



**THE HENRY FORD**

**COLLECTING INNOVATION TODAY**

**TRANSCRIPT OF A VIDEO ORAL HISTORY**

**INTERVIEW WITH**

**ED WELBURN**

**CONDUCTED DECEMBER 22, 2011**

**GENERAL MOTORS DESIGN DOME**

**WARREN, MICHIGAN**

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**INTERVIEWER: BARRY HURD**

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**01 - CREATIVE ENVIRONMENT**

BARRY HURD:

01:00:34;07

...who you are, what do you do in these hallowed halls or hallowed dome we're in, what happens here.

ED WELBURN:

01:00:37;23

Okay. I'm Ed Welburn. I'm General Motors' vice president for our global design organization. And we're here at the Design Center in Warren, Michigan, in the design dome to be exact. And this is really the center point for our whole entire global design organization. It's a very special and holy place for us designers.

BARRY HURD:

01:01:01;28

So this is where top management sees the new designs for the first time you were saying?

ED WELBURN:

01:01:05;28

Well in fact, designers have revealed to our, or presented to the leaders of the company and to the board of directors every new General Motors product since the '56 Chevrolet. This is a very important place to all of us in design.

BARRY HURD:

01:01:23;06

And just for the record just tell me briefly about the car that's behind us.

ED WELBURN:

01:01:26;25

Well the car that's in the background is the Stingray concept. We developed it a couple years ago. It wasn't a part, attached to any production program. But I just like for our designers to be able to express their ideas, to explore and try new directions, and the Stingray was this concept, really builds on the great history of that iconic brand, Corvette, and Corvette Stingray.

## 02 - FOLLOWING YOUR PASSION

BARRY HURD:

01:01:55;28

And just give us for the, you know, how you got started. And did you start drawing when you were a kid, comic books, and you're now the head designer? How's that work? How'd you get where you are? What influence that brought you to this position?

ED WELBURN:

01:02:06;26

Yeah, it's a corny story but I've been drawing cars just

about all my life. I was probably about two and a half or three when I started drawing cars. I love cars. I've always been passionate about 'em. And would read car magazines as a kid. And went to the automobile shows.

01:02:22;07

And my first contact with General Motors, I was 11 years old, and I wrote the company a letter. I was interested in car design and wanted to know how do I get there. What courses do I need to take, what schools. And they sent me great information and I've just followed their lead.

BARRY HURD:

01:02:41;09

So it's possible, if there's a kid out there that wants to become a car designer, there's a path?

ED WELBURN:

01:02:46;06

Well I think it's a terrific bit. I mean, you have to go into an area that you feel passionate about, no matter what that might be. And if you don't feel really, really passionate, if it's not in your gut, you shouldn't go there. But a career in automobile design is fabulous. I enjoy every day of it. Significant challenges but I love it. I

receive letters from young people all the time and make sure they get a response.

### 03 - DEFINING DESIGN

BARRY HURD:

01:03:17;14

Well let me ask you this kind of broad question, but what is design? I mean, how do you explain what it is to people? It's visceral, it's intellectual. But what's your take on it?

ED WELBURN:

01:03:24;12

Yeah. You know, and I focus on transportation design or car design. And it is, there's several levels to that. You know, it is very challenging and it's innovative, and it's problem solving, and it's packaging of the vehicle and making sure everything's in the right place, and just making a very comfortable environment. But it's also the styling of the vehicle. And that really kind of separates one brand from another. And that is more emotional and passionate and builds brand building and it's that emotional connection to the customer.

01:04:06;20

And so there's so many levels to design. That very functional side and the human factors, and the reach curves, and getting everything in the right place to really make it a very comfortable experience for our customers. Working in collaboration with engineers to really make sure this thing works properly and has incredible quality. It's having that dialogue with customers and understanding what they're really looking for in a vehicle. But then there's that styling really brings that special touch to it.

BARRY HURD:

01:04:39;01

So it sounds like there's an artistic, but there's a very practical side.

ED WELBURN:

01:04:41;11

Yeah, there is.

BARRY HURD:

01:04:42;15

There's sort of a tension between those two, isn't there?

ED WELBURN:

01:04:45;17

There's that art and science that is a huge part of designing a great vehicle.

**04 - VISION TO DESIGN**

BARRY HURD:

01:04:52;11

Can you give us like a story of, I mean, how does it start? Do five people sit down start drawing sketches, and it winds up being debuted here? Take us through how a car, how that...

ED WELBURN:

01:05:02;26

Yeah, the great design, you know, really begins, you have to have a very strong vision for whatever you're doing. Whether it's designing an automobile or planning an event or anything, you have to have a strong vision. And that vision generally comes from the design organization. And you get that vision in front of everyone that gets everyone, it helps get everyone focused on the project.

01:05:31;03

Yeah, the team begins sketching, but we need to have a clear understanding of the opportunities in the marketplace. Where's that spot. You know, where's the gap in the market that this product will fill. How does it really not only meet the needs of customers but exceeds

those needs. And really, you know, connects with 'em on a high level.

01:05:53;01

It's important for us to work in collaboration with engineering. The absolute best vehicles happen when there is great collaboration between a designer and an engineer. And there's always tension between us. And you know, that can be good. But that collaboration's great.

## 05 - COLLABORATIVE DISCIPLINES

BARRY HURD:

01:06:12;20

Well, isn't there something just to the idea that all the pressure that the mileage that you're sort of stuck with the laws of aerodynamics and cars are going to have to wind up looking a certain way?

ED WELBURN:

01:06:22;25

Yeah, I don't think we're stuck with the laws of aerodynamics. I think it can, I consider that to be an exciting challenge. I personally have spent a lot of time in the wind tunnel, and really understand the dynamics in



developing a vehicle that has great aerodynamic principles to it. It is one opportunity that we as designers have to affect a fuel economy of a car.

01:06:48;24

And yeah, if not managed properly, they can all look alike. They can all look like jellybean cars. And we went through that period in the 1980's. Today we're doing vehicles that are far lower in drag and no one knows it really. They don't know. It's not, you know, it doesn't stand in the way. It's not dependent on, we can do incredibly low-drag cars and still have that right style, that right look and individual personality.

BARRY HURD:

01:07:17;06

So the art can still get around...

ED WELBURN:

01:07:19;09

Oh, the art is in it. The thing that's fascinating is when we're in the tunnel, you know, at least here at GM, we have a great aerodynamicist that leads the work in the tunnel, the designer's there and the fine art sculptor's who have been developing the shape. They're there as well.

And the solutions can come from any one of those three people.

## 06 - INSPIRATION EVERYWHERE

BARRY HURD:

01:07:39;03

I want to ask you this. When you're looking at inspiration, do you look at other sorts of iconic designs around? I mean, some people say this was the classic business is that you draw inspiration from that? From jazz? From I mean, where does it come from?

ED WELBURN:

01:07:50;12

It's, we draw inspiration, I draw inspiration from everywhere. From architecture, certainly from architecture. The fashion industry, what's happening in trends in fashion. And because, suits can even have the proportions of them can change. And, you know, the width of a cuff of a lapel can change.

01:08:12;24

I certainly, I personally draw a lot of inspiration from music and I like a whole wide variety of it, depends on my mood. Other areas are product design. Influence us

heavily in a very, very contemporary way, and different technologies as well.

## 07 - MEETING TRUE NEEDS

BARRY HURD:

01:08:32;23

But does design have basic aesthetic principles or is it trends? And when you say we have to see what the customer wants. Is the customer cueing you to what?

ED WELBURN:

01:08:40;26

The customer(s) are certainly not designing the product, but it's understanding what our customers, what their needs are. What their priorities are in their life. And then building on that. Having a real dialogue with them and understanding that. And I think that goes well or way beyond automobile design. It's true for design in general. But building on that, being inspired by that conversation with 'em, then the designer can really do their thing. They can create that new, create that vision for that new product.

BARRY HURD:

01:09:16;17

So you have to design something that's going to sell is

what we're talking about?

ED WELBURN:

01:09:17;15

Oh absolutely. I mean, you know, certainly you'd like for one of 'em to be on display in the Museum of Modern Art. But that's only one, and this is a business. And you certainly want to sell far more than that, and have them in the driveways of all of our friends and, you know.

## 08 - INSPIRING DESIGNS AND PEOPLE

BARRY HURD:

01:09:40;03

When you look across the history of GM, what are some of the top-designed cars, do you think?

ED WELBURN:

01:09:45;03

Well, you know, it's every time I've been asked to put together my list of my top 20 GM cars, you know, I get it down to around 24 and then I start working on it, try to get it down to 20. Ends up back to 30. I mean, it is very difficult. And it's such a wide variety for different reasons.

01:10:03;23

I mean, the very first Chevrolet suburban was a very important car because it really created a category. It was

really the first crossover vehicle, to do more of a station wagon on a truck chassis. And, you know, just as kind of a hybrid or a crossover. A very, very significant car. The original Corvette. And later on, the Corvette Stingray, which had a huge influence on many cars. And certainly, the work that Harley Earl did in developing or redefining what automobile design was all about. Significant. Camaro was another iconic vehicle.

BARRY HURD:

01:10:42;12

Are there, just the auto industry in general, across all manufacturers, are there two or three though breakthrough designs of things that led us in different directions? Or is it more evolutionary as opposed to revolutionary?

ED WELBURN:

01:10:54;08

Well there have been those revolutionary cars. And for designers, at times we're inspired by cars that may not have been a huge sales success. But from a design perspective, they were breaking ground in their size and their proportions and their technologies that the vehicles

may have had.

01:11:11;01

I think it's greater than any one vehicle or any individual vehicles. I mentioned Harley Earl, but Harley Earl, really what he did to redefine how we design cars in this company, and the fact that Sloane had that vision to create the very first in-house design organization here at General Motors was huge.

01:11:39;26

And so I think that made a very significant difference. I think that some of the inspiration that we received from aircraft gradually moving from the prop planes to jet aircraft had a huge inspiration. Our inspirations come from other vehicles, but it certainly has come from aircraft.

## 09 - BUILDING ON THE PAST, DESIGNING FOR THE FUTURE

BARRY HURD:

01:12:02;27

And we were talking before that there's only been, what, six chief designers or head designers here?

ED WELBURN:

01:12:08;18

I'm the sixth one, yeah.

BARRY HURD:

01:12:11;24

Is that a benefit, do you think, that there was, does it keep heritage going?

ED WELBURN:

01:12:18;14

It helps us to build on the great work that prior generations have done. It and part of that heritage is always looking forward. Always when you're building on the great brands that we have and building on the great heritage of General Motors design. But always looking forward.

BARRY HURD:

01:12:46;00

Now do you actually go back to study the designs of Harley Earl and Bill Mitchell and the guys of the past? Is it more just a legacy thing that you...?

ED WELBURN:

01:12:55;12

No, I study it. I study it quite a bit although my focus is really on the future. And that's where I spend most of my time. The history of this company and the history of General Motors design is fantastic. And I think more now than in the past I've learned a lot about the Harley Earl

years. And Bill Mitchell. I started here, Bill Mitchell was still running General Motors design. And, you know, a man with a lot of passion and energy for what it is that we do. And it really should be credited for a lot of very significant cars.

## 10 - DESIGN PARTNERSHIP

BARRY HURD:

01:13:31;20

Tell me, just the question that a lot of people think, how do you actually get an idea pushed all the way through? Does it get changed all the time? So what you start with is nothing like at the end? You have to fight? I mean, how's that whole process?

ED WELBURN:

01:13:41;01

It's you know, the process is interesting. And it has changed significantly in the past few years here at General Motors. The very basic process of developing a car has not changed, the technologies have changed. But the system in which we develop 'em has changed. The role of design at General Motors is no longer a service to the company.



01:14:04;05

We're true partners. I'm on you know, Dan Ackerson's executive committee. His senior leadership team. And design has not always had that role in the company. Design creates a strong vision for a vehicle. And the company has the respect and the understanding and the support of design that we support the development. They want to help in every way possible to bring that idea to the market.

BARRY HURD:

01:14:40;14

And...

ED WELBURN:

01:14:38;25

Engineering supports us in a huge way.

BARRY HURD:

01:14:42;21

Did that change because of just the marketplace? Or what?

ED WELBURN:

01:14:46;11

It changed because I think the leaders of the company, the leadership team that's in place today understands how important design is. They understand how vitally important it is.

**11 - QUICK COLLABORATION**

BARRY HURD:

01:15:09;24

Let me ask you this. How have computers changed the way you design cars?

ED WELBURN:

01:15:15;22

Computers have actually made it even easier, I won't say easier. But computers are fantastic. I love what they've brought to the creative design process. Now I must admit, we went through a period. We went through a valley where it was really difficult and everything that was done in the computer just had this real test tube, sterile rigid look about it. It didn't have that passion, it didn't have that emotion. Which today, you know, you can tell the cars in the marketplace where the entire thing was done in the computer by people who just didn't get every ounce of that passion into the vehicle.

01:16:01;00

You can tell it. But understanding the role of computers and understanding how you can, you know, the art and the science of it all, we've been able to run faster. We've been

able to have incredible collaboration between our design teams. We have ten design teams around the world, strategically placed around the world, and to have collaboration between those teams is fantastic. You can only do that with the computers that we have.

01:16:32;07

And the sharing of information with our engineering partners. You never could have done it at the pace that we do it at. And with the accuracy and with the quality that we're able to run it. If it wasn't for the computers that we have.

BARRY HURD:

01:16:48;02

But, does it change the basic sort of principle of design or is it just a tool to make...?

ED WELBURN:

01:16:50;08

The basic principles are the same. And it's just that it's a very different tool. And today, in the way that we use it, you're able to get that emotion. I mean, that vehicle in the background there was created in the computer. But understanding when you use the computer and when fine

art sculptors are involved. And in fact, we have fine art sculptors that are sculpting in the computer along with the ones who are working in clay. We have not gotten rid of clay models. It's a very important component in what we do.

BARRY HURD:

01:17:28;03

And you say understanding when to do this. I mean, what is that? Just a gut thing or how do you understand when to do it?

ED WELBURN:

01:17:35;00

Well some of it is. You know, yeah, gut has a lot to do with it. But we have a process in place. You know, at this point, we're doing this, that and the other. But I think we're free enough. And agile enough that we know when to get it in the computer and make the adjustments or we need to use the clay model to execute an area of the vehicle.

12 - PASSION

BARRY HURD:

01:18:01;17

But you keep returning to the passion. It's like

externalizing your passion, concretizing your passion seems to be one of the basic motifs of what you're talking about. Is that sort of what you're telling me here?

ED WELBURN:

01:18:12;01

Just yeah, that's what it's all about, I think. Is a huge part of it. It's very scientific, and it's very technical, but that emotional side of it is that component is very, very important. And you just, you can see it. You know, when you see a family, you know, and they're sitting at a traffic light in a car that they're really enjoying and they feel good about this vehicle, can be a conservative design, it can be a very aggressive one. But passion, emotion, that connection is very much a part of that vehicle.

### 13 - ROLE OF DESIGN

BARRY HURD:

01:18:46;23

You said you spend most of your time working in the future obviously. Tell us, what is the future of, is design gonna, is it gonna be a revolution, an evolution? How is design looking for cars?

ED WELBURN:

01:18:56;28

Well it's, the pace of change is very fast. The role of design will continue to be very important. You know, at the end of the day, when customers are given choices-- and they're given a lot of choices today--and they will in the future, design is that great differentiator between one product and another. 'Cause I believe, you know, all vehicles have great quality, the pricing will be very competitive. Technology advantage from one brand or one company to another doesn't last forever. So design has got a very key role.

BARRY HURD:

01:19:36;21

And we were talking the other day that at least in the old days, the car used to be an expression of yourself. You bought the car that almost it was like your avatar. Is that still true? Does that change with the new generation, the younger people? Or is that still you are what you drive?

ED WELBURN:

01:19:50;08

It's true today, but on different levels. It doesn't necessarily mean that someone is super passionate or

emotional about the vehicle that they drive. It, just you know, it just may be a vehicle to get from point A to point B. I mean, they're not into cars. But that car still says something about that person's priorities. Or and it's got to fill their needs one way or another. And so it's important. That is why it's so important that we need to stay close to our market and really understand what people are looking for in a vehicle.

#### 14 - DESIGNING FOR A GLOBAL MARKET

BARRY HURD:

01:20:30;06

Do you think there's a difference between the cars that Americans like to drive and Europeans and Asians? I mean, are we a world market or is it really a...?

ED WELBURN:

01:20:39;19

I'd say yes and no. There are differences. There are definitely differences from one market to another. And as a very global person, I'm in and out of all of these markets. And we have design standards around the world. So they are close to the markets, and really understand what really connects with a customer in India may in fact

be a bit different than what customers in China or Korea or Australia or Brazil or Europe or here in the States are looking for.

01:21:11;00

So there are those differences. Some of them can be subtle. Communication is so broad that everyone sees, you know, what everyone else has got around the world. Customers in Brazil who in the past may have accepted vehicles that may not have been that cutting edge today, they see everything around the world. And they want it.

01:21:33;26

They want the absolute latest, most contemporary design. No matter what they can afford in the vehicle, they still want it to be very contemporary. And we need to understand that. There are very few real global vehicles. Chevrolet Cruze is one. It has been a huge success everywhere it's sold. From China to Australia to India and Europe, here in the United States, a huge success.

01:22:04;21

And now it's coming to market in Brazil. And everyone's



excited about it entering that market. It's the same basic vehicle in every one of those markets, but the chasses tuned a bit different for road conditions, the tire size may be a bit different. The interior, the fabrics may be different for durability or certain cultures, you know, light interiors are very important. Others they want a dark interior. And the content of the vehicle may be a bit different. But the same basic vehicle is sold everywhere and they love it.

BARRY HURD:

01:22:41;24

And that points at the idea that the materials are a really important part of design as well. Are we headed to recyclable cars? Or with different materials with different cultures?

ED WELBURN:

01:22:51;06

Well there's an awful lot of recycled material in our cars today. I mean there's a lot in our cars that I'm not sure that everyone really knows about. Recycled products are certainly there. But in some cultures, you know, there's certain materials, certain colors, certain finishes that, it's not only what it is that may really connect with a

customer, but it's also what might offend them as well. And if you don't have a design team that's there, if you don't have a design team that is having a dialogue with customers in that market, you have no idea what might offend people culturally. From a religious perspective.

BARRY HURD:

01:23:39;13

So you have to, there's a whole intellectual setup of this design?

ED WELBURN:

01:23:42;12

Oh, I love it.

BARRY HURD:

01:23:44;09

It's not just drawing?

ED WELBURN:

01:23:44;11

I love it. It's fascinating to me.

## 15 - THE CHEVROLET VOLT AND OTHER CHALLENGES

BARRY HURD:

01:23:48;02

Tell me a little bit about the Volt, is sort of the contemporary car that's getting all the attention. Was the design approach to that any different 'cause it was electric? Or was it still basically, well you were saying find

what the customer wants, appeal to them, the right material?

ED WELBURN:

01:24:02;11

Yeah, there were some things we had to take into consideration with Volt. A bit different than other vehicles. Certainly, aerodynamics are important with everything we do. The lower the drag, it really helps us with fuel economy. But we found very early in the development of Volt for its range, aero was even more important than how heavy the vehicle was. And so we spent a lot of time in the wind tunnel developing that vehicle. And yet, you know, there was a set size we need to keep it to. You know, certainly the longer the vehicle, generally the lower drag it is but we could not make this a very long vehicle. But we had to keep to a set dimension.

01:24:46;26

And we spent an incredible amount of time in the tunnel developing that shape, getting the drag down. Also getting the noise levels down. 'Cause, you know, the Volt is, it's a quiet vehicle. It's a silent vehicle. And when all of

a sudden when you have a vehicle like that, and you drive it, and the engine's not making it, the power train isn't making any noise, then you hear other things.

01:25:12;22

You hear suspension, you hear shocks, you hear wind noise. And so, for us a significant amount of the tunnel time was spent getting the noise out of, a mirror can make noise. A certain molding or an intersection can create noise and getting rid of that.

BARRY HURD:

01:25:31;01

That's interesting. Design is not just the way it looks, it's the way it sounds and feels, isn't it?

ED WELBURN:

01:25:34;12

Yeah. Yeah. I mean, so. I mean, that was part of the challenge of Volt. And for me again, I love those challenges.

BARRY HURD:

01:25:44;18

What are some of the challenges going down the road that we're looking at?

ED WELBURN:

01:25:49;08

Challenges will always be in developing vehicles that customers really respond to. 'Cause I don't care what category of vehicle you're working for, the style, the design is at the top of the list of consideration. Again, everything else being equal, the styling's going to make the difference, if everything else is equal. And so that pressure is always there. It's always on us, and that's cool. So going forward, that will continue to be a huge challenge. Fuel economy will continue to be challenging. The cost of the vehicle, developing a vehicle that, you know, meets everyone's needs. That a vehicle that looks even more expensive than it actually is, is a design challenge.

## 16 - GREAT DESIGN REQUIRES GREAT COLLABORATION

BARRY HURD:

01:26:45;03

Tell me a little bit more if you can about the tension between the designer and the engineer and the marketer and how they all have to kind obviously, they want to work together, but there's got to be, you know, a little friction

there.

ED WELBURN:

01:26:56;13

Yeah, there is friction, there is tension. And some of that tension's good. I mean, we challenge each other. And at the end of the day, the best vehicles happen when a creative engineer and a creative designer work together. I mean, styling the vehicle's one thing, but to get the proportions right, and proportions are everything for a designer. That requires great collaboration with an engineer. If you want to shorten the front of the car, well, there a lot of components under that skin that have got to be repositioned, and that kind of dialogue is important.

01:27:30;26

I mean, a small component under the hood of a car can influence the height of the hood. And if that component causes the hood to go up an inch, then the driver, you know, doesn't have that great downward vision so you have to raise the seat. So then the roof goes up an inch. And when the roof goes up an inch, then it hurts the aero because the air is not hitting the tail so you need to

lengthen the rear of the vehicle.

01:28:00;11

The next thing you know, you've got a vehicle that's far larger than the original intent because of that component under the hood. And that is why that collaboration, that understanding, that way up front in the development of vehicles is so important.

BARRY HURD:

01:28:17;19

Now can you think of an example of something like that where they, somebody wanted to change something and they made a change that improved everything? That was like sort of a breakthrough moment? Oh, if we lower this, if we, I know on the new Malibu, they've got some way of opening and closing some vents on it that give you extra mileage to the airflow.

ED WELBURN:

01:28:31;22

Yeah, that really helps with aerodynamics and the performance of the power train as well. I think the Chevrolet Cruze is a very good example of getting, managing all the components in the engine compartment,

allowing us to keep the front end tidy, nice size, keep the overall shape of the vehicle where it should be and not allowing it to continue to grow. It's a very good example.

## 17 - THE FUTURE

BARRY HURD:

01:29:02;17

And what do you think the future is for electric versus internal combustion versus diesel versus? What's going on with that?

ED WELBURN:

01:29:10;17

I'm only a car designer, I'm not a power train expert. But I believe that there is no one solution. And it really depends on the transportation needs that individuals have. Certainly, electrical will be a huge part of it. Fuel cells may be a part of it. Diesel as well. Very well-developed, very refined internal combustion engines will continue to be a part of the whole portfolio of power trains.

01:29:45;08

But I am excited about the possibilities with electric. I love Volt. And the fact that it is an electric vehicle that doesn't have range anxiety. You know, that you could,



you know, we've got Volt owners that, who have driven the car for a year and are still on their original tank of gas. And at the end of a year there's a little sign that comes up and says your gasoline's starting to get a little old. We're going to run the engine because, 'cause that gasoline has been around for a year.

BARRY HURD:

01:30:20;03

It really is a paradigm shift isn't it in the car industry?

ED WELBURN:

01:30:20;19

Oh, it's cool.

## 18 - INSPIRATION

BARRY HURD:

01:30:23;17

Let me ask you this. I mean, you're a designer, cars, transportation. But when you look around, there's got to be some of the things that you see that say boy, that's really well done. I mean, like the iPad, or what are some things when you look at 'em you say boy in other fields, those are just great designs?

ED WELBURN:

01:30:38;18

Yeah. Certainly the iPad. And, you know, everything that

Apple does, you know, is, I mean, it's cool. It's inspiring. It inspires us quite a bit. In the fashion world, there are certain designers who inspire me when I think of, you know, of our luxury brands and what we're doing. Some of the sculpture that I see in China, great inspiration. And the graphic design that I see in China, great inspiration for our Buick brand. The whole, you know, that's flowing, endless lines, seamless line, the grace and the elegance that it has, is great inspiration.

#### 19 - GENERAL MOTORS' PROCESS OF DESIGN

BARRY HURD:

01:31:21;28

We've talked about this a little bit but take me from the first day when it's time to build or design a brand new car. You go into a room with ten design teams. It's a conference call. What's that GM process when it's time to do something?

ED WELBURN:

01:31:36;01

Yeah, when it's start time to get fired up on it, it's a gradual one. And, you know we all have our roles that we play. Design is very much in the beginning. And

engineering is there as well. Later in the program, it's more engineering than it is design, as they are, you know, going through the tooling and the validation, and final execution of the design.

01:31:57;20

Some of it I won't share with you because I think it's an advantage that we have, that I just, you know, I'm just not going to talk about it. But it's inspiring. Quite often, I like to have a competition between two, maybe three design teams. There's nothing like competition to raise the bar of execution. So if a car's gonna be sold in multiple locations around the world, well maybe our advance team in California will contribute designs, or our teams in Detroit, and our team in China. And a bit of a competition. And it's a healthy competition, it's great, and the results are terrific.

## 20 - EDUCATION IS CRITICAL

BARRY HURD:

02:00:20;26

One of the things we're doing with this *OnInnovation*, the film, is trying to encourage young people to take a look at

the auto industry and design, and design in general. If we had a bunch of young people here, what would you tell them about how they could get into this exciting world? You mentioned passion, but tell me a little bit more about that? What should they do?

ED WELBURN:

02:00:36;13

Well, certainly, yeah. Yeah. They have a huge advantage today. Young people have a huge advantage today of, they want to get into this field. There are a number of great schools of design that they can study at. And develop.

02:00:54;00

But right here in Detroit, it's the College for Creative Studies. An incredible school. One of the finest design schools in the world. Right here in Detroit. Now you need to prepare. You know, you just can't walk in there one day even with a very good grade point average and be accepted. You need to develop your skills, you need to have a portfolio in order to gain entry in a great school like that.

02:01:25;06

But if you're really, really interested in car design, and I really mean interested. Not just because it's some cool profession. You know, is the new rock-n-roll or something, or because you really sincerely want to be a car designer. There is that school. And others here in this country and in other countries around the world that have an area of study, a major in transportation design. And we recruit heavily from that. And in fact, we, some of our designers, are on staff teaching at these schools as well.

BARRY HURD:

02:02:06;24

What about just the, other than the passion and going to the right, you know, college. What about, should you read great books? Should you watch a bunch of, should you visit England and see what's happening in the pubs? I mean?

ED WELBURN:

02:02:18;15

Well I think the designers today and in the future probably need to have a better understanding of the marketing of a vehicle. A better understanding of the financial side of the

business. You know, I can't tell you how often I'm involved in meetings where we're really looking at the financial, the big picture of that vehicle. And design's role becomes more significant in every bit of that conversation. So understanding the business side of industry. Understanding the marketing of the vehicle doesn't mean you have to be a marketing expert, but understanding that is very important.

## 21 - SCULPTING HERITAGE

BARRY HURD:

02:03:02;25

I'm jumping around a little bit here. Back we were talking about there's been six head designers here. Is there any kind of like certain thing that's unique at GM that has stayed all the way through? Or has it evolved? I mean, if we were to look back, I mean, you know, you've looked at GM cars before. You just know where it's from. And it seems like that's been across the decades. Is that a purposefully done thing or is it...?

ED WELBURN:

02:03:24;28

It's, you know, what separates GM from other companies,

it's kind of interesting. And I guess I haven't thought about it in a while. But it's, I think it's rooted in the body's shape. In how the vehicle is sculpted. The heritage of the great sculptors of General Motors.

02:03:50;16

I mean, Harley Earl was the first to bring clay modeling to the auto industry. He brought it to the auto industry and started developing more sculpted design. Prior to that, they were all done either in wood or in plaster. And not as forgiving a material to work in, to make subtle changes as clay is. And clay modeling, great sculpting, hiring the best sculptors in the world has been a part of General Motors and continues to be a part of General Motors today. Fine art sculptors are very important to what we do. I have a background in sculpture as well. I mean, and it's, so it's sincerely important to me. And it always has been. And I think that's part of the difference. And our vehicles have a certain proportion that's a bit different as well.

BARRY HURD:

02:04:49;11

Well, is that because the new designers look at what they

saw and they like it, or they're told make sure you keep these styling cues in or...?

ED WELBURN:

02:04:56;04

No, I think it's, I don't know that it's necessarily discussed that, you know, that you have to keep this. But it is part of our D.N.A. You know, it is part of our heritage. The sculpting. And building on great, you know, we have established great brands. And building on those brands is important.

02:05:18;10

I mean, the market place is so competitive and so complex that for a vehicle, for a brand to stand out, it needs to have a very clear identity. You know, an identity that is unique. You know, look at Buick brand. Buick vehicles are very flowing, graceful, romantic designs. And they're thoroughly contemporary, but you can link them back to Buicks of the early '60s, of the 1950's. Cadillac designs are very edgy. They're very edgy. Art and science is a big part of 'em. But that links back. It's hard edges. It comes from the fins that Cadillacs had in the early '60s



and '50s.

## 22 - AIRCRAFT, CARS, & FINS

BARRY HURD:

02:06:02;22

You know, I was going to ask you about the fins. It's like they came, they were here, they went away. What's, now what influenced, I mean, it seems like that would be a nice study. Why did we have fins and they went away? Was it because of aircraft and then we got used to it?

ED WELBURN:

02:06:17;22

Yeah, they were, the inspiration totally came from aircraft, the very first fin. The very first fin was just a little bump at the end. And, but it was, the inspiration came from aircraft at that time. And Harley Earl was, he could not believe this aircraft they saw a military plane that had these little winglets. And so he was inspired by that.

02:06:40;03

And then as the jet age came, the fins became more jet-like and they gradually grew to a point where they were just, you know, they were over the top. And then Bill Mitchell was the one that said, yeah, we need to trim

them, we need to bring them down. We need to make them thinner, and they gradually started to go away.

02:06:59;16

They never totally went away. And frankly, the very latest Cadillacs that we're developing today that are in the marketplace today, the hard edges, the creases are inspired by those fins. And there's just a hint of a fin in the tail light of the very latest Cadillac, the CTS Coupe and the Cadillac XTS.

BARRY HURD:

02:07:23;28

Yeah, it seems likely to sell, you don't want people not to know what the car is. You want them to know it's a GM car.

ED WELBURN:

02:07:28;19

Oh, yeah, absolutely. It needs to make a statement.

## 23 - NEW TECHNOLOGY IMPACTS DESIGN

BARRY HURD:

02:07:33;23

Let me ask you this. Some people say that cars are basically computers on wheels, and that the design is really all in the electronics and how you interact and what's

your, I mean, I didn't say it. Somebody said it to me. But what do you think of that? I mean, is it...?

ED WELBURN:

02:07:43;21

I thought you just said it.

BARRY HURD:

02:07:46;05

I did say it, but are the electronics and all these interactive systems becoming a big design element now or...?

ED WELBURN:

02:07:51;09

Well, we're certainly involved in it. And there are certain challenges. I mean, it is a huge challenge. But it's cool stuff coming at it. You know, I mean, it's just a few years ago that our designers, all they were doing was developing the face of the gage. Gages were all the same. It just, you know, what color you made it and what font you used in the lettering. Now it's turned into a whole HMI, is huge.

02:08:19;12

And the team that we have put in place to work in collaboration with engineering and developing it and so much of what's there in our instrumentation, and the nav screen and the gages is theater. It's like a film. And, you

know, being able to develop that in a proper way is important. And design has an important role in doing that. As we look at other technologies in the vehicle, it will allow us to reposition components in the instrument panel. They may not have to be close enough for you to reach. You may have another technology that will allow you to operate that function without reaching at all.

## 24 - TAKING PRIDE IN YOUR ACCOMPLISHMENTS

BARRY HURD:

02:09:05;13

Let me ask you this. Over the years you've been in the business, I won't ask you how many years, what are some of the things you're most proud of? Some moments in your career or some designs you've worked on?

ED WELBURN:

02:09:12;28

You know, I've been in the business for 39 years. And in some ways longer, because I've been passionate about GM design since I was a child. I am proud of my role, the role that I'm in today, in the work that we have done to develop a truly global design organization. With design centers in Brazil, and Germany, and Korea, and India,

China, here in the States, Australia, that all work together in collaboration. I'm very proud of that. I'm proud of the work that we have done to develop a clear identity for the Chevrolet brand globally.

02:10:01;23

And Chevrolet is a brand its history, you know, it grows from here in America, but it is a thoroughly global brand with significant sales everywhere. And we're very proud of that. Along the way, there have been projects that I have worked on that have been significant and I think the one that I always point to in a very different role that I had in the company that was kind of a transition for me, where I went from not only being a designer on the board sketching but I was managing a project was Aerotech. And it was one that I worked on with A.J. Foyt was the driver of the car. And we set some world records with it, and it was a quite few years ago.

02:10:48;09

No one's been able to beat those world records. And I'm very proud of my contribution to that program. And I

always look to that probably as the one that was kind of the transition for me, from just sketching to being someone who was managing a project and had a more significant role.

## 25 - CREATIVITY, COMMUNICATION, AND COLLABORATION

BARRY HURD:

02:11:12;05

That's a lot to be proud of for doing something like that. Just going back one more time, you see a lot of designers coming in here looking for jobs or trying to, just sort of the traits of a car designer. And what are they? It's passion, but tell me that again, what are the four or five things you look for that say that's a guy who should be working here?

ED WELBURN:

02:11:29;09

Looking for creativity. Creativity is huge. And being able to communicate that creativity with others. Whether it is through the sketches they do. I mean, they don't all have to be incredible pieces of artwork, although it can have an advantage. I mean, talk about vision. If that vision is someone expresses in a sketch. If they've got a great idea, and they cannot share that idea with others, then it's

of no use.

02:11:59;27

You know, so they've got to be able to communicate that idea through their sketches, through, you know, through their conversation. Although, you know, I worked for a guy years ago, Chuck Jordan, that always said, you know, "I hear you talking but my ears can't see." You know, so it has to be expressed. They've got to be able to express it. If they can't do that, then it is of little value.

02:12:29;15

And this is a team sport. That the studio team is a close-knit group of people. They're on a mission, a mission to develop the absolute best design possible. The designers and sculptors, the whole team work together. Work in collaboration with the engineers. And if a person can't work in collaboration, is not a sharing person, then I don't think there's a limit to how successful they can be in this company.

**26 - SACRED SPACE**

BARRY HURD:

02:13:22;07

So again, tell me. We're in the hallowed halls. This is where all the great GM vehicles for the last four decades did you say? Tell me that story again. We see it now.

ED WELBURN:

02:13:29;28

Yeah, it's, you know, General Motors designers have presented their latest designs to the leadership of the company and the board of directors. Every single GM vehicle since the 1956 Chevrolet, right here in this room, this space. This is a very holy place for all of us in design. It is special.

BARRY HURD:

02:13:56;01

Tell me how you felt the first time you walked in here. You must, were you a young guy? Or, I mean...

ED WELBURN:

02:14:01;14

Well, you know, the first time I came in here, I mean, I had seen photographs. I had been reading car magazines for years, and then I had seen the photographs of the latest designs parked in this room with these walls. And



the first time I walked in here, I mean, it was an emotional experience for me.

02:14:15;29

And so often I hear about our designers who may have come from our studios in Brazil, and the first time they come to the Tech Center and they take that right turn towards the design building, and they see this dome building, and they get emotional. They have tears in their eyes. They cannot believe that they're at the GM Design Center.

## 27 - TAKE NOTHING FOR GRANTED

BARRY HURD:

02:14:41;00

And just one final quick question. I'm not sure the day you became the head designer, I mean, you knew you were going to be the head it wasn't a surprise, I mean, you were working your way up. But there must have been a moment of like, man, I've really arrived at where I always wanted to, tell me about that.

ED WELBURN:

02:14:58;08

Well, you know, I've never taken anything for granted.

And certainly I did not assume that I would have this job. I don't think that, yeah, I never assume anything. Yes, I had worked hard, and I had really done a lot that I felt was the right thing to do. And I have learned from some great people. Wayne Cherry, I give an awful lot of credit to. I learned a lot from Wayne. He really helped me understand the value of brands and really dedication to design in a big way.

02:15:34;27

When I moved into, it's been such a blur since then. It's got, it's hard to even picture that day. But yeah, it felt good. It really did. And I just felt as though there were a lot of people I needed to thank. And I knew that we had a lot of work ahead of us, and a lot of work ahead of us. And just, yeah, I'm always focused on moving forward.