BMW M760Li | DIRECTOR'S TREATMENT

september eighth two thousand sixteen

DIGITALDOMAIN+MOTHERSHIP

INTRODUCTION

Art and science. One data-driven, one driven by emotion. Cars are by far the most complicated machines we interact with on a daily basis, and when combined with great design, there's nothing that comes close to the perfect blend of those two human endeavors than the new M760Li.

Here we find the peak of opulence, performance, technology, indulgence… More torque and horsepower than you'll ever need (But for those interested, 600 and 590 respectively), in a gorgeously sculpted 5000 lb. piece of high strength steel, aluminum and soft-to-the-touch plastics and leather. A car that dynamically behaves like no other car in the road, and will paint four beautiful strips of rubber on the tarmac while pampering its occupants in a way they've never been before. And oh, that exhaust sound!

We know it's extreme, some would think it extravagant, but that's precisely why we want it so much. Car enthusiasts understand this is not necessarily about *need*, but about *want.* We want that sense of freedom, the feeling of raw power, the understanding that our cars are an extension of ourselves as presented to the world. *Die ultimative Fahrmaschine.* There's a reason BMW's slogan has long been "The Ultimate Driving Machine".

Motorsport, or *"M"* cars, initially created in the 70's to contribute to the brand's racing program, have long been the benchmark for car nuts such as myself. I remember lusting after the original *M3*, and as I grew older, fantasizing about that beast of a car, the late 90's E39 *M5*. After all, you could always use those extra two doors to take the kids for a blast on Mulholland Drive. Right? Right??

And then there's the BMW's 7 Series. It has long been the manufacturer's flagship, known more for stately luxury than sportiness, and as such - putting aside the Alpina B7 for a moment, which is not technically a Bimmer - hadn't received the *"M"* treatment until now. Although we could talk at length about the differences between *"M"* cars and "M-Badged" cars, the truth is, the M760Li has what it takes to capture the enthusiast's motor oil-dripped heart and take it for a pupil-dilation ride. You can still feel like a hooligan, while looking like a million bucks.

It's not the way the 6.6 liter V12 storms to its redline or the baritone boom from the custom exhaust on the way there. It's not the amazing surefootedness under high-G maneuvers or the otherworldly stability under heavy breaking. Nope, what impresses most is the fact this is not a small sports car, but a 7 Series. A car this big should not handle this well. But it most certainly *does*.

Which brings us to your awesome creative.

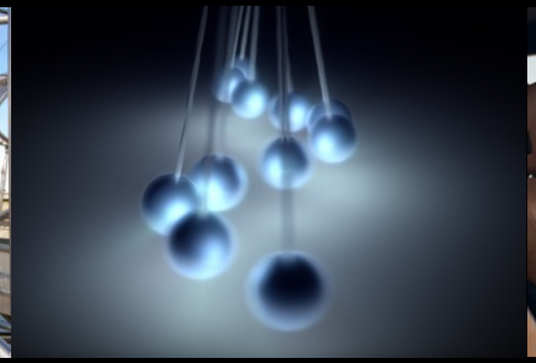
BMWs, and *“M”* cars especially, have always been about *more*. More power, more control, and more feeling, in the right hands, of being able to do impossible things. Cundari’s past pieces for the automaker have all shown a certain amount of whimsical *impossibility*, but were all grounded in reality. *Yes*, the viewer thinks, *there must be some visual trickery in action… but I wonder…*

With this film we are planning on helping you take this concept to the next level. We want to leave the viewers scratching their heads and going frame by frame trying to figure out if *we really did this.*

When I first read the brief, I loved the idea on its face, both because it fit so effortlessly with Cundari’s past work and because it made me smile with the craziness of it all. I also loved the visual potential of the piece. I mean, beautiful car on a beautiful bridge, dodging a giant pendulum wave? How can you not love that?? At the same time I was left wanting to incorporate a human component. I felt it needed both a connection to the driver (something very important for BMW historically), and also a wink of sorts. I thought it needed a bit of “Oh, so you thought *that* was crazy? Just wait until I do it again!” The second brief sorted that out wonderfully.

So we have a winning formula here. How do we translate that into a successful film? In order to achieve the utmost realism we think it needs to be a combination of careful planning, real driving, amazing cinematography, a great actor that can convey the feeling and superbly executed visual effects.





STEP 01: PLANNING

Visual effects heavy pieces live or die in the initial planning stages. Many a superbly shot footage has been ruined or left subpar due to the lack of understanding of what can or cannot be achieved realistically in post-production. While it's true that you can almost "fix anything" later, the truth is there are right and wrong ways to go about shooting for VFX.

So we will start by carefully storyboarding the entire piece, and creating a previz edit to help us plan our shots, both from a pure performance standpoint and also to make sure we are at all times thinking ahead to our post-process. This will be a collaborative process and will allow us to map the basic structure of the piece together, before anything is shot or generated.

STEP 02: REAL DRIVING AND SUPERB CINEMATOGRAPHY

Say what you will about the latest techniques to generate believable driving dynamics in 3D. Rendering is not the issue here, since we have plenty of experience generating photo-realistic cars, and in fact Digital Domain is a pioneer in this field. But while there's a case to be made about using CGI smartly when no other choice is at hand, in most cases nothing beats the real thing. The fact you can direct performance and have a stunt driver put a car through its paces gives a film a look that in general is difficult to achieve in CGI. It's certainly not impossible, but tricky. Drivers recognize fakery in car dynamics and it would be a disservice to give them anything but the genuine article. Besides, the 7 is a beautiful car, so we want to show it in a way that comes across loud and clear.

So we are planning to get access to a tarmac, possibly an airport runway or racetrack, to get the most out of our car and driver. Why a tarmac and not a real bridge somewhere in the tropical waters of the Florida Keys, or any bridge for that matter? There are various reasons, but there are certain limitations when shooting on a narrow road, particularly when doing hard driving. It would be almost impossible to have a camera car parallel to the action for instance. And there're safety considerations as well.

But while we are planning on shooting a real driver in a real car, that is not to say we are against using visual effects. On the contrary, we believe VFX are indispensable tools on a film such as this, but as I mentioned before, they have to be used smartly and strategically.

And let's not forget the 7 is a beautiful car, with a sumptuous interior. We will partner with a world-class car DoP with an eye for making the way the falling sun casts its light on steel, feel luscious. At the same time we are looking for dynamic shots that showcase how powerful and raw the experience can be, so a background of fast and energetic filmmaking is something I will be after.

By shooting our M760Li on a tarmac, we will be able to capture angles that would be close to impossible to capture otherwise, while doing so safely since there will be no railings to bump against, etc. We will carefully follow our storyboards, while being open to surprises, and capture every needed shot and more.

VISUAL REFERENCES

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STEP 03: OUR DRIVER

Adding a human component to the film is what makes it all gel together. It makes it *personal*, believable and all the more remarkable. It allows the viewer to feel a personal connection to the story that great visuals alone rarely achieve. His demeanor invites us to drive with him. There's a deep gratification in using a tool for which it was designed, and our car was designed for *performance.* So our driver must project that gratification naturally.

What are we looking for is the perfect balance between Clive Owen's cool under pressure and Bradley Cooper's easy humor and good looks. He is a man on a mission to prove what this car can do when faced with unexpected circumstances. The way he commandeers his vehicle and how he flirtatiously decides to have another go is something we *must* be able to get from him immediately.

Our driver is cool, composed and firmly in control of the machine. He knows what it's capable of delivering, and uses every inch of the bridge's surface to dodge the pendulum's spheres. There's a synergistic relationship between him and the vehicle and it shows both in the relaxed manner in which he tackles the road, the fluid motions of the car, and of course his willingness to do it all over again. That's what makes this spot so great in my opinion. Not only has he just dodged a giant display of physics, but he cannot wait to challenge it once more!

I think he's probably in his late forties or early fifties? The 7 Series has always been targeted at a more mature audience, given the price point, especially for a special edition version, but I'd like to know what the team thinks about this.

CASTING REFERENCES

STEP 04: DESIGN & VISUAL EFFECTS

As with every previous film Cundari has created, realism is paramount, so the post-production of the film will involve four distinct areas: A) Digital environments for our highway, seas and skies, which will be tracked and composited onto our live action footage; B) The aforementioned *pendulum wave* installation, and lastly, C) Re-skinning certain panels of our car when needed in order to reflect the previous two post elements. This last step is the reason we feel confident about shooting the car on a tarmac as opposed to a bridge somewhere. Since we inevitably have to add CGI reflections of things that will be added in post-production, we might as well have the most flexibility on our shoot, and add anything needed later. In fact, given the way car panels reflect their surroundings, the more open space around the practical car, the better.

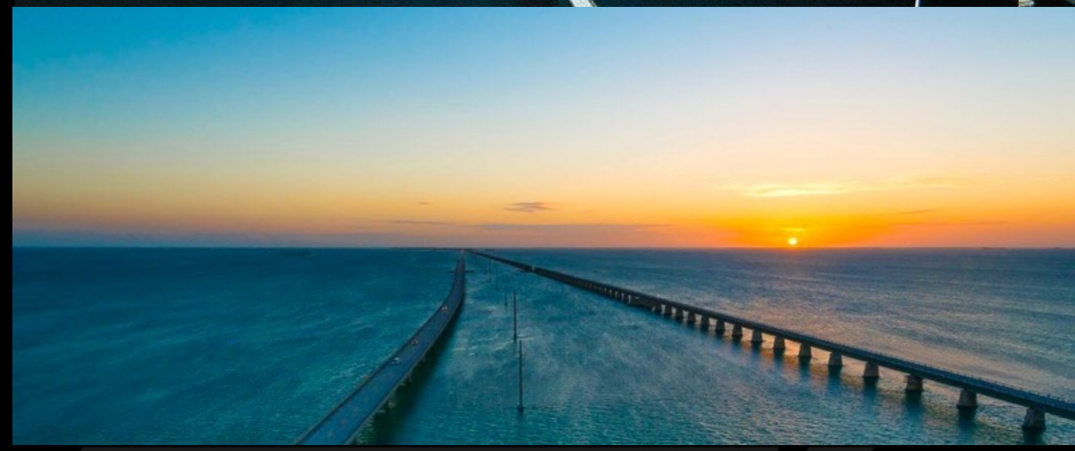
So let's get down to details!

A) DIGITAL ENVIRONMENTS

The Florida Keys and its famed Seven-mile bridge on the Scenic Highway are recognizable and unique. So we'd like to set the tone and establish our location from the opening by using great plate photography. We will tweak it as needed, likely removing any additional cars and adding our own, as well as any color correction, tweaking of skies, etc.

Once our opening shot or shots are settled, we will create a digital facsimile of that real environment to be used as a background for every subsequent shot on the film. This will include the turquoise waters, as well as the golden hour skies and Scenic Highway surface itself. We will track and rotoscope the interior shots in order to composite the digital environments as well as any reflections needed on the skin of the car prior to the more obvious effect, the *pendulum* and its accompanying structure.

Before diving into the *pendulum* itself, I'd like to speak to the design of that supporting structure.

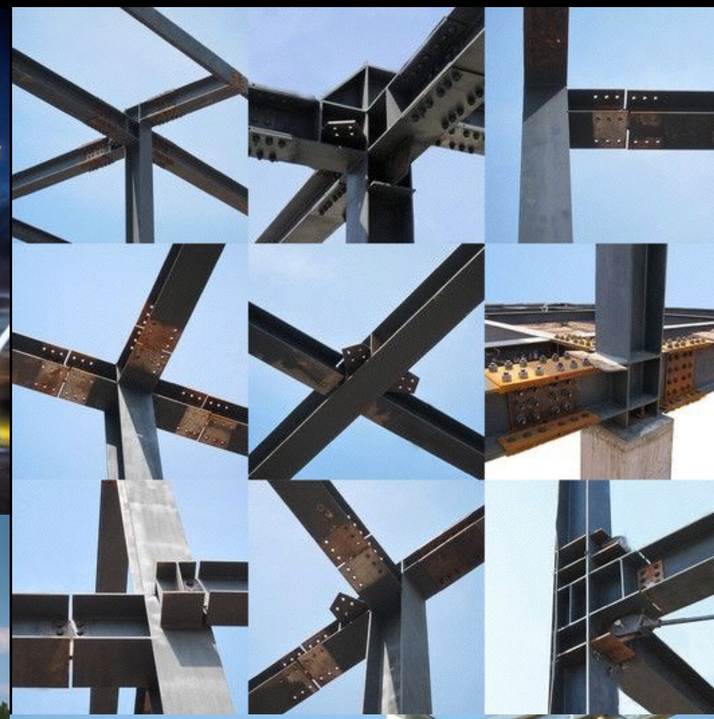


The structure that holds the pendulum installation has to be, in itself, worthy of our attention. We've discussed the idea of it being "added to" the highway, as if it was put there for the sole purpose of testing our amazing car. As a student of architecture before turning to filmmaking, I've always admired intricate and complex installations, because just like cars, they blend art and engineering.

So I'd like us to think of this one in more detail than a simple holding assembly. Just because a structure is not permanent, it does not mean it cannot be incredible…just look at Burning Man! So we plan on spending a fair amount of effort in designing the trusses, beams, columns and supporting elements that will make our Pendulum Wave system. Let's think of it as ***performance art***.



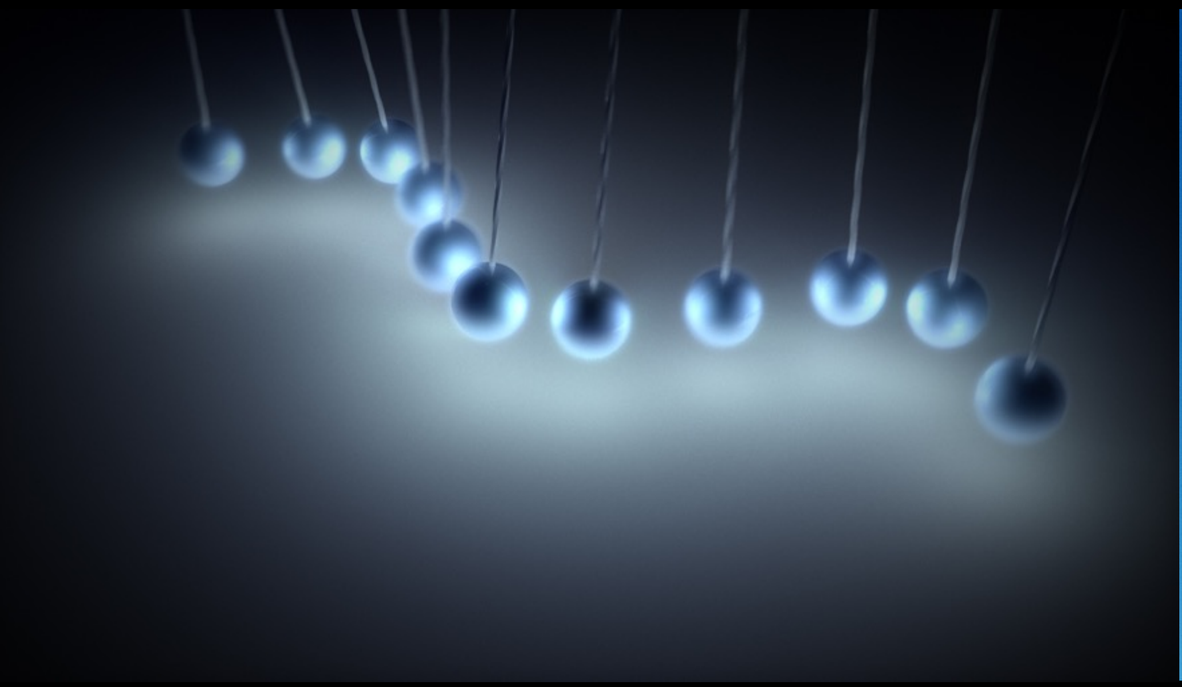





B) THE PENDULUM WAVE INSTALLATION

If our car and driver are the lead characters on this film, the *pendulum* is certainly our lead supporting actor, or perhaps they all share ensemble credits. I intend to treat the installation as an integral part of the storytelling, not a side note, and in doing so create a relationship between it and our driver. It's almost as if it's *trying* to get him… a very dangerous flirtation game happening on screen. In fact, I'd like to show the beginnings of its movement apart from establishing shots. It's as if it senses the M760Li coming its way and decides to give it a shot at derailing the adventure.

Since we are trying to ground everything in reality as much as possible, we need to see the mechanism that triggers the swinging of all the spheres (at least 15, but perhaps doubling it to 30). So we'll have both a sensor the car drives by, and a very modern windmill on top of our structure, which in turns is the driving force of the pendulum system. Apart from design specifics, which we'll clarify, what's most important to us is to give it *character* while making it absolutely realistic, down to the attachment points of each cable.



$$T = 2\pi\sqrt{L/g},$$

Where ***g*** = 9.8 m/s is the acceleration due to gravity, ***L*** is the pendulum length, and ***T*** is the period in seconds.

This formula is what guides the laws of pendulum motion and is what we've already used on our motion tests. It's wonderfully precise, as math tends to be, and given the technical nature of CGI in general, something that was quite interesting to explore while thinking about this project. But math on its own, while being beautiful to the *right* eyes, is not usually what sells.

So we intend to make our *pendulum* beautiful to *every* eye. We are in the business of creating beautiful pictures after all, and would not want pesky math to get in the way. So even though there're precise laws that govern this type of pendulum, we will pick and choose the right timing and angles to make sure our car's performance, handling and looks come through clearly.

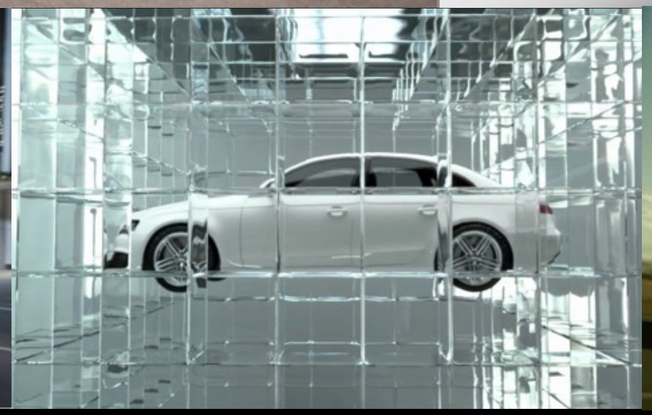
Furthermore, as was discussed on our initial conversation, we will make sure the spheres do not, under any circumstance, come across as wrecking balls. So materials, supporting cables, transparency and/or reflectivity, etc, will be paid close attention to make sure the idea of peril is communicated without going too far.

C) SMART RE-SKINNING OF OUR CAR SURFACES

Our team will track every live action driving shot and a digital CAD replica of the M760Li will be animated to closely match the real car. This approach gives us the best of both worlds. While the dynamics of the car will come across clearly since it's being driven by a professional driver and every part of the car that does not need to reflect or be shadowed by our structure will be real in camera, we will be able to add any reflection of the *pendulum* or bridge structure that our team will be creating in post-production. This is an approach we are well versed on, and feel it will create the perfect balance between realism and artistic freedom.

Once every element is generated in CGI, final compositing and color correction will bring our piece to the finish line.

EXAMPLES OF OUR **CAR** WORK



IN CLOSING

In the end what we want is to leave the viewer with a mix of of rapid heartbeat, a sweating brow and realization he/she has just witnessed something incredible. As I mentioned before, we have all the ingredients for a memorable piece, one that will bring an emotional response whether you are a driving fanatic or not. The blend between a great idea and great execution is what makes our jobs so rewarding.

Furthermore, BMW is known for perfectly balanced vehicles that merge the best driving dynamics with the latest in technology, particularly a flagship such as the 7 Series. Add *“M”* bits of engineering and what we have is a vehicle that bends the laws of physics while doing so in extreme comfort.

Cundari’s creative has been exceptional for the brand, and we want to be a part of that story. Between Mothership and Digital Domain, we have a deep pool of knowledge about realistic visual effects, design and filmmaking, and we will bring all to bear on our film.

Looking forward to the next steps.
Peace,

Aladino Debert and the entire Mothership/DD Family.