

(C3 Systems and Graphic Display), Picker International (Army Mash Units), Hughes Aircraft, Boeing Aerospace, Rockwell (computer systems for Royal Australian Navy Submarines), and Honeywell Ltd (integrated navy system and sonar stabilization).

DY-4 has designed a ruggedized shipboard command and control system for the Danish Navy; an airborne management computer was designed for a system integrator for the Canadian Armed Forces Navigation Trainer and a similar system for a remote sensing ice reconnaissance aircraft is under contract with Canadian Armed Forces for a militarized reconfiguration multiprocessor for ship computing systems.

KEYWORDS: Computers; Avionics Computers; 1553 Data Bus; Radar Processing; Graphics Subsystems; ATC; C3 Systems; Relational Processors; Systems Integration; VME Computer Modules.

REVISED: February 88

EASTERN PRECISION CASTING Inc

ADDRESS: 820 Deslauriers St
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HISTORY: EPC is a Canadian-owned small business (as prescribed by the SBA) established in 1976. They are a precision investment casting house in both ferrous and non-ferrous alloys utilizing the lost wax process. The company has a US subsidiary, Eastern Precision Casting (NY) Inc., located in Plattsburgh, NY. The US subsidiary company was opened in 1984, but is not yet a complete foundry. Since 1986, EPC owns Eastern Aerocast Inc (formerly Supreca Inc) in Montreal, Quebec.

CAPABILITY: EPC produces investment castings to the customers drawing and specifications, and their clients are from the following fields of endeavor - Aerospace, Aircraft, Missile, Microwave, Engines and Commercial. Ferrous to 20" x 20" x 20" - Non-ferrous to 50" x 30" x 20".

AVERAGE WORK FORCE: Engineering - 18
Quality Control - 7
Sales & Marketing - 5
Production - 120

GROSS SALES: 1986 - \$6.0M
1987 - \$7.0M

PLANT SIZE: 45,000 Sq Ft

EQUIPMENT: Equipment includes furnaces, robots, wax injection machines to 100 tons, x-ray, spectrometer, tensile testing M/C, coordinate measuring M/C, hardness testing M/C, zygo, and heat treatment capability for non-ferrous.

EXPERIENCE: Approximately 80% of their production is for the US market. US clients include: Colt Industries, Lockheed, McDonnell Douglas, Raytheon, Hughes Aircraft, Singer, TRW, Litton Industries, Martin Marietta, Rockwell International and Bendix. Canadian clients include: Canadair, Pratt & Whitney, Canadian Marconi, Northern Telecom, Garrett Manufacturing, Spar Aerospace and RCA.

KEYWORDS: Investment Castings; Castings; Ferrous Castings; Non-Ferrous Castings.

REVISED: June 88

EBCO AEROSPACE INDUSTRIES Inc (Division of EbcO Industries Ltd)

ADDRESS: 8510 River Road
Delta, British Columbia, Canada
V4G 1B5

CONTACT: Mr Helmut Eppich, Chairman & CEO - (604) 278-5578

HISTORY: EbcO Aerospace Industries Inc is a wholly Canadian-owned company formed in 1983 and is a division of EbcO Industries Ltd, formed in 1956. EbcO Aerospace recently moved into a newly constructed 43,000 sq ft state-of-the-art NC machining facility to support the precision manufacturing needs of the North American aerospace industry. The EbcO Group has 800 employees and 500,000 sq ft of manufacturing facilities. In addition to Aerospace, the operating divisions of EbcO Industries are - light metal fabrication, metal finishing, tool and die, and heavy fabrication and machining. Within the EbcO Group are companies manufacturing office systems, commercial and institutional furniture, automotive products, and electronic data collection systems.

CAPABILITY: EbcO Aerospace machine tools operate under direct numerical control (DNC). The system includes IGES capability, allowing EbcO customers to off-load high priority machined parts at short notice by furnishing cutter instruction on electronic media.

Special machine tools acquired during 1987 are listed below:

- SNK gantry type (four complete gantries) three spindle five-axis profiler, numerically controlled, Fanuc 12M control system - 30 HP spindle drives separately equipped for steel and aluminum, 40" between spindles, 20 - 4,000 rpm speed range (steel), 1,000 - 7,000 rpm speed range (aluminum) - 500 lbs/ft² maximum load on work mounting surface - 110" travel, x-axis; 164" travel, y-axis; 28" travel, z-axis; ± 25° spindle swivel (a-axis) and tilt (b-axis) - work mounting surfaces: 160" width, 190.3' length.

- SNK Type FSP 100-V five-axis machining center, numerically controlled, Fanuc 11M control system - 25 HP spindle drive, 20 - 5,000 rpm speed range - pallet size: 30.4" x 39.4" maximum pallet capacity: 5,500 lb - maximum distance, pallet surface to spindle center, spindle horizontal: 55.1", spindle vertical: 39.4 - 60" travel, x-axis; 56.3" travel, y-axis; 55.1" travel, z-axis; + 30° to - 120° spindle tilt (a-axis); 360° table rotation (c-axis).

- SNK gantry type single spindle five-axis profiler, numerically controlled, Fanuc 12M control system - 30 HP spindle drive, 20 - 4,000 rpm speed range - 500 lbs/ft² maximum load on work mounting surface - 240" travel, x-axis; 56" travel, y-axis; 28" travel, z-axis; ± 25° spindle swivel (a-axis) and tilt (b-axis) - work mounting surfaces: 48" width, 240" length (354" bed length).

- Mori Seiki Model TL-5B 3000 turret lathe, numerically controlled, Fanuc control system - 25HP spindle drive, 12 - 1,400 rpm speed range - 5,000 lb capacity - 14" diameter swing over carriage, 100" between centers, eight indexing stations on turret.

AVERAGE WORK FORCE: 30 (Aerospace Division, 400 EbcO Industries)

GROSS SALES: Data not available for the Aerospace Division. Data for EbcO Industries is as follows:
1986 - \$55M
1987 - \$65M

PLANT SIZE: 43,000 Sq Ft (Aerospace Center on 52 acres for future development)

EQUIPMENT:

- Four SNK gantry profilers on a 13.3' x 190' bed
- SNK FSP 100-V machining center, 5-axis
- SNK single gantry profiler, single spindle, 5-axis
- Mori Seiki CNC Lathe, 14" x 100"
- Cincinnati Millicron machining center, 3-axis
- Giddings & Lewis machining center, 3-axis
- Automated UT inspection (immersion type)
- Mitutoyo coordinate measuring machine
- Automated PT inspection
- Other heavy conventional manufacturing capability
- Cranes: 2 x 10 Tons (Aerospace)
- Computers: DEC Micravax II/VMS with McDonnell Douglas
- Unigraphics/DC-135 CAD/CAM