERATING ACTIVITIES		
Net income (loss) before extraordinary items	$(11,818)	$ 6,189
Items not affecting cash (note 12)	7,048	6,166
	(4,770)	12,355
Extraordinary item – income tax recovery	2,600	—
Net increase in cash invested in working capital related to operations (note 12)	(649)	(8,874)
Net cash from (used in) operating activities	(2,819)	3,481
FINANCING ACTIVITIES		
Issue of subordinate voting shares	1,027	6,061
Employee loans receivable	1,255	(2,620)
Increase in long term debt	2,823	2,365
Long term debt repayments	(618)	(574)
Dividends paid	(2,824)	(2,872)
Net cash from financing activities	1,663	2,360
INVESTMENT ACTIVITIES		
Additions to fixed assets	(11,539)	(11,981)
Proceeds of disposition of fixed assets	375	230
Common shares purchased	—	(1,474)
Proceeds of debentures redeemed	—	2,600
Deferred development expenditures	(1,834)	(3,716)
Net cash used in investment activities	(12,998)	(14,341)
Decrease in cash	(14,154)	(8,500)
Cash (indebtedness), beginning of year	(4,269)	4,231
INDEBTEDNESS, END OF YEAR	$(18,423)	$ (4,269)

"Cash" consists of marketable securities less bank indebtedness.

(See accompanying notes to consolidated financial statements)

AUDITORS' REPORT

To the Shareholders of Spar Aerospace Limited:

We have examined the consolidated balance sheets of Spar Aerospace Limited as at December 31, 1989 and 1988 and the consolidated statements of income, retained earnings and cash flow for the years then ended. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at December 31, 1989 and 1988 and the results of its operations and the changes in its financial position for the years then ended in accordance with generally accepted accounting principles applied on a consistent basis.

Ernst & Young

Chartered Accountants

Mississauga, Canada
February 9, 1990

1. SUMMARY OF ACCOUNTING POLICIES

The accompanying financial statements consolidate the accounts of the company and its subsidiaries and have been prepared by management in accordance with generally accepted accounting principles consistently applied within the framework of the accounting policies summarized below. Because a precise determination of many assets and liabilities depends on future events, the preparation of financial statements for a period necessarily involves the use of estimates and approximations.

(a) Revenue recognition

Revenue is accrued using the percentage of completion method as the work is performed and provision is made for the total anticipated loss when the estimate of total costs on a contract indicates a loss. As some contracts extend over one or more years, any revisions in cost and profit estimates made during the course of the work are reflected in the accounting period in which the need for the revision becomes known. Some contracts contain incentive and/or penalty provisions based on performance relative to established targets. Such awards or penalties are included in revenue or cost estimates when such amounts can reasonably be determined.

(b) Accrued incentive revenue

Accrued incentive revenue relates to satellite contracts and represents the non-current portion of the present value of cash payments that the company estimates it will receive, net of allowances for performance failures.

(c) Research and development costs

The company expenses all research and development expenditures, after deducting investment tax credits and government assistance, as incurred with the exception of certain development costs incurred prior to commencement of or during initial commercial production of new products, which are deferred.

Deferred development costs are amortized in proportion to projected revenue of related products commencing in the year of initial commercial production. Should the company determine that the unamortized balance of deferred costs is in excess of amounts that can reasonably be recovered from the benefits of future sales, such excess is written off at that time.

(d) Inventories

Inventories of raw materials and finished goods are valued at the lower of cost, on a moving average basis, and market value, being replacement cost for raw materials and net realizable value for finished goods. Contracts in process are valued at estimated sales value calculated on the percentage of completion basis.

(e) Long term investments

Investments in companies where the company has the ability to exercise significant influence are accounted for by the equity method. Other long term investments are carried at cost.

(f) Fixed assets

Additions to fixed assets are recorded at cost after deducting investment tax credits and government assistance. Depreciation and amortization are provided on the straight-line method on a basis estimated to amortize the cost of the assets over their useful lives as follows:

Machinery and equipment	10% to $33^1/_3$%
Buildings	5%
Leasehold improvements	Term of the lease plus renewal option, if applicable

Fixed assets include those lease obligations which transfer substantially all of the benefits and risks associated with ownership.

(g) Foreign exchange

Transactions in foreign currencies are translated into Canadian dollars at the approximate rate prevailing at the time of the transactions. Monetary assets and liabilities in foreign currencies are translated at rates prevailing at the year end. Non-monetary assets and liabilities, and related income statement charges, are translated at historical rates. Foreign exchange gains and losses are included in income for the year, except those which relate to long term monetary items which are deferred and amortized over the term of the related asset or liability.

(h) Pension costs and obligations

Current service costs under the company's pension plans are charged to operations as they accrue, based on annual actuarial valuations calculated using the accrued benefit method and management's best estimate assumptions. The valuation of pension fund assets is based on market-related values, which spread unrealized gains and losses over five years.

The excess of the value of pension fund assets over the actuarially-computed present value of accrued pension obligations as at January 1, 1987, and any adjustments to pension costs arising since that date are amortized, on a diminishing balance basis, over the expected average remaining service lives of the employee groups covered by the plans.

(i) Income taxes

The company and its subsidiary companies follow the practice of providing for income taxes based on income included in the financial statements regardless of when such income is subject to payment of taxes under the tax laws.

2. MARKETABLE SECURITIES

The company's marketable securities portfolio is carried at the lower of aggregate cost and market and consists of the following:

	1989		1988	
($000s)	Cost	Market	Cost	Market
Canadian government bonds	$ 66,109	$ 66,709	$ 58,927	$ 59,000
Corporate bonds and other	141	141	139	139
Retractable preferred shares	—	—	3,044	3,000
	$ 66,250	$ 66,850	$ 62,110	$ 62,139

3. INVENTORIES

Inventories consist of the following:

($000s)	1989	1988
Contract costs and related profit margins recognized to date	$399,235	$439,657
Less: related progress billings	370,587	394,727
	28,648	44,930
Raw materials, parts and supplies	5,520	6,746
Finished goods	579	858
	$ 34,747	$ 52,534

Customer advance payments in excess of contract costs and related profit margins of $13,321,000 (1988 – $8,753,000) are included in current liabilities.

4. FIXED ASSETS

Fixed assets consist of the following:

($000s)	1989	1988
Cost:		
Land	$ 400	$ 400
Buildings and leasehold improvements	10,157	9,757
Machinery and equipment	85,780	75,932
Machinery and equipment under capital leases	2,304	2,304
	98,641	88,393
Less: accumulated depreciation and amortization	61,512	49,157
	$ 37,129	$ 39,236

5. LONG TERM INVESTMENTS

($000s)	1989	1988
MacDonald Dettwiler and Associates Limited, at cost	$ 2,032	$ 2,032
Nordco Limited, equity investment	223	120
	$ 2,255	$ 2,152

6. LONG TERM DEBT

The company's long term debt consists of the following:

($000s)	1989	1988
Interest free loan repayable over 10 years starting in 1992	$ 5,188	$ 2,365
Capital lease obligations expiring 1990 bearing interest at 11.0%	19	487
Term loans at 10.625%	197	347
	5,404	3,199
Less: amount included in current liabilities	186	618
	$ 5,218	$ 2,581

Long term debt is repayable as follows:

($000s)	Interest Free Loan	Capital Lease Obligations	Term Loans and Other	Total
1990	$	$ 19	$167	$ 186
1991			30	30
1992	100			100
1993	562			562
1994	562			562
Future years	3,964			3,964
	$5,188	$ 19	$197	$5,404

7. INCOME TAXES

Investment tax credits

Investment tax credits earned in the current year on scientific research and capital expenditures have been applied to reduce the cost of the related expenditures and assets as follows:

($000s)	1989	1988
Research and development costs	$ 909	$ 850
Cost of revenues	291	1,650
Deferred development costs	—	900
Fixed assets	—	300
	$ 1,200	$ 3,700

Effective income tax rate

The company's income tax provision consists of the following:

($000s)	1989	1988
Combined basic Canadian and U.S. statutory income tax rates	42.2%	42.3%
Income tax recovery (expense) prior to the following:	$ 7,912	$ (4,260)
– Manufacturing and processing deduction	(875)	233
– All other items, net	(107)	147
Income tax recovery (expense)	$ 6,930	$ (3,880)

Utilization of loss carry forwards – Extraordinary item

The extraordinary income tax recovery recognizes prior years' losses of U.S. subsidiaries.

8. SHARE CAPITAL

A summary of changes to issued share capital for the years ended December 31, 1989 and 1988 is as follows:

	Subordinate voting		Special		Total
($000s)	Shares	$	Shares	$	$
Issued and outstanding December 31, 1987	10,826,452	65,132	1,076,893	151	65,283
a) Issue of subordinate voting shares for cash under employee share purchase plan	391,035	5,865			5,865
b) Exercise of options for cash	37,000	196			196
c) Conversion of Special Shares to subordinate voting shares	53	–	(2,670)	–	–
Issued and outstanding December 31, 1988	11,254,540	71,193	1,074,223	151	71,344
a) Issue of subordinate voting shares for cash under employee share purchase plan	60,664	992			992
b) Exercise of options for cash	10,630	35			35
c) Conversion of Special Shares to subordinate voting shares	104	1	(5,250)	(1)	–
Issued and outstanding December 31, 1989	11,325,938	72,221	1,068,973	150	72,371
Authorized, December 31, 1989 and 1988	unlimited		12,000,000		

Preferred Shares and Junior Preferred Shares

Such classes of shares may be issued in one or more series with such designations, preferences, rights, privileges, restrictions and conditions attached as may be determined by the directors.

Authorized – 10,000,000 Preferred Shares and 20,000,000 Junior Preferred Shares;

Issued and outstanding – none

Special Shares

The articles of the company provide that, subject to the Canada Business Corporations Act, Special Shares are:

(i) not transferable except in certain limited circumstances;

(ii) ranked, as to payment of dividends and repayment of capital, junior to all other existing shares of the company;

(iii) limited as to repayment of capital to the amount paid up thereon;

(iv) not entitled to dividends except in a year in which dividends of at least $0.375 have been paid on the subordinate voting shares and then payable subject to prescribed limits;

(v) entitled to 10 votes per share at a meeting of shareholders;

(vi) only redeemable on or after June 30, 1991 at the redemption price of $0.075 per share;

(vii) purchasable by the company at any time;

(viii) convertible by the holder into subordinate voting shares at any time on the basis of one subordinate voting share for 50 Special Shares.

The Special Shares carry a preemptive right entitling the holders to purchase newly issued Special Shares in proportion to such shareholders' holdings of Special Shares. On the issue of additional subordinate voting shares (except in certain circumstances) or on the issue of any security convertible into subordinate voting shares, the company is required to offer to the Special shareholders, at a specified price, sufficient additional Special Shares in proportion to their holdings of Special Shares to bring the number of Special Shares, to be outstanding thereafter, up to 10% of the number of subordinate voting shares outstanding on a fully diluted basis. Neither Special Shares nor subordinate voting shares are to be subdivided or consolidated without the other being subdivided or consolidated on the same basis.

Subordinate voting shares

Each subordinate voting share entitles the holder to:

(i) one vote per share;

(ii) receive dividends when declared;

(iii) receive, on dissolution of the company, subject to the prior rights of the holders of Preferred and Junior Preferred Shares but in priority to the rights of the holders of Special Shares, the amount paid up thereon together with any declared and unpaid dividends and, after payment to the holders of Special Shares of the amount paid up on such Special Shares, to receive any declared and unpaid dividends thereon together with the remaining property of the company.

Employee stock options

In 1989, the company granted 75,000 options to officers, 10,630 options were exercised, and 40,000 options on subordinate voting shares were forfeited on termination of employment.

At December 31, 1989, 513,500 subordinate voting shares were reserved for issuance upon the exercise of options granted to full-time employees, including 433,500 to officers of the company, at prices ranging from $3.205 to $24.00 per share and averaging $17.145 per share. These options may be exercised at various periods to 1999.

Employee share purchase plan

In 1988, the company introduced a share purchase plan to qualified employees. Under the plan, a qualified employee was eligible to purchase subordinate voting shares of the company having an aggregate cost to the employee of 10% of the employee's annualized base earnings. The company provides an interest-free loan to the full amount of the employee's commitment, repayable over three years and secured by the subordinate voting shares purchased under the plan. At the end of each of these three years, the company will pay a bonus to each participant equal to $13^{1}/_{3}$% of the employee's commitment to be used to purchase additional subordinate votings shares.

Employees have purchased or are committed to purchase a total of 494,900 subordinate voting shares under the 1988 plan at $14.28 per share. At December 31, 1989, outstanding loans amounted to $1,397,000 (1988 – $4,063,000), of which $279,000 (1988 – $2,201,000) is included in employee loans receivable and $1,118,000 (1988 – $1,862,000) in accounts receivable.

Shares required for future issue

At December 31, 1989, a total of 625,075 subordinate voting shares may be required for future issue as follows: 21,379 for conversion of the Special Shares, 513,500 for exercise of stock options and approximately 90,196 for participants in 1988 employee share purchase plan.

9. COMMITMENTS

The future minimum payments under operating leases are $26,979,419 with payments for the next five years as follows:

($000s)	Annual rental
1990	$ 3,581
1991	2,988
1992	2,585
1993	2,181
1994	1,147
5 year commitment	$12,482

At December 31, 1989, the company has entered into foreign exchange contracts as hedges against identified transactions and is committed to sell 41,500,000 U.S. dollars under such contracts, at an average rate of $1.1954 Canadian. These contracts mature on various dates during 1990 and 1991.

10. PENSION AND RETIREMENT PLANS

The company maintains several pension plans covering substantially all of its employees. Pension contributions by employees together with those made by the company are deposited with trustees according to the terms of the plans. Pensions at retirement are related to various factors including remuneration, years of service and, in the case of certain officers, the market value of the company's subordinate voting shares.

Based on the latest actuarial reports prepared as of January 1, 1989 using management's best estimate assumptions, the present value of accrued pension obligations as at December 31, 1989 was $49,974,000 (1988 – $39,353,000) and the market related value of the fund assets available to discharge these obligations was $59,774,000 (1988 – $53,931,000). The amount of pension surplus as at December 31, 1986 and any surpluses or deficits arising since that date are being amortized (on a diminishing balance basis at a rate of 25% per annum) over eight years, which approximates the expected average remaining service lives of the employee groups covered by the plans. All past service liabilities were funded and recorded in the accounts as at December 31, 1989 and 1988 with the exception of the liability related to certain retirement plans for certain officers which is estimated to be $757,000 at December 31, 1989 (1988 – $1,322,000). This amount will be amortized over the estimated number of years to normal retirement.

The net amount charged (credited) to income before income taxes and extraordinary item in respect of all pension and retirement plans was $2,311,000 (1988 – ($310,000)).

11. GOVERNMENT ASSISTANCE

On February 14, 1986 the Federal Government executed a Memorandum of Understanding (M.O.U.) under which the Government will share (to a maximum of $130 million or 43.6% of the total investment by the company) the costs of research and development and capital expenditures with the company over the period 1986 to 1991.

Government assistance received and receivable from the Federal Government related to research and development activities and capital expenditures in 1989 totalled $14,790,000 (1988 – $13,728,000). This assistance normally takes the form of grants which may be repayable in the form of royalties based on future sales levels related to the projects funded, or the company's ability to meet certain investment targets as specified in the agreements. At December 31, 1989 no provision for repayment has been recorded with respect to contributions received and receivable. Such amounts, if any, that may be repayable will be accounted for in the period in which conditions arise that will cause repayment. Government assistance with determined repayment requirements is recorded as a liability when received.

Government assistance received and receivable at year end has been applied to reduce the cost of the related expenditures and assets or recorded as a liability as follows:

($000s)	1989	1988
Research and development costs	$ 11,967	$ 11,227
Long term debt	2,823	2,365
Fixed assets	—	136
	$ 14,790	$ 13,728

12. STATEMENT OF CASH FLOW

Items not affecting cash

The components of net income (loss) which did not affect cash consist of the following:

($000s)	1989	1988
Depreciation	$ 13,271	$ 11,260
Amortization of deferred development costs	1,177	1,046
Deferred income taxes	(6,075)	340
Accrued incentive revenue	(626)	(3,810)
Deferred pension costs	(596)	(2,670)
Equity earnings on investment	(103)	—
Items not affecting cash	$ 7,048	$ 6,166

Net increase in cash invested in working capital related to operations

The net increase in cash invested in working capital related to operations results from the following decreases (increases) in working capital components:

($000s)	1989	1988
Accounts receivable	$ (15,909)	$ 2,309
Income tax recoverable	—	1,836
Inventories	17,787	(23,254)
Prepaid expenses	(715)	(510)
Accounts payable and accrued charges	(6,380)	11,537
Customer advance payments	4,568	(792)
Net increase in working capital related to operations	$ (649)	$ (8,874)

13. UNUSUAL ITEMS

During the year, management instituted a program of organizational reviews. As a result, a provision of $8,600,000 was made to rationalize Spar's organization and certain operations, focus the business and improve operational effectiveness. Further provisions were made of $1,500,000 to implement external environmental improvements and $1,500,000 as a one-time charge to relocate the Aviation Services Division to a new facility.

14. INDUSTRY SEGMENT INFORMATION

The company's operating divisions have been grouped into two industry segments.

It is the company's policy to price internal sales or transfer values for services, generally on an equivalent basis as that used for pricing externally.

	Aviation Segment		Systems Segment		Eliminations		Consolidated	
($000s)	1989	1988	1989	1988	1989	1988	1989	1988
External revenues	$ 43,700	$ 42,076	$189,463	$227,891			$233,163	$269,967
Intersegment revenues	4,671	3,476	50	2	$ (4,721)	$ (3,478)	—	—
Total revenue	$ 48,371	$ 45,552	$189,513	$227,893	$ (4,721)	$ (3,478)	$233,163	$269,967
Segment operating profit (loss)	$ 1,853	$ (598)	$ 5,045	$ 21,069	$ (1,033)	$ (734)	$ 5,865	$ 19,737
General corporate expenses							(10,075)	(10,369)
Interest and other income (expenses), net							(2,938)	701
Unusual items							(11,600)	—
Income tax recovery (expense)							6,930	(3,880)
Extraordinary item – income tax recovery							2,600	—
Net income (loss)							$ (9,218)	$ 6,189
Identifiable assets	$ 33,972	$ 29,134	$147,580	$150,499			$181,552	$179,633
Other assets							76,363	76,685
Total assets							$257,915	$256,318
Capital expenditures	$ 3,120	$ 1,196	$ 7,436	$ 11,046				
Depreciation and amortization	$ 1,863	$ 1,750	$ 12,115	$ 9,479				

- The company operates principally in Canada.
- The company's revenues from export markets were approximately $108,023,000 in 1989 (1988 – $109,400,000).
- A significant portion of the company's business is with various branches and agencies of the Canadian government and crown corporations as well as with foreign government agencies.

Aviation Segment includes: (i) gears and transmission systems and equipment for gas turbine engines, fixed and rotary wing aircraft and robotic applications; (ii) repair and overhaul of a wide range of commercial and military aircraft instrumentation and mechanical components and helicopter maintenance.

Systems Segment includes: (i) satellite systems and subsystems and ground-based satellite communications systems; (ii) space robotic systems for space and terrestrial applications; and (iii) electro-optical sensing systems.

The 1988 asset comparative amounts have been reclassified to conform with the 1989 presentation.

MANAGEMENT REPORT ON RESPONSIBILITY FOR FINANCIAL REPORTING

The management of Spar Aerospace Limited and its subsidiaries is responsible for preparing the accompanying financial statements and for their integrity and objectivity. The statements were prepared in accordance with generally accepted accounting principles applied on a consistent basis and are to the best of our knowledge and belief fairly stated. The financial statements include amounts that are based on management's best estimates and judgements. Management prepared all the information in the annual report and is responsible for its accuracy and consistency with the financial statements.

Management maintains a system of internal control that provides reasonable assurance as to the integrity and reliability of the financial statements, the protection of assets from unauthorized use or disposition, and the prevention and detection of fraudulent financial reporting. The system of internal control provides for appropriate division of responsibility and is documented by written policies and procedures that are communicated to employees who have a significant role in the financial reporting process. Management has established procedures to monitor the activities of the Company to ensure compliance with the system of internal control.

The Company has an Audit Committee of the Board of Directors. At the request of the Committee, management attends its meetings to review matters relating to the financial reporting process.

The accompanying consolidated financial statements have been audited by Ernst & Young, formerly Clarkson Gordon, who were appointed as the Company's external auditors by the shareholders at the last annual meeting. Management has made available to the external auditors all financial records and related data. Furthermore, management believes that all representations made to the external auditors during their audit were valid.

Spar maintains an internal audit program that independently assesses the effectiveness of internal controls and recommends improvements. In addition, as part of the audit of Spar's financial statements, the external auditors complete a review of the Company's internal controls to establish a basis for determining the nature, timing, and extent of audit tests to be applied. Management has considered the internal and external auditors' recommendations concerning the system of internal control and has taken actions which it believes are cost-effective to respond appropriately to these recommendations. Management believes that as of December 31, 1989, the Company's system of internal control was adequate to accomplish these objectives.

Management also recognizes its responsibility for ensuring that Spar's business is conducted with integrity. This responsibility is reflected in the Spar business conduct policy to which designated employees are required to make a commitment. The business conduct policy addresses relationships with customers, suppliers and competitors; potential conflicts of interest; compliance with the law and confidentiality of Company information. Management reviews this policy with all Spar employees annually and has procedures in place to assess compliance with the policy.

J.D. MacNaughton
President and Chief Executive Officer
March 6, 1990

A.L. Anderson
Chief Financial Officer

AUDIT COMMITTEE REPORT

The Audit Committee of the Board of Directors is composed of four directors who are not officers or employees of the Company. The Committee meets quarterly to oversee, on behalf of the Board of Directors, the Company's financial reporting process.

In fulfilling its responsibilities during the past year, the Committee:

- Reviewed the overall scope and plans for audits by the internal and external auditors;
- Reviewed the actions taken by management with respect to the recommendations made by the internal and external auditors;
- Met with the external auditors, without management present, to discuss the results of their audit, their evaluation of the Company's internal controls, and the overall quality of the Company's financial reporting and internal audit process;
- Reviewed the accounting principles and policies adopted by the Company and discussed the interim and annual financial statements issued by the Company to its shareholders;
- Recommended to the Board of Directors the reappointment of Ernst & Young as the Company's external auditors.

E.H. Orser
Audit Committee Chairman
March 6, 1990

The discussion and analysis that follows comments on factors which caused changes in the company's results of operations during the two year period ended December 31, 1989 and its financial position at that date as presented in the accompanying financial statements. Operating results of the company's business segments as reported under "Industry segment information" (note 14, page 19 of this Annual Report) are commented upon, as well as other factors related to the company's business.

RESULTS OF OPERATIONS

Revenues at $233.2 million, were $36.8 million or 13.6% lower than 1988. Significantly lower revenues from the Systems segment in 1989 were partly offset by modest revenue increases in the Aviation segment. The decrease in revenues results primarily from a combination of delays both on the Anik E satellite contract and in the award of major new systems contracts.

Margins as a percent of total revenues declined from 22% in 1988 to 21% in 1989. This decrease is due to higher costs in the Systems segment caused by a combination of program cost overruns and the under recovery of fixed costs resulting from contract delays.

Administrative and selling expenses were 3.1% higher than 1988. Increases arising from inflation were partially offset by cost reductions achieved through organizational and cost reviews initiated during the year.

Research and development costs were maintained at approximately 1988 levels with the major emphasis being placed on the advanced technologies and manufacturing processes used in communications and remote sensing.

Depreciation and amortization costs increased $2.1 million as a result of the significant investment in capital equipment during the last few years.

Interest and other expenses, net at $2.9 million are up $3.6 million over the comparative income reported for 1988. During most of 1988, the company maintained a net cash and marketable securities position in excess of bank indebtedness resulting in net investment income. In the latter part of 1988 and continuing through 1989, bank borrowings exceeded cash and marketable securities and this net borrowing combined with higher interest rates resulted in this significant change.

The factors described above contributed to a $17.2 million reduction in **Income before unusual items,** the most significant of which are summarized as follows:

Margin lost due to reduced volume of business	$ 8.1M
Lower percentage margin on revenue	2.4M
Increased depreciation and amortization and interest expense	5.7M

Unusual Items – the net loss in 1989 includes an $11.6 million provision for unusual items.

During the year management instituted a program of organizational reviews. As a result, management provided $8.6 million to rationalize Spar's organization and certain of its operations, focus the business and improve productivity. These actions were taken to stabilize operating performance and lay the groundwork for a return to profitability. It was also necessary to provide $1.5 million to implement environmental improvements outside the Caledonia Road plant in Toronto. The company also recorded a one-time charge of $1.5 million to move the Aviation Services Division to a new facility adjacent to Pearson International Airport, which will enhance the operational effectiveness of the division.

Income (loss) before extraordinary item reflects an $18 million deterioration to a 1989 loss of $11.8 million from the comparative income of $6.2 million in 1988. This was due to the decrease in income before tax of $28.8 million and a lower effective income tax recovery rate in 1989 compared to the effective tax rate in 1988. Effective Canadian income tax rates declined in 1989 but were offset by the introduction of the large corporation tax and a different mix of Canadian and U.S. income.

The extraordinary item – income tax recovery of $2.6 million in 1989 results from the recognition of prior years' losses of U.S. subsidiaries, and reduced the net loss for 1989 to $9.2 million, a change of $15.4 million from the $6.2 million net income reported for 1988. The U.S. tax losses were fully utilized in 1989.

LIQUIDITY AND CAPITAL RESOURCES

The company's **cash indebtedness** at the end of 1989 was $18.4 million, an increase of $14.2 million from the prior year end. The increase results mainly from the $9.2 million net loss for the year, continuing high levels of investment in fixed assets of $11.5 million offset by $7 million of items having no cash affect (see note 12, page 18). The prior year's decrease in cash of $8.5 million was enhanced by substantially higher cash flow from operations and proceeds of share issues (net of employee loans) offset by increased working capital requirements over those at the end of 1987 and investments in deferred development costs.

Accounts receivable at the end of 1989 are $15.9 million higher than the level of the previous year. Higher year end progress billings on major contracts in process, primarily in the Systems segment, are reflected in higher accounts receivable, substantially all of which are current.

Inventories at year end 1989 were $17.8 million down from 1988. Delayed achievement of project milestones encountered at the end of 1988 on the Anik E program were completed in 1989 resulting in a major reduction in Systems segment inventories.

The net book value of **fixed assets** is $2.1 million less than at the end of 1988 primarily as a result of depreciation being $1.7 million in excess of 1989 capital additions of $11.5 million. In 1988 capital additions at $12 million were $.7 million in excess of depreciation.

Deferred development costs have increased by $.6 million in the year. Costs of $1.8 million associated with the AN/SAR-8 program were deferred during 1989 while $1.2 million related to FLIR (Forward Looking Infra Red) development was amortized in the same period. In 1988, $3.7 million of AN/SAR-8 development costs were deferred and $1.0 million of FLIR development costs were amortized.

Working capital at the end of 1989 of $15 million is down $12.8 million from the prior year. The earlier discussed $14.2 million increase in net cash indebtness from the end of 1988 is the primary cause of the change.

Liquidity Discussion – the company has over the last several years financed its fixed assets, deferred development and working capital investments out of operating cash flow, employee stock issues and short term bank borrowing, while maintaining minimal long term debt. The nature of the company's contracting is such that programs are largely financed by customer progress payments based on costs incurred or on achieved milestones over the period of the project. The quality of the government and commercial customer base is such that the credit risk to the company is low. These factors allow the company to operate on relatively lower working capital levels relative to the volume of revenues than many businesses. Temporary increases in the levels of receivables or inventories, when experienced due to delayed receipts or milestones not being achieved on programs, may be financed by short term bank borrowings.

Dividends paid in 1989 were 25 cents per share compared to 26 cents in 1988. The latest quarterly dividend declared in November 1989 and payable in January 1990, was at a rate of 3 cents per share.

The company has arrangements with its bankers for credit facilities to supplement periodic operating cash flow requirements. At December 31, 1989 approximately 60% of available credit facilities with various banks were not used.

Anticipated growth in business volume in 1990 and 1991 may create the need for additional financing. The form and extent will depend on 1990 contract performance, anticipated contract awards and the most advantageous financing vehicles available.

BUSINESS SEGMENTS

(reference note 14, page 19 of Annual Report)

SYSTEMS SEGMENT

($ million)	1989	%	1988	%
Satellite and ground communication systems	$ 85.2	45.0	$126.2	55.4
Space robotic systems	57.8	30.5	51.4	22.6
Electro-optical sensing systems	46.5	24.5	50.3	22.0
Total Segment Revenue	$189.5	100.0%	$227.9	100.0%
Operating income	$ 5.0	2.6	$ 21.1	9.3
Assets	147.6		150.5	
Capital expenditures	7.4		11.0	
Deferred development expenditures	1.8		3.7	
Depreciation and amortization	12.1		9.5	

Revenues in the Systems segment decreased $38.4 million or 16.8% from 1988. Performance on the Anik E program and delays in new contract awards, particularly Radarsat, were the major factors contributing to the lower revenues. This was compounded by a lower level of activity on the AN/SAR-8 development program (electro-optics) and offset by higher space robotic systems revenues as work commenced on the early stages of the Space Station related contracts. In 1990 Revenues are expected to increase to prior year levels.

Systems segment operating income fell $16.1 million or 76% from 1988. This resulted from margin losses due to substantially lower contract revenues, cost overruns in satellite and electro-optics programs and the under recovery of fixed costs resulting from the lower activity levels.

AVIATION SEGMENT

($ million)	1989	%	1988	%
Gears and transmissions	$ 27.6	57.0	$ 26.0	57.0
Repair and overhaul	20.8	43.0	19.6	43.0
Total Segment Revenue	$ 48.4	100.0%	$ 45.6	100.0%
Operating income (loss)	$ 1.9	3.9	$ (.6)	(1.3)
Assets	34.0		29.1	
Capital expenditures	3.1		1.2	
Depreciation and amortization	1.9		1.8	

Revenues in the Aviation segment increased by $2.8 million or 6.1% from 1988, reflecting higher activity on new and continuing manufacturing programs. Expanded international markets for repair and overhaul also contributed to higher revenue.

Aviation segment operating income increased by $2.5 million from 1988. Increased volume, combined with newly introduced capital equipment and cell manufacturing technology were the main factors contributing to the improvement.

OTHER DISCUSSION AND COMMENT

Backlog of unrecognized revenue on uncompleted contracts as at December 31, 1989 with comparative figures for 1988 were as follows:

($ million)	1989	%	1988	%
Systems segment	$190.0	71.3	$217.5	81.3
Aviation segment	76.3	28.7	49.9	18.7
	$266.3	100.0%	$267.4	100.0%

In 1990, management expects to receive orders totalling $400 million, 90% of which are expected to be in the Systems segment. The announced awards in early 1990 of the Phase 1 Radarsat contract in the Systems segment, combined with the expected mid year funding for the next phase of the Space Station Freedom program, provide over 50% of the 1990 order intake target.

Estimates used in Revenue and Margin Recognition – as referred to in the Summary of Accounting Policies, page 13, note 1 (a), the company recognizes revenue and margin on projects largely using the percentage completion method. This method relies on regularly prepared estimates of the costs required to complete the project. The nature of much of the work is such that estimates cannot be precise and are revised and updated based on past and anticipated problems in performance of the work.

Should cost estimates to complete the work increase beyond the original estimated cost level (including allowances for estimating contingencies) the impact on operating results is dependent on the nature of the contract, as outlined below:

- **Cost Reimbursable Contract with Fixed Fee** – Cost overruns are reimbursed by the customer, revenues and costs are higher than expected and, although the fee as a percentage of revenue drops, the actual dollar amount remains fixed. There is normally little financial risk assumed by the company but statistical performance (percentage return on revenue) will deteriorate if an overrun is significant.
- **Fixed Price Contracts** – Cost overruns (not caused or contributed to by the customer) are not reimbursed and must be absorbed by the company. Cost overruns impact margins dollar for dollar and, even when modest relative to a similar overrun on a cost reimbursable contract, drastically affect both income and returns measured as a percentage of the revenue dollar.

Some cost reimbursable and fixed price contracts contain incentive clauses which may result in fee enhancement or deterioration relative to performance targets.

Approximately 40% of 1989 and 1988 revenues were derived from cost reimbursable contracts, largely within the Systems segment. In 1990, cost reimbursable contracts are expected to increase to approximately 60% of revenue, again mainly in the Systems segment.

Exchange Rate Fluctuations – Normally the company's revenues are contracted in Canadian or U.S. dollars and the bulk of costs are in the same currencies. The company follows a policy of not speculating on exchange rates. It endeavours to minimize net foreign currency exposures in contracts by negotiating clauses that provide for price or cost adjustment resulting from significant exchange "swings" and/or enters into exchange futures contracts designed to protect margins anticipated at the time of contract award, as summarized on page 17, note 9. The potential for significant losses or gains as a result of exchange rate variations is considerably reduced by these methods as well as by the relatively high mix of cost reimbursable business.

Inflation Protection – Economic inflation factors are estimated and applied to costs in the contract bidding stage. In the case of cost reimbursable contracts, actual costs are reimbursed regardless of the actual inflation rate. In the case of fixed price contracts, if the actual inflation rate is higher than that used in the bidding process, profits deteriorate relative to those originally anticipated and, conversely, profits improve if the actual rate of inflation is lower than that used in the bidding stage. Longer duration unit delivery prices may also include provision for "economic price adjustment", dependent on various published cost indices, to provide inflation protection.

Considering current rates of inflation in North America, management is of the opinion that inflation does not pose a serious risk to its competitiveness in either its markets or operations.

Penalties – Some contracts contain incentive and/or penalty provisions which may vary but usually include incentives for performance beyond specified acceptable levels and/or penalties for late delivery or performance below specified levels. Such penalty provisions are normal to the company's business and the company has historically been able to avoid significant penalties. However, penalties potentially could have a material impact in the future, particularly where the company's role is that of prime contractor and it is unable to negotiate relief with its customer or obtain relief from any of its sub-contractors whose performance may have contributed to the cause.

The company may endeavour to obtain insurance to cover penalty or incentive risk associated with major contracts based on the degree of risk, availability and cost of coverage.

Other Issues – The company's largest current programs, which have been approved, are for Government agencies. Such programs generally run for longer than three years.

The skilled technical staff required by the company for its 1990 operations is in place, allowing management to focus on applying these relatively scarce specialized resources to medium and longer term business opportunities.

(dollars in thousands, except per share figures)	1989	1988
Earnings (loss) per subordinate voting share		
BASIC		
Income (loss) from continuing operations		
Income (loss) before extraordinary item (3)	$ (1.05)	
Net income (loss) (3)	$ (0.82)	$ 0.56
FULLY DILUTED		
Income from continuing operations		
Income (loss) before extraordinary item (3)	$ (1.05)	
Net income (loss) (3)	$ (0.82)	0.56
DIVIDENDS PER		
Subordinate voting share	$ 0.20	0.28
Preferred share		
Shareholders' equity per subordinate voting share outstanding at year end (3)	$ 7.81	8.79
Revenues (1)	$233,163	269,967
Income (loss) from continuing operations		
Income (loss) before extraordinary item (3)	$ (11,818)	
Net income (loss) (3)	$ (9,218)	6,189
Capital expenditures (net of government grants and tax credits) (2)	$ 11,539	11,981
Long term debt (including current portion) (2)	$ 5,404	3,199
Shareholders' equity (3)	$ 88,589	99,041
Working capital (2) and (3)	$ 14,997	27,844
Ratio of current assets to current liabilities (2) and (3)	1.1	1.2
Number of employees (2)	2,114	2,107
NUMBER OF SHAREHOLDERS		
Subordinate voting	3,866	4,362
Preferred and Special	38	38

* Does not include exercise of warrants which would be anti-dilutive.

** Fully diluted not shown as effect would decrease loss per share.

(1) Amounts reported are for continuing operations only. Years prior to 1984 have been restated to exclude discontinued operations.

(2) Amounts reported for 1984 and prior years have not been restated; such years include historical amounts for discontinued operations.

(3) The 1987 and 1986 amounts have been restated to reflect a prior period adjustment recorded in 1988.

1987	1986	1985	1984	1983	1982	1981	1980
			$ 1.88	$ 1.73	$ 1.34	$ 0.44	$ (0.17)
$ 0.38			1.73				
(0.53)	$ 0.39	$ 1.41	1.26	1.42	1.43	0.37	(0.28)
			1.65	1.43	1.06	0.40*	**
0.38			1.52				
(0.53)	0.39	1.33	1.15	1.20	1.12	0.34*	**
0.36	0.46	0.46	0.40	0.35	0.20		0.15
					0.54	1.08	1.08
8.29	9.14	8.16	6.45	5.33	3.85	2.58	2.20
236,121	191,018	223,278	190,031	209,321	169,121	113,101	120,986
			15,916	12,709	8,049	2,554	(375)
4,037			14,597				
(5,763)	4,122	13,070	10,661	10,423	8,580	2,167	(877)
17,499	9,397	8,660	13,738	4,788	2,525	1,678	4,155
1,408	2,418	22,786	31,381	29,796	8,256	12,198	7,000
89,916	98,310	79,521	56,715	42,567	25,635	17,463	15,645
30,582	48,203	58,561	54,662	54,835	17,096	11,758	3,227
1.2	1.4	1.9	2.1	2.1	1.2	1.3	1.1
2,122	2,089	2,221	2,172	2,041	1,902	1,895	2,100
4,392	4,459	4,590	4,452	3,489	2,800	2,930	2,970
39	39	40	42	57	64	620	675

DIRECTORS

David R. Beatty
President
Weston Foods
George Weston Limited
(Elected director 1983)

Larry D. Clarke*
Chairman of the Board
Spar Aerospace Limited
(Elected director 1967)

Camille A. Dagenais
Retired Executive
(Elected director 1980)

Allan A. Hodgson†*
Vice President and
Chief Financial Officer
Alcan Aluminium Limited
(Elected director 1987)

David L. Johnston†
Principal & Vice Chancellor
and Professor of Law
McGill University
(Elected director 1988)

Philip A. Lapp
President
Philip A. Lapp Limited
(Elected director 1967)

John D. MacNaughton*
President and Chief Executive
Officer
Spar Aerospace Limited
(Elected director 1989)

Roger J. Maggs*
President
Metal Marketing and Recycling
Alcan Aluminium Limited
and President and General
Manager
Alcan Fiduciaries Limited
(Elected director 1988)

Earl H. Orser†*
Chairman of the Board and
Chief Executive Officer
London Life Insurance Company
(Elected director 1978)

David A.B. Steel*
Associate Counsel
Holden Day Wilson
(Elected director 1967)

Barbara L. Steele†
Company Director
(Elected director 1980)

Ihor Suchoversky
Retired Executive
(Elected director 1986)

DIRECTORS EMERITUS

David S. Beatty
(Elected director 1969)
(Appointed Director
Emeritus 1985)

Roland B. Dodwell
(Elected director 1967)
(Appointed Director
Emeritus 1986)

William H. Jackson
(Elected director 1967)
(Appointed Director
Emeritus 1985)

†Members of the
Audit Committee
*Members of the
Executive Committee

OFFICERS

Larry D. Clarke
Chairman of the Board

Earl H. Orser
Vice Chairman of the Board

John D. MacNaughton
President and Chief
Executive Officer

Anthony L. Anderson
Executive Vice President

E. Peter Birch
Vice President, Administration

Gil A. Branchflower
Vice President
Space Station Program

David C. Cleland
Vice President

Charles J. Dannemann
Vice President and
General Manager
Remote Manipulator Systems
Division

Gord A. Epp
Vice President and
General Manager
Aviation Services Division

William R. Fitzgerald
Vice President and
General Manager
Satellite and Communications
Systems Division

Bryan H. Held
Vice President and
Corporate Controller

Thomas G. Mathers
Vice President, Human
Resources

J. Ron McCullough
Vice President, Corporate
Planning and Affairs

Ken J. Perry
Vice President and
General Manager
Gears & Transmissions
Division

Sheldon Polansky
Vice President
Legal Counsel and Secretary

Karsten J. Westphal
Vice President
International Operations

AUDITORS
Ernst & Young

TRANSFER AGENTS
Montreal Trust Company of Canada

LISTED
Toronto Stock Exchange
Montreal Exchange
(Trading Symbol: SPZ)

SPAR LOCATIONS

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Astro Aerospace Corporation
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Carpinteria, California
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Commercial Telecommunications Corporation (COMTEL)
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