

Perhaps the heaviest investment by EC-based manufacturers has been in aluminum wheel production. Aluminum smelting is a highly energy-intensive process, making it expensive in Europe and Japan with their high electricity rates. Canada, by contrast, with its relatively inexpensive electric power, is a highly attractive location for the establishment of aluminum casting facilities. Volkswagen (Barrie, Ontario) has maintained aluminum wheel plants in Canada since the early 1980s.

A leading West German supplier, Ronal, purchased a facility in Fort Erie, Ontario, in 1987, while another, Lemmerz, has entered into a joint venture with Magna International to produce aluminum wheels in Collingwood, Ontario. All the above are currently or are planning to export substantial percentages of their output to their home markets.

In all, there are about 40 European-owned parts facilities in Canada. Almost all are in southern Ontario and most are branches of West German firms.

e) Technology Co-operation

There are a number of current and planned examples of technology-sharing between North American and European vehicle manufacturers involving or potentially involving Canadian assembly plants. The Eagle Premier sedan produced at the Bramalea, Ontario, facility by Chrysler was designed by Renault and incorporates a Renault engine and transmission. Chrysler maintained channels of technology-sharing with the French vehicle maker after acquiring its share of American Motors, and the two players are co-operating in the design of the next-generation Jeep. Renault currently markets Chrysler's Jeeps and minivans in Europe.

Joint ventures between Canadian and EC original equipment parts suppliers are in many cases aimed at securing access to

European technological expertise in such areas as seating, wheels and sunroofs, while the EC-based partners benefit from access to North American assemblers.

There are few, if any, significant existing technological links between Canadian aftermarket producers and their counterparts in the European Community. Most Canadian aftermarket players are too small to find it feasible to enter joint ventures or technology-sharing agreements.

1.3 The EC Automotive Sector

a) Overview

The automobile industries of North America, Japan and the EC are of comparable size, each block producing over 12 million cars and trucks per annum. These three major trading areas dominate total world vehicle production estimated at around 48 million vehicles (see Table 3).

The automobile industry in the EC represents almost 10 per cent of total value-added by the manufacturing industry in the Community. However, there are large differences between Member States' involvement in the auto industry. Denmark, Ireland and Greece have little or no production, while vehicle assembly and parts production are key elements in the manufacturing bases of Belgium, France, West Germany, Italy, Spain and the United Kingdom.

The EC's automotive sector provided direct employment for 1.8 million people in 1987. Although this is a loss of 400 000 jobs since 1980, it still represents about 8 per cent of total manufacturing jobs in the Community and almost 2 per cent of total employment.

In the long run, the downward trend in employment levels should continue as productivity investments remain high,