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# CASE STUDY ON THE INTERCHANGE OF AUTOMOTIVE PARTS BETWEEN CHILE, ARGENTINA AND VENEZUELA 2/

presented by

General Motors de Venezuela

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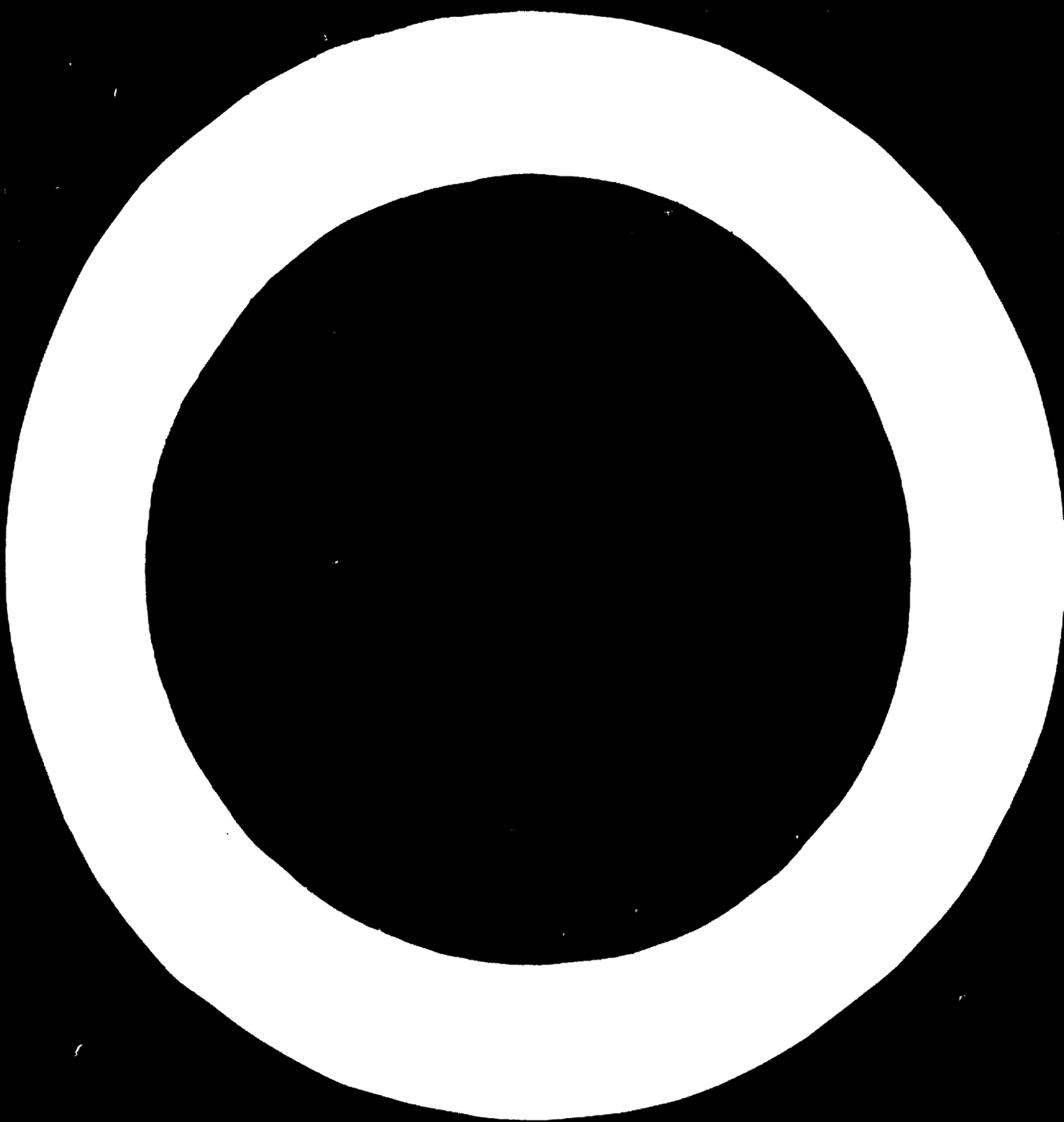


## Introduction

The Treaty of Montevideo posed a challenge not only to the signatory countries and its peoples but also to private investment, especially foreign private investment, to work towards the goal of a unified Latin American market.

General Motors, consistent with its policy of corporate responsibility, has accepted the challenge.

This presentation describes some of General Motors' efforts to promote LAFTA interchange programmes within the automotive industry.

As a specific case study, we present today a brief review of an interchange programme involving GM de Venezuela, GM Argentina and GM Chile, under which Chevrolet frames made in Venezuela are traded for other automotive parts made in Argentina and Chile.

/GM Operations

GM Operations in Latin America

GM has three manufacturing plants and four assembly plants in Latin America, operating through locally organized subsidiary companies.

The manufacturing facilities are located in Argentina, Brazil, and Mexico.

The assembly facilities are located in Chile, Peru, Uruguay and Venezuela.

Sales and service of General Motors products in the other countries of Latin America are the responsibility of General Motors Overseas Distributors Corporation which sells to franchised distributors, including three assembler-distributors.

In general, GM's Latin American automotive product line consists mainly of Chevrolet and Opel passenger cars and Chevrolet commercial vehicles, trucks and bus chassis.

/Local Content

Local Content Regulations

To encourage industrialization and in an effort to improve adverse balance of payments accounts, Latin American governments have imposed local content requirements for vehicles manufactured or assembled in their respective countries.

The percent of local parts that must be integrated into the vehicle varies from country to country according to the respective governmental regulations.

Brazil and Argentina have the highest local content requirement at 95% or over for 1970. Mexico follows with a minimum local content of 60%; then Chile with 52.9%; Venezuela with 41%; and Peru with 30% for 1970. Incidentally, only Argentina and Brazil differentiate between the passenger and the commercial and truck categories in their local content legislation.

The methods of measuring local content vary from country to country. Brazil and Venezuela employ the weight system, other countries measure local content by various systems based on value. It is expected that Venezuela will soon change to a weight/value system.

By extending the definition of local content to include parts and components acquired by regional interchange or complementation programmes, significant advances can be made. The LAFTA ground rules have laid the basis for carrying forward this concept and among the Latin American countries where GM has manufacturing or assembly plants, Argentina, Chile and Venezuela have issued enabling legislation.

/Chevy II

Chevy II Frame

The fact that Chevy II passenger cars are currently assembled by GM Chile and GM de Venezuela and manufactured by GM Argentina offers the opportunity to interchange locally produced parts and components of this car between these GM operations.

FIGURE I

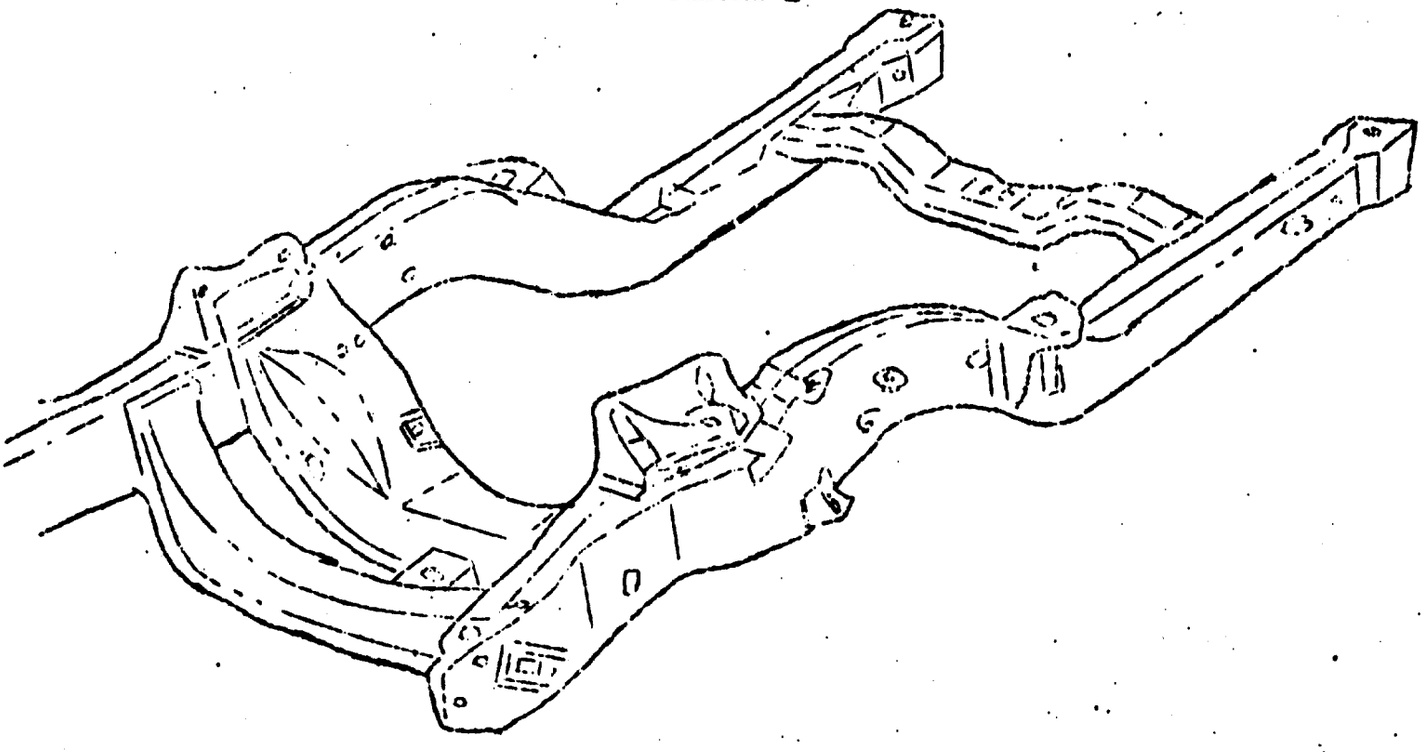


Figure 1 shows the Chevy II frame. The frame consists of 22 parts which can be summarized as inner and outer side members both left and right, front and rear cross members, engine and front suspension supports and various smaller brackets and supports.

To comply with local content requirements, General Motors Venezuela in 1968 decided to procure this frame from a local supplier. This item was selected because of its relatively high weight to cost ratio; furthermore, the frame design is not subject to frequent changes, and most importantly, because the same frame is utilized by GM Argentina and GM Chile in their Chevrolet passenger lines, interchange was possible.

/Venezuelan Local

Venezuelan Local Supplier

To the local supplier our decison was fortunate. The available press equipment - listed in Table 1 - was suitable for the manufacture of the Chevy Nova frame but utilized only at about 20% of capacity.

Table 1 - Equipment Used to Manufacture the Chevy II Frame

1. One 700 ton hydraulic double action press with a 325 x 1,500 mm. Bed.
2. One 600/200 ton hydraulic double action deep draw press with a 3,000 x 2,000 mm. Bed.
3. Four 1,200 and 100 ton hydraulic presses.
4. One 400 ton mechanical press 2,000 x 1,250 mm.
5. Sixteen 15 to 220 ton eccentric presses.

/Reduction in

Reduction in Price Due to Added Volume

Our experience supports the economic concept that piece price reductions are possible as volume increases.

In 1968 General Motors de Venezuela procured Chevy II frames for local use only. In 1969, interchange of these frames with GM Chile was first established, but the volume was not sufficient to warrant a price reduction. In 1970, General Motors de Venezuela's volume, added to General Motors Chile's increasing requirements, led the Venezuelan supplier to grant a 14.6% price reduction for the Chevy II frames.

By 1971, when the Chevy II frame will also be traded between General Motors de Venezuela and General Motors Argentina, the projected total volume of Chevy II frames will be over 10,000 units per year. This combined volume of GM de Venezuela, GM Chile and GM Argentina will allow the local Venezuelan supplier to grant an additional 27% price reduction.

In summary, interchange between General Motors de Venezuela, General Motors Chile and General Motors Argentina has brought about a 32.5% reduction from the initial price of the Venezuelan manufactured Chevy II frame.

Venezuela - U.S. Price Relationship

The price reductions resulting from increased volume of Venezuelan made frames can also be expressed in terms of the relationship of local to imported prices.

In 1969 the Venezuelan price for Chevy II frames was 150% over the U.S. price. In 1970 the Venezuelan - U.S. differential decreased to 110% due to the added volume obtained through interchange with GM Chile.

By 1971 the Venezuela - U.S. differential is expected to decrease to 70% since GM Argentina's Chevy II frame requirements will be added to those of GM Venezuela and GM Chile.

Even though Venezuela - U.S. price parity has not yet been achieved in this case, the substantial reductions described above decrease the penalty paid for local content attainment under low volume conditions.

Amortization of Special Tooling

In addition to the price reduction, tooling charges which represent a separate cost item are amortized over the added volume. The per piece price reduction combined with the reduction of the per piece tooling charge far outweights the transportation cost from Venezuela to Chile, for example, which as a matter of interest is detailed below:

*TABLE II

TABLE II

Frame Cost - Landed in Arica

| | | | |
|---|---|---|---|
| Billing Price Per Frame | | | 100% |
| Boxing, Handling | 3.6% | | |
| Inland Freight | 0.9% | | |
| Port Charges | 0.6% | | |
| Sub-Total | | 5.1% | |
| Ocean Freight | 7.9% | | |
| Chilean Marine Tax | 0.9% | | |
| Bill of Lading Charge | - | | |
| Ad Valorem f.o.b. La Guaira | 1.0% | | |
| Insurance | 1.2 % | | |
| Sub-Total | | 11.0% | |
| Sub-Total - Insurance and Freight | | | 16.1% |
| Total c.i.f. | | | 116.1% |

/Development and

Development and Administration of an Interchange Programme

There are three basic factors to be taken into consideration for the development and administration of an interchange programme in the LAFTA area.

First of all it has been found that under existing conditions and regulations interchange programmes can best be developed under the initiative of those individual automotive manufacturers that are established or are planning to establish operations in two or more countries within a region or sub-region such as LAFTA or ANCOM. This involves primarily the selection of the components to be imported and exported, testing and acceptance of samples, and establishment of delivery schedules for interchanged components.

The second factor is negotiations with the suppliers. These negotiations develop required quality, quantity, and delivery schedules. In addition, the possibility of lower prices in consideration of the expanded volume is explored. Frequently, the automotive manufacturers provide further technical assistance to their local suppliers in order to insure timely production and high quality of parts and components.

The third and most cumbersome factor is negotiations with the respective governments. The subsidiary companies in most cases must request approval for the interchange programme. Presently, the time elapsed between the initial request and the official approval is too long. In addition, import and export licenses must be obtained, and finally, foreign exchange approvals must be requested.

In general, the first two factors present no great obstacle.

As to the last factor, it is expected that due to the interest governments have to increase interchange, simpler and speedier methods to obtain approvals will be implemented.

/Conclusion

Conclusion

In concluding this presentation we would like to summarize some of the advantages to be gained from regional interchange programmes.

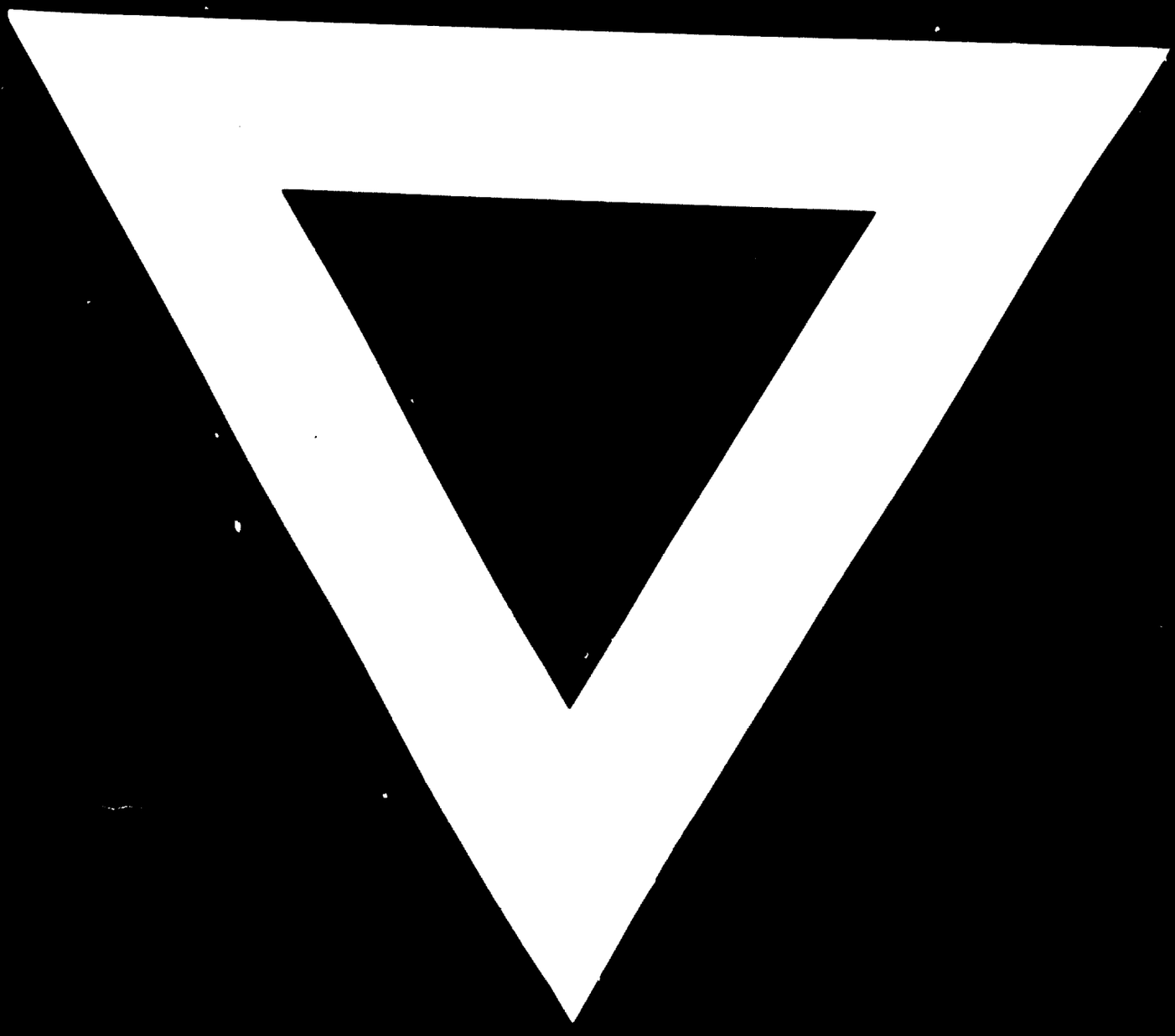
Interchange strengthens the local automotive component industry. New markets increase output and reduce idle capacity. Concurrently, productivity increases and manufacturing costs decrease as overhead is absorbed by higher volumes.

As local prices approach parity with international prices, export potential increases.

Interchange strengthens LAFTA by creating trade in non-traditional commodities, thereby binding the LAFTA countries together.

Finally, interchange increase the viability of the Latin American automotive industry by lessening local industry dependence on foreign supplies.

General Motors' world-wide experience indicates that regional industrial integration provides expanded sales through broader markets; reduces costs by increasing production efficiencies; and makes a significant contribution to the economic development of the participating countries.



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