Speech

General Motors

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SPEECH DELIVERED ON: August 8, 2006

"Flexible Manufacturing As Defined by General Motors"

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Traverse City, Mich.

Good morning. It's certainly a pleasure to join you all at this important session. I'm very pleased to have been invited to talk with you today about General Motors' global manufacturing strategy.

As you've likely heard, GM is in the midst of a major turnaround. In fact, 2005 was one of the most challenging years in our history. We faced – and continue to face – a number of challenges. There are a lot of reasons for this … like our history, our structure, developments in economic and societal trends, and the dramatically changing competitive environment … just to name a few.

But, we are aggressively implementing a turnaround plan aimed at strengthening our competitive position and achieving strong business results for years to come.
In fact, our plan not only addresses our short term challenges, but it's also intended to transform the very nature of our company, which better positions us for future success.

While I won't go into all of the plan's details this morning, I will share some of our actions focused on reducing our cost structure and growing our revenue base. For example, we've made a lot of progress improving our cost position at GM over the past year. By engaging every member of the GM team, we've improved our efficiency while making fundamental changes to our core business. We've made some big moves in health care, manufacturing capacity, salaried and executive benefits and asset sales.

And, at the end of June, we announced the results of our accelerated attrition plan with our major unions, in which over 34,000 U.S. hourly employees agreed to participate. As a result of the high acceptance rate, we were able to increase our North American structural cost reduction target yet again. In total, we expect a cost reduction of at least $9 billion on an annual running rate basis by the end of 2006. And, even with that new target, we will continue to look for cost savings opportunities.

We're also making progress on the revenue side of the business. We successfully accelerated some of our key product launches into this year. And, we've also changed the way we market and sell our cars and trucks, relying less on incentives and more on the value proposition of our vehicles.

The bottom line is that we are actively positioning GM for sustained profitability and growth. We will be a different type of company in the future. We'll be leaner, and more agile … and, we'll also be more global. 2005 was the first year in our company's long history that we sold more vehicles outside of the United States than we did in it. Times are changing. Markets are shifting. And, GM is responding.

In fact, we've changed our structure to work more globally, and better take advantage of our knowledge and resources around the world. A more global approach means we are utilizing our capabilities, our best ideas and technologies from all around the world, and using them to do the best job we can in our many local markets.

Our new global structure is enabling GM to further utilize common systems and processes, regardless of location. We're finally taking advantage of GM's vast resources and expertise.

For example, we now have people in place with global responsibility for product development, including design, engineering, and product planning. And, the same holds true for manufacturing, which includes manufacturing engineering. For the first time, all of our regional vice presidents report up to the same global leader – in our case, Gary Cowger. Other areas like Powertrain, purchasing, supply chain, nearly all of our functional areas, are now operating as truly global staffs.

It's been about a year since we first brought together all of our plants into one truly global team … to finally use our size to our advantage. And, speaking of size … GM has nearly 180 manufacturing facilities in 34 countries.

This global presence gives us a great foundation for building the cars and trucks that can meet the demands of consumers worldwide … but only if we fully utilize our capacity and optimize this vast footprint. And, we are really making solid progress in this area.

Over the past year, we've taken a number of important actions. In November, we made the tough decision to eliminate another one million units of capacity in North America. This involved restructuring many facilities, including ceasing operations at 12 plants by 2008.

However, on the other side of the world, GM Asia Pacific increased its volume by 500,000 units last year, opened three new facilities, two new paint shops, and massively refurbished six plants ... all, by the way, while beating their warranty and quality targets.

Optimizing our footprint is really helping us meet market demand while gaining efficiencies at the same time. In addition, an optimized footprint better enables our manufacturing flexibility strategy, which is necessary to build GM's vehicles that are based on common, global architectures.

In fact, a lot of our work in GM manufacturing these days is going on support our global architectures. The idea behind them is to give additional differentiation to each of our brands and play to regional tastes with unique products, but all while using a core of architectural parts that are identical globally.

For manufacturing, that means a build sequence that is identical across all architectures. And, we are fully focused on running flexible manufacturing facilities that are capable of building a global product portfolio.

Every year, the Prudential Equity Group publishes their third-party assessment of how flexible each OEM really is. The Prudential Report goes on to list each plant, what it makes, its volume, its flexibility metrics, and its capacity utilization. Quite an interesting read.

According to the Prudential Report, "a flexible plant can vary its output between different vehicles on a single production line." If you agree with Prudential's definition, then General Motors is the most flexible of the domestic automakers. In fact, our Shreveport, Louisiana, facility, which produces the Hummer H3, Chevy Colorado and GMC Canyon is featured on the report's cover. Granted, we still have some work to do to become the most flexible of all automakers by this reports' standards, but we have a plan in place based on what we define as manufacturing flexibility. And, by executing our plan, we're meeting our goals – and more importantly, consumer demand.

You see, at General Motors, our definition of flexibility is really pretty straightforward. We know that flexibility will have to embrace the fact that yesterday's niche volume is tomorrow's mainstream. So, for us, manufacturing flexibility is the ability to respond to changing customer demands quickly and efficiently. That's important, because let's face it, you can produce dozens of vehicles on the same line if you have unlimited resources to invest. So, our goal is to be responsive and cost effective.

Our strategy is also enabled by a global footprint, because going forward, our definition will include not only being flexible in a given plant, but also across the globe. Rather than solely focus on any one plant, we'll work among a network of plants that can each build vehicles off the same or different architectures.

A great example of flexibility within GM North America right now are our trucks and SUVs. We're able to flex our large pickups and utilities as needed to meet demand and balance capacity between plants. Last year, GM posted the best full-size pickup sales in the industry since 1978. To keep up with the demand, we were able to quickly add truck volume into our Silao, Mexico, facility, which until then, had only built SUVs. We're also able to balance production volumes among other large truck plants depending on the style of pickup or utility that the market demands.

We're doing the same thing on a global basis with our new midsize car architecture, which provides the underpinnings of our next generation vehicles like the Opel Vectra, Chevy Malibu, Buick LaCrosse and Saab 9-3. This new global architecture replaces three previous regional architectures, and will serve eight different GM brands that will be sold among all regions of the world.

We've already realized tremendous savings by approaching the business this way. The new architecture is giving us a 40 percent reduction in our direct engineering costs … like prototype builds and people, for example … a 15 percent reduction in material costs as a result of common components, and 30 percent reduction in overall investment. In manufacturing, we've got plants in three different regions that are capable of building the midsize car in 19 different vehicle styles.

Just as one example, our Russelsheim plant in Germany already builds a number of vehicle styles. And, once we introduce all of the cars that are based on our new midsize architecture, we will build seven of those vehicle styles in Russelsheim, all within the same facility. In fact, if you visit the plant in the near future, you'll see multiple models of hatchbacks, convertibles, sedans and station wagons … all rolling off the same lines.

Those are just a few examples. Our other regions – Asia Pacific and Latin America, Africa and the Middle East – are also producing multiple vehicle styles within their plants to help us complete the "global network" of flexibility I was talking about earlier. For instance, our Valencia, Venezuela, plant produces nine different platforms with 19 different body styles.

And, we have several other great examples of manufacturing flexibility at GM Powertrain. For example, our new six-speed rear-wheel-drive programs are all agile, flexible systems. This means our casting, machining and assembly of the three different transmission variants are manufactured on the same lines within the equipment cycle time. This allows us to support rear-wheel-drive car, SUV, pickup truck and van markets in any combination of volume and always have the right transmission available at the vehicle plant. We've implemented a similar flex strategy on the engine side of the business as well.

So, how exactly are we gaining this type of flexibility around the world? From our point of view, flexibility begins in product development with architectures that support common locator holes, common global dimensions and tolerances, and so on. You know, the technical requirements that enable a manufacturing system without inhibiting vehicle styling … like commonly designed vehicle underbodies, which the customer never even sees. We must have these enablers from product engineering in order for our manufacturing processes to be flexible.

Another enabler to our flexibility strategy is ensuring that all of our plants follow a global bill of process. This defines the sequence in which all of our vehicles are put together. It spells out a globally common, balanced and documented approach for manufacturing and assembling our products.

To execute this effectively, we must have one, coordinated engineering and manufacturing team that does not deviate from the agreed upon standards. And we are executing these standards today, on a global basis, with each of our new products.

We're also using new technologies to help manufacturing connect better with engineering, and to help connect our plants around the world. For example, we've just implemented the next generation of our Global Dimensional Information System that provides a virtual linkage from design, to engineering, to the plant floor. This program enables a common, global process for minimizing body build variation. And, importantly for GM, it replaces the many regional programs we had used for this purpose.

The new system uses state-of-the-art statistical analysis tools that help the plants identify issues with the build process or tooling. It also provides us with a common database. That's important because plants that are building the same vehicle can now compare build information, regardless of their location. This not only speeds up problem solving, but it also promotes the sharing of global best practices.

Another key enabler to our flexibility strategy is a common Bill of Equipment. We define the Bill of Equipment in terms of cells that vary by labor rate and production rate. We still must build in the sequence determined by the Bill of Process, but the Bill of Equipment takes it a step further by helping us determine the level of automation needed in a given plant wherever it may be located in the world.

We've been working closely with our supply base as we refine our global bill of equipment. For example, over the nine years we've worked with Tesco, GM has installed more than 400 of their hemming systems in our body shops around the world. And, Tesco engineers have worked with our product and manufacturing engineers to help us further develop our body shop strategy.

By collaborating globally, our new vehicle bodies now have world-class hems, with sharp, crisp edges … and gaps and flushness as good as, or better than, any in the industry.

Of course, I'd be remiss if I didn't mention a very important enabler of GM's manufacturing flexibility strategy … our people. Our manufacturing workforce has done a great job ensuring that our plants are ready to run more flexibly. As an example, in our Lansing Delta Township plant … our newest manufacturing facility … every team member is getting <u>at least</u> 100 hours of training. We want to make sure everyone is up-to-date on our manufacturing advancements and how to build great cars and trucks in a flexible work environment.

In fact, a number of our skilled trades team members recently went to specialized training in Germany to become experts on how to service the plant's conveyor systems. The knowledge they gained not only helps us minimize downtime, but it also enables quick system changes when needed. And, the plant's operators have all been trained to help skilled trades keep track of their equipment's preventive maintenance measures. We know that everyone on the team has a role in making sure our strategy succeeds.

With GM Manufacturing working with Product Engineering and our suppliers we've really come a long with our flexibility strategy. And, since our move to one global manufacturing organization, we've done a lot of work to improve our Bill of Equipment, and to further hone our Bill of Process.

We've also gained a deeper understanding of our global requirements, and it's been an eye-opening experience, running globally and making the changes needed to operate with more flexibility.

Of course, as Gary Cowger is always saying, customers don't buy manufacturing systems, regardless of flexibility. What they <u>really</u> want are great cars and trucks. And, by linking our global manufacturing strategies with our global product strategy, we're able to deliver an entire portfolio of great products to customers more quickly, and with the highest levels of quality.

In fact, built-in-quality is a pillar of our global manufacturing system. As a result, GM has won the J.D. Power Initial Quality Study Gold Plant Award for North and South America for the last five consecutive years. And, we've also had seven of the top 15 assembly plants for the last two years in the study.

GM also had the most vehicles in the top three of their segment in long term and perceptual quality as measured by the J.D Power Vehicle Dependability Study. And, for second consecutive year, we had the most segment winners in Strategic Vision's Total Quality Index. It's also worth mentioning GM had two of the top three brands in the J.D. Power's Customer Satisfaction Index this year as well.

So, we're making progress … tangible progress that translates to better quality and customer satisfaction. After all, no matter how you define flexibility, you have to have the right products and ability to respond to market demand quickly and efficiently. Otherwise, exactly how many vehicle styles you can produce out of a given plant becomes a moot point.

Our way of meeting the flexibility challenge includes global architectures, a global bill of process, a global bill of equipment, and an optimized global footprint.
For us, these elements are all intrinsically linked. In fact, they not only complement each other, they depend on each other.

At GM, we're confident of our direction and our plan, and we're going to continue on the path of becoming a more flexible manufacturer of cars and trucks that excite consumers.

I appreciate your attention this morning. Thank you.