PART II : HONDA'S NORTH AMERICAN INVESTMENTS AND PARTS SOURCING PRACTICES

In this part of the paper we first describe the extent of Honda's direct investments in North America and then examine the firm's practices of parts sourcing for its North American facilities : ie whether parts are imported purchased from "domestic" ie North American firms or purchased from "supplier transplants" ie Japanese-owned factories located in North America. The object at this stage is to describe Honda's parts sourcing practices factually in order to gain a picture of the extent of Hondas' North American production structure. Explanation of these practices will be dealt with later in the paper, in discussion of organizational and spatial frameworks and of daily inter-firm relations, to which they are closely bound.

A/ Honda's North American investments

In late 1982 the Honda Motor Company became the first Japanese firm to manufacture automobiles in North America, at a new plant near Marysville, Ohio. At the time, many observers both in Japan and in North America were still arguing that Japanese automobile firms were "reluctant multinationals" and that Japanese production techniques could not be implemented outside Japan.

Since Honda's initial decision to invest in North America in 1977 - tomanufacture motorcycles at the same site near Marysville - the firm hs constructed several factories and other facilities for automobile production. Beginning with the Marysville automobile plant opened in 1982, Honda has constructed an engine and mechanical components plant (Anna, Ohio), more than doubled the size of the Marysville plant, built an assembly plant (East Liberty, Ohio), built Honda Engineering facilities (Marysville) and Honda Research and Development facilities (California and Marysville), and has purchased from the State of Ohio a large existing test track on the perimeter of which all the Marysville and East Liberty facilities are located (see table 1).

Table 1 : Honda in North America : Selected Chronology

1977	Announcement of motorcycle assembly plant, Marysville Ohio
1979	Motorcycle production begins
1980	Announcement of automobile assembly plant adjacent to motorcycle plant, to assemble Accord model
1982	Automobile production begins
1984	Major expansions announced : doubling size of automobile plant, Honda Engineering and R&D facilities, Anna Ohio engine plant, automobile assembly plant at Alliston Ontario
1986	Announcement of further 20 percent capacity increase for Marysville automobile assembly plant, 2nd line at Marysville starts to make Civic model, Anna plant starts to make Civic engines, Alliston plant begins Accord production
1987	Announcement of further expansion plans : to build 2nd US assembly plant at East Liberty Ohio, to expand Honda Engineering and Honda R&D at Marysville, to increase Anna output to meet 85% North American engine needs. Begins production of 2-door Accord at Marysville.
1988	Begins exports of Marysville Accords and motorcycles to Japan. Alliston plant adds production of 3-door Civic model.
1989	Production of Civics begins at East Liberty plant.
1990	Production of Accord station wagon derivative begins at Marysville.
1991	Begins export of Accord station wagons from Marysville to Europe.

This series of investments has enabled Honda to move rapidly towards the goal it prochaimed in 1987 of developing a "self-reliant" automobile production firm in North America. That Honda North America is steadily gaining in operational independence was confirmed by the 1990 launch of the Marysville-produced Accord station wagon, into the design of which US-based R&D staff reportedly had a large input. But manufacture of this vehicle had been preceded by a series of less noticed moves, such as conceptualization of the "sporty" Civic CRX variant in California, production of the 2-door variant of the Accord model only at Marysville (and not in Japan) for sale in North America and Japan, and manufacture by Honda Engineering at Marysville of sets of stamping dies and other capital equipment for the Alliston and Marysville assembly plants.

B/ Patterns of parts sourcing

The organizational and spatial frameworks and daily inter-firm relations in Honda's North American production structure in which we are primarily interested are intimately related - with causality running in both directions - to the firm's patterns of

parts sourcing (levels of "local content", what kind of parts are purchased from what kind of firms). The historical development of parts sourcing practices at Honda, as well as the great political controversy this (together with the practiceys of other Japanese transplants) has aroused, are examined in considerable detail by Mair (1991). Here we summarize pertinent aspects of that discussion, momentarily and artificially separating it from questions of organization, space, and daily inter-firm relations.

1. **Two phases of parts sourcing**

During the first years of automobile production , 1982-1986, levels of local content remained quite low (40-50 percent by North American measures; stricter than the loose measures used in Europe). In these years Honda concentrated on establishing and then expanding its assembly operations, while carefully probing the capabilities of domestic supplier firms. At this stage local purchases were mostly limited to two types; on the one hand bulky materials (eg steel and glass) and generic components purchased from some of the earliest established Japanese transplant suppliers.

Since 1987, however, local purchasing has boomed. In part this is because Honda has increased its contacts with domestic firms; small companies stamping metal components or moulding plastics, for instance. But increased local content is due largely to purchases Honda makes from many of the over 300 Japanese automobile supplier firms that descended on the North American midwest during the second part of the 1980s. By the late 1980s Honda was purchasing a variety of specific components from more than 80 supplier transplant firms.

2. **First-tier purchasing**

The quantitative pattern of first-tier (ie direct) purchases that hadresulted by 1989 was revealed by a University of Michigan study released in 1991. Of parts purchased by Honda to build automobiles in Ohio, 20 percent by value are bought from domestic firms, 33 percent from Japanese supplier transplants, and 47 percent are imported (Chappell, Lindsay, 1991 : Parts study says Honda is shunning U.S. suppliers. **Automotive News** May 13th, pp. 2, 52).

Dividing particular parts by type of supplier reveals a striking disparity between the kinds of parts purchased from domestic firms and those purchased from Japanese transplant firms (table 2).

Table 2 : Components and materials supplied to Honda by first-tier domestic firms and Japanese supplier transplants - sample

From domestic firms

batteries
carpeting, flooring and trunk mats
paint
parts carts
plastic products
plastic products
rivets
sheet steel
sheet steel
stamped parts
stamped parts
tooling components
batteries
jacks
paint
plastic products
plastic products
plastic resins
robot repair
sheet steel
speaker assembly
stamped parts
stamped / welded parts
trim

From Japanese supplier transplants

aluminium die castings
assembled seats
assembled wheels
automobile keys
belts and hoses
brake assembly
brake line tubing
arm bushing and joint assemblies
assembled seats
automatic speed control devices
bearings
body part stampings and weldings
brake lines
catalytic converters

chemically treated replacement parts
coil suspension springs
condensers, evaporators and tube assemblies for air-conditioners
condensers, evaporators and heat exchangers for air-conditioners

door locks
engine ducts and rubber mouldings
fitted windows
front lamp assemblies
generators and alternators
hose and tube assemblies
door sashes
exhaust systems
floor mats
fuel injectors
heat exchangers
indoor car panels and sun visors

instrument clusters for dashboards
interior fabric panels, door and roof panels
interior parts
plastic compounds
plastic interior decorative parts
plastic moulding, interior door panels
plastic parts
plastic parts for windscreen washers
power steering systems
power window motors
pressed metal parts, engine mountings, bolts and brackets
prototype parts for new models
radios and cassette players
rubber weather stripping
sheet steel
shock absorbers
stabilizer bars
machine tools
plastic injection moulded parts
radiators
rubber engine mounts
seat belts
sheet steel
sound control products
stamped and welded parts

stamped parts	
steel moulds for plastic injection moulding	
steering wheels	
thermostatic expansion valves for air-conditioners	
windscreen wipers	windscreen wiper motors
wiring harnesses	wiring harnesses
wiring harnesses	

Source : Author's research, Honda, press sources (see Mair, 1991)

Note : Some firms supply more than one product; where these are very different they are listed separately. Known second-tier products are not included here.

As the table indicates, domestic firms concentrate on supplying basic materials and simple components, while Japanese transplant suppliers manufacture a range of parts including the most complex components. Domestic firms that wish to supply Honda with complex components have generally been obliged toform joint ventures with Japanese firms. According to Honda's own claims to a 75 percent local content by the early 1990s, 25 percent by value of the average Honda automobile made in North America is still imported from Japan, and a large proportion of these imports consists of the most complex electronic and mechanical components.

Honda's engine and mechanical components plant at Anna, Ohio weighs equally with the supplier transplant firms in contributing to the North American content of Honda automobiles assembled there. The plant produces alluminium and steel castings, it machines and assembles engines, and manufactures many engine components (eg cylinder sleeves, cylinder heads, pistons, cranksafts). Other major mechanical parts, such as automatic transmissions, suspensions, brake disks and brake drums are also made at Anna. The vital significance of the Anna plant is reflected in the fact that it accounts for 34 per cent of Honda's $2 billion investment in North America.

3. Second-tier purchasing

Quantitative and qualitative patterns of **second-tier** parts sourcing reflecting purchasing by Honda's first-tier transplant suppliers are revealed by the sample in table 3.

Table 3 : Honda's second tier sourcing : origin of components and materials for Honda's Japanese supplier transplants

From Japan

aluminium wheels
all components at start
components
door components
finished parts
oil-less bearings
plastics and vinyl
rubber parts
steel
tubing
all at start
bolts
components
electrical components
metal components
plastic components
precision machine parts
seat belts
tubing
washers

From transplants in North America

aluminium wheels
chrome plating for molds
electrical components
fabric
plastic pellets
seat covers
seat frames
tyres
automotive belts
electric motors
electrical components
plastic components
seat covers
steel
steel wheels
window

(To Anna engine plant)

accelerator cable
chassis and suspension components
fuel injectors
power steering systems
V belts
brake components
engine valves
gaskets
transmission controls
wire springs for transmissions

From domestic firms in North America

aluminium ingots
aluminium ingot
box
cardboard
castings
catalyst for catalytic converter
chemicals
chemicals
cloth goods
cloth goods
fabric
foam
glass
insert / facing material
moquette
paint
plastic buttons
aluminium ingot
asphalt
box
carpets
castings
chemicals
chemicals
chemicals
cloth goods
cord welt
foam
foam pads
hardboard
material / piece goods
padding-barrier
plastics
plastic materials

oil	plastic pellets
plastic pellets	plastic suspenders
polymers	processed steel
rubber	rubber material
sheet metal	sintered iron
sintered iron	springs
steel	steel plate
steel tubes	thread
treated fabric	tyres
tyres	urethane
chemicals	vinyl
vinyl	windlace
wire	
(To Anna engine plant)	
aluminium ingots	specialty steel bars
specialty steel bars	specialty steel bars

Source : Personal interviews at Honda suppliers (1988) and questionnaire survey (see Mair, 1991a).

The proportions of domestic firms vs. Japanese firms participating in the Honda production structure at second-tier level is the inverse of that revealed at first-tier level by the University of Michigan study, with many more domestic firms involved at this level. There is nevertheless a significant supplier transplant presence at second-tier level, especially formanufactured sub-components. Moreover, at second-tier level the same qualitative distinction is evident as was apparent at first-tier level : between domestic firms supplying basic materials and simple parts, and supplier transplants supplying more complex components.

4. Parts sourcing : summary

The pattern of parts sourcing at Honda's North American production structure reveals that a very significant local supplier chain has been developed. Japanese-owned firms account for the bulk of manufacture of specific components, more prevalent at first-tier level, while domestic firms are mostly involved in manufacture of materials and generic parts, more prevalent at second-tier level. While Honda makes most of its complex mechanical components in North America at Anna, the manufacture of many other complex parts, electronics in particular, has not yet been transplanted into the North American production structure.