

# The Doorway™

M.C. Gill Corporation Group of Companies

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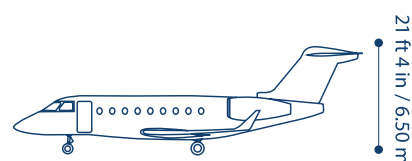
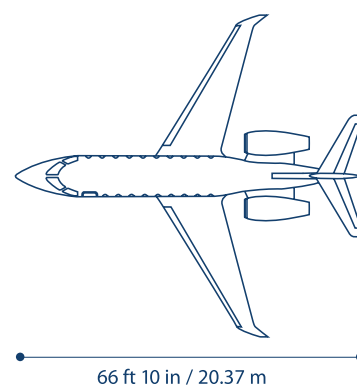
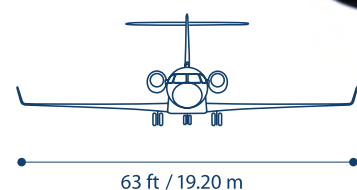
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HELPING TO  
Forge THE Future



# Gulfstream®

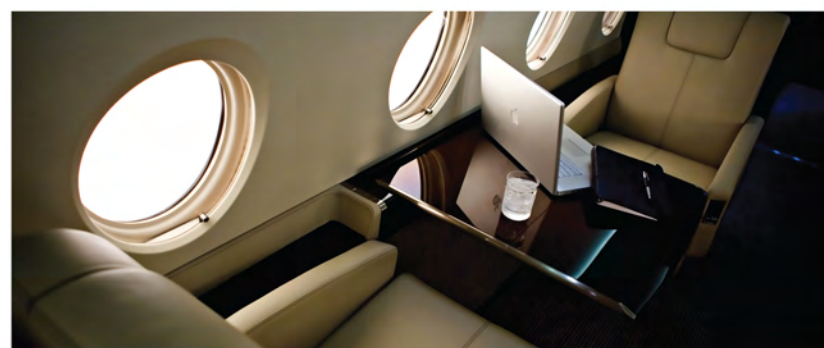


At the heart of a truly great manufacturing company is the research and development team. These are the folks who not only imagine the next great invention, they also find a way to build it and put it into a customer's hands. At M.C. Gill Corporation we've been doing that for over 65 years. From airplanes to back yard games to race cars, we've influenced the designs of many of the "products" you and I experience every day. We are a staple to the aerospace industry, but we are also open to customers exploring new markets as well.

One of M.C. Gill Corporation's longest and most successful relationships is with IAI (Israel Aircraft Industries). We supply many "staple" products to IAI, including several programs with cabin and baggage compartment liners and floor panels. During the last decade M.C. Gill Corporation has supplied cabin and baggage compartment floor panels and baggage compartment interior panels for Gulfstream's Mid-Cabin G150 business jet. In 2007, an RFQ came to M.C. Gill Europe for work on the G280 (previously known as the G250). In 2008, M.C. Gill Europe was selected for the contract with qualification and panel production commencing in early 2009. The first ship set for the G280 floor panels were delivered in 2009.

The G280 is a replacement for the G200 aircraft (IAI Galaxy). M.C. Gill Europe supplied cabin and baggage compartment floor panels for the G200, making it a perfect candidate to compete for the next-generation G280. The G280 is a derivative of the G200 with increased cabin length, new engine (HTF7250G), new tail, wind-bleed anti-ice, cabin with four more windows and access to the baggage compartment. It will also feature major improvements like a glass cockpit, bigger wing, heated leading edges and other refinements.

Interior cabin of G280



## A Long & Successful Relationship with IAI

IAI realized there was an opportunity to significantly improve weight savings on the G280 by building on their earlier G150 platform. The success of their bid would depend largely on the ability to leverage vertical integration within the M.C. Gill Corporation group of companies. M.C. Gill Corporation El Monte and Alcore, Inc. in Maryland manufactured the raw materials while M.C. Gill Europe would complete the fabrication of the baggage compartment components and interior structures.

M.C. Gill Europe occupies an impressive facility with state-of-the-art equipment. It boasts an extensive history detailing composite sandwich panels and creating complex assemblies using advanced fabrication methods. M.C. Gill Corporation El Monte was tasked with customizing panels for the program to meet strength requirements at the lowest possible weight. The result was the development of three custom products for the G280 program: Gillfab 4709, Gillfab 4710 and Gillfab 4035.

## Gillfab 4709

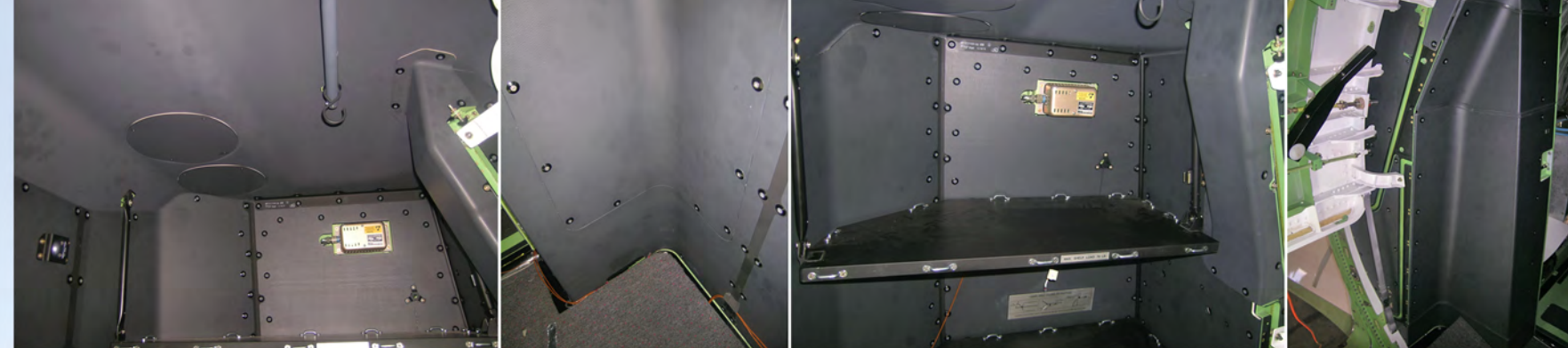
is a lightweight flooring panel made from unidirectional carbon fiber-reinforced epoxy facings bonded to aramid honeycomb core. The high impact-resistant facings are covered with a thin fiberglass layer to prevent galvanic corrosion. The panel is very lightweight with low deflection and high strength-to-weight ratio. Gillfab 4709 is used in the baggage compartment interior in both cut-and-fold and flat panels. The panels are edge-filled with inserts and ABS silicone foam tape added. These panels have a textured Tedlar finish on the inside face for aesthetic purposes.

## Gillfab 4710

is a custom-designed lightweight, high-strength sandwich panel made from cross-ply unidirectional carbon/epoxy skins bonded to Gillcore™ HD honeycomb core with epoxy adhesive. Gillfab 4710 is used for cabin flooring. The panels are CNC-machined flat panels that are edge-filled, fitted with inserts and ABS silicone foam tape.

## Gillfab 4035

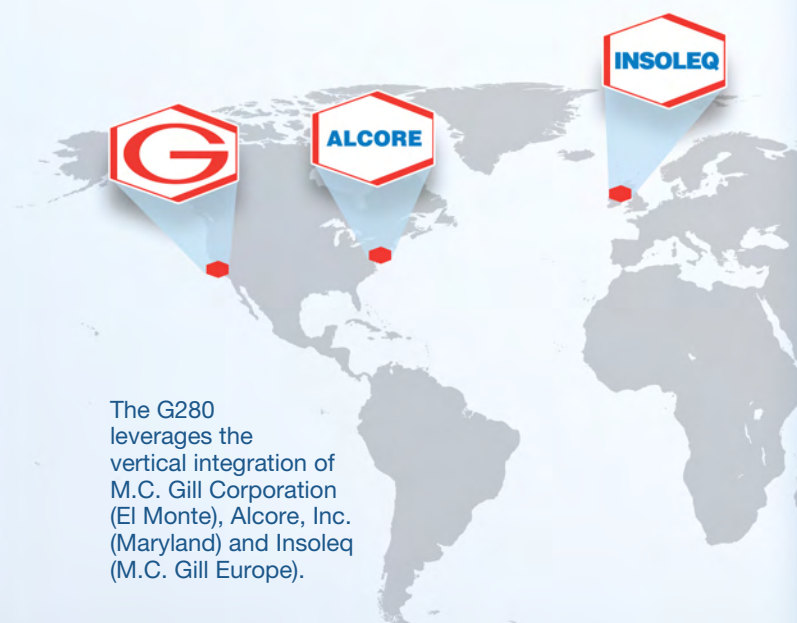
is a custom-designed, lightweight, high-strength sandwich panel made from cross-ply unidirectional carbon/epoxy skins bonded to aluminum honeycomb core with epoxy adhesive produced by Alcore, Inc. This panel is used as flooring in the baggage compartment. The panels are CNC-machined flat panels that are edge-filled with inserts and ABS silicone foam tape. After M.C. Gill Europe receives the materials from M.C. Gill Corporation's El Monte factory, they begin the process of fabrication for the program.



In addition to the high-strength, lightweight and aesthetic requirements, it was necessary to integrate outside materials like Boltaron into the final assembled components. M.C. Gill Europe designed custom jigs and tailored its cut & fold method to reduce the manufacturing and tooling costs. Fixtures were built on site so that whole compartment assemblies (Ceiling Liner, RHS Liner, RHS Liner Access Panels, Aft RHS Liner, Aft Liner, Blow Out Panel, Forward and Aft Rail Liners, Above BC Door Liner, BC Door Cover, LHS and RHS Upper Covers, Front LHS Access Panels, Front RHS Liner and Access Panel, Spring Box and Auxillary Door Covers and BC Shelves) could be "fit-tested" before they were shipped.

During the process, multiple re-designs were requested by IAI which required a critical design review (CDR). The CDR was completed in mid 2010 and, based on the findings, new production began. The first new ship set was delivered in April 2011. Actual production of the G280 (G250 "green" aircraft), is taking place at the Gulfstream facility in Savannah, Georgia.

It's clear we are up to the challenge of large-scale commercial programs but we are also open to new applications in the aerospace industry; so, when our company was approached by a firm with a plan to revolutionize both military and luxury travel, our scientists were intrigued.

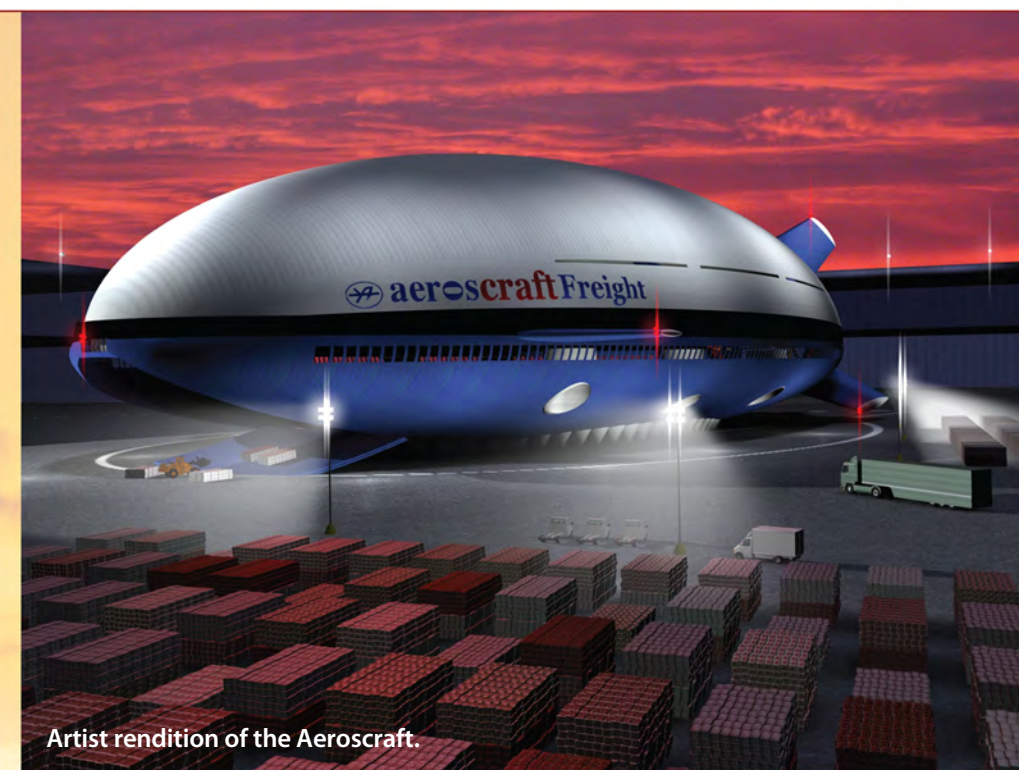
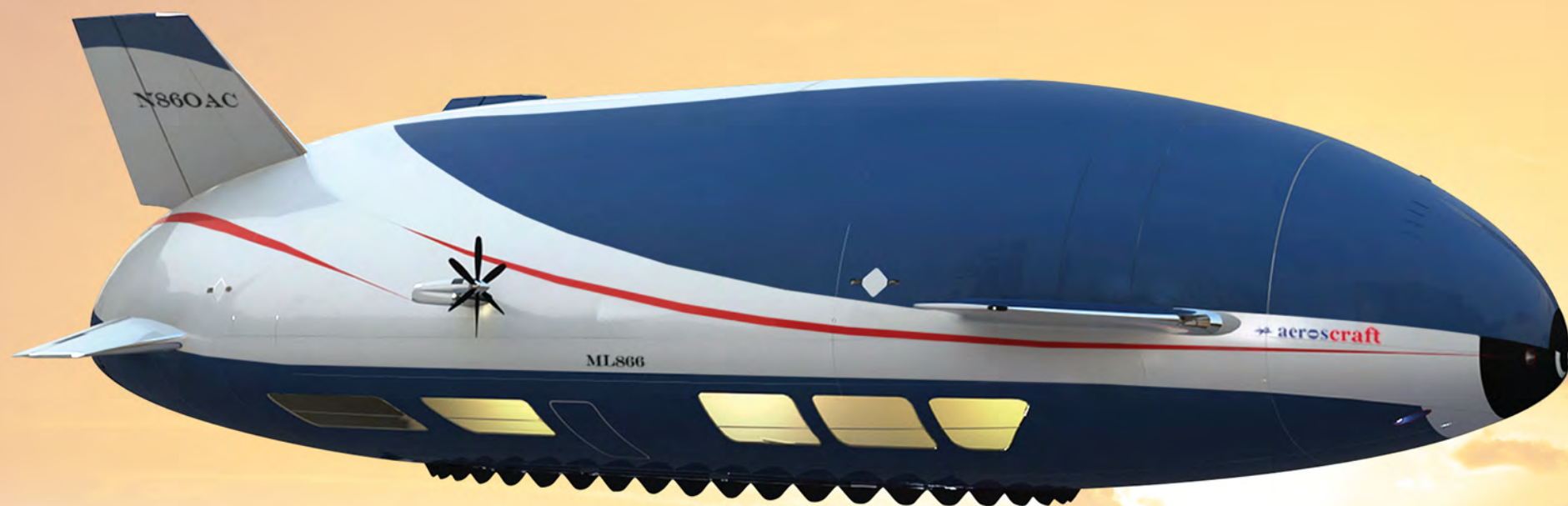


The G280 leverages the vertical integration of M.C. Gill Corporation (El Monte), Alcore, Inc. (Maryland) and Insoleq (M.C. Gill Europe).



Left: Front LHS bulhead (upper & mid)  
Above: Aft Liner Assembly

Above: Baggage compartment door – aft rail liner. Above right: Baggage compartment door – forward rail liner. Below: Front LHS lower.



Artist rendition of the Aeroscraft.

# aeroscraft

Aeroscraft is a privately owned company that was founded over 25 years ago. The company grew from an advertising aerostat production company in the Ukraine to a worldwide premier airship manufactory and leading R&D house for the aerospace industry. Today, Aeros is staffed by talented and innovative aeronautical engineers who specialize in structural, mechanical, electrical, controls, systems and related disciplines. Their products are currently sold in four continents resulting in a global presence. As a world leader in lighter-than-air, FAA-certified aircraft, Aeros performs research &

development, production, operations and marketing of a complete family of Aeros-branded air vehicles used in government and commercial applications. They offer non-rigid FAA-type certified airships, advanced tethered aerostats and a new ballast-less variable buoyancy air vehicle – the Aeroscraft. Aeroscraft's main function is to deliver heavy, bulky and oversized cargo to austere locations. After intensive studies of the inefficiencies that traditional global infrastructure affords, they have engineered a bold approach to creating an aircraft to alleviate the current constraints.

Their newest product is the Aeroscraft. The Aeroscraft is designed to control lift in all stages of air or ground operations with the ability to off-load payload without the need for re-ballasting. The Aeroscraft is a logistic and access vehicle designed for fast, low-cost, reliable, point-to-point transportation. Its construction incorporates composite materials. An untrained observer might describe the craft as looking "blimp-like" but that's where the similarities end. Unlike conventional and hybrid airships, the Aeroscraft is designed to operate autonomously without the need for external ballast like

dirt or water and without the need for a runway. Such features allow the Aeroscraft to offer new capabilities to warfighters by deploying payloads of personnel and equipment "from fort to fight." The vehicle's design would allow for the support of a multitude of missions, including: search and rescue, emergency relief, airborne medical aid and many others. The Aeroscraft would also be beneficial to companies working in remote and ecologically sensitive locations (such as evolving utility concerns dealing with oil & gas, wind and solar) with a minimal environmental impact.



Artist rendition of the craft in the field.

M.C. Gill Corporation is currently supplying two sandwich panels used in the construction of the Aeroscraft (Gillfab 4117 and Gillfab 4030). Gillfab 4117 is a sandwich panel made of facings of fiberglass cloth-reinforced epoxy laminate and aramid honeycomb core. This product is frequently used in commercial aircraft interiors and galley areas. It is lightweight with high-strength construction and offers good corrosion resistance. Gillfab 4030 is a semi-structural

panel composed of aluminum skins bonded to an aluminum honeycomb core. It is also used in aircraft interiors with a high strength-to-weight ratio.

Concurrently, we are in development stages of a potential new product designed specifically for the craft's hull, but extensive testing will be necessary before we are certain we have a product that will satisfy Aeroscraft's requirements. Clearly, the cargo application is

at the forefront of Aeros' plans but other applications have been identified as well. Their engineers are working on touring designs and the company was recently featured on several west coast television stations promoting this new ecologically sensitive means of recreational travel. It's an interesting project for us, and we are told the first Aeroscraft is expected to begin flight testing at the end of 2012; so, the clock is ticking.

We are proud to offer a full line of products and services to fill the needs of our customer base in a wide variety of applications. Vertical integration sets us apart and, whether it's a standard aircraft floor panel or an experimental new construction, M.C. Gill Corporation and its subsidiaries continue to lead the way from development to manufacturing to fabrication. We remain true pioneers in our industry, leading the way through innovation, quality and unmatched customer service. For more information about these and all our advanced composite materials, visit us at [www.mcgillcorp.com](http://www.mcgillcorp.com).

Structural framework in process for the Aeroscraft.



## *M.C. Gill Corporation Distributor in South America Treats Its Customers Like Royalty*

United Aerospace Corporation (UAC) has been a distributor of M.C. Gill Corporation products for over 25 years. Every year, UAC offers its airline customers and suppliers a dinner the night before the beginning of the Latin American & Caribbean Airline and Suppliers Annual Meeting (ALTA CCMA) and convention. UAC's Customer Support Vice President, Abelardo Cantillo, is a past president of ALTA CCMA Suppliers Steering Committee (2003-2004 and 2010-2011) and the CCMA is the oldest commercial aviation committee in the region. The CCMA conference is a four-day event for the Latin America and Caribbean aviation industry and provides the unique opportunity for interaction and networking between suppliers and airline representatives. This year's conference was held in the Bahamas and was attended by over 700 participants, including representatives from over 280 companies and more than 40 regional airlines displaying their services and products during the interactive table-top exhibition.

Each year, UAC hosts a dinner known as the "Friendship Dinner." The event is an occasion for friends from countries in the Americas, Spain and Portugal, to interact in a relaxing atmosphere before they begin the four-day

Pictured L to R:  
Javier Rincon, Martin Cantillo, Manny Salgado, Abelardo Cantillo



convention. UAC has hosted the Friendship Dinner for 28 consecutive years in exotic places like Manaus, Brazil; Cancun, Mexico; Rio de Janeiro, Brazil; Puerto Vallarta, Mexico; Cartagena, Colombia and Los Cabos, Mexico, making the Friendship Dinner a much-anticipated tradition with the Latin American, Caribbean and Iberian Peninsula airline customers, as well as their suppliers.

Planning for the event begins in advance by securing a first-class venue that offers excellent service, food, entertainment and ambience. UAC wants to be sure that its choice will exceed the prior years' experience so they make site visits, screen musicians and evaluate customer gifts with the goal of incorporating the flavor of the local culture where the next CCMA convention will be held. Once a decision is made, special attention is given to the decor, and the detail work begins.

Sales personnel from UAC's Miramar, Florida main office and their regional offices throughout the Americas and Spain, actively participate in helping to make the Friendship Dinner a delightful experience for all who attend.



## IAI Announces Successful SAMPE Exhibit, Tel Aviv, Israel

SAMPE Israel was held on March 3, 2011 in Tel Aviv. This year's conference was sponsored by Aerospheres, Inc., M.C. Gill Corporation and Alcore, Inc. The event was organized by Jacob Asif from Aerospheres, Inc. who has been M.C. Gill Corporation's representative in Israel for more than 25 years. The event was well attended by over 350 visitors from aerospace and hi-tech companies in Israel with an impressive line-up of speakers and an informative exhibition. M.C. Gill Corporation and Alcore, Inc. were among the exhibitors.



Left: Candi Burdick (M.C. Gill Corporation) with Jacob Asif (Aerospheres, Inc.) Below: Gene Eddie (Alcore, Inc) assisting visitors at the SAMPE show.



M.C. Gill Corporation, Aerospheres, Inc., Alcore, Inc. and other manufacturers at SAMPE Israel.



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Alcore does not sell sandwich panels. Contact M.C. Gill for these products.



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# Trivia



# THE FUNNY SIDE

## Cool Geography Facts

1. More than half of the coastline of the entire United States is in Alaska.
2. Antarctica is the only land on our planet that is not owned by any country. 90% of the world's ice covers Antarctica. This ice represents 70% of all the fresh water in the world.
3. Canada has more lakes than the rest of the world combined.
4. Next to Warsaw, Chicago has the largest Polish population in the world.
5. Istanbul, Turkey is the only city in the world located on two continents.
6. There are more Irish in New York City than in Dublin, Ireland. More Italians in New York City than in Rome, Italy, and more Jews in New York City than in Tel Aviv, Israel.
7. There are no natural lakes in the state of Ohio; every lake in the state is man-made.
8. Siberia contains more than 25% of the world's forests.
9. Tidikelt, Algeria, in the Sahara desert, did not receive a single drop of rain for 10 straight years.
10. 1% of roads in the USA are unpaved. 75% of roads in Canada are unpaved.
11. The Eisenhower interstate system requires that one mile in every five must be straight. The straight sections are usable as airstrips.

## Questions to Ponder

**What vehicle is spelled the same backwards and forwards?**

Racecar.

**What do sea monsters eat?**

Fish and ships.

**What kind of stones are never found in the ocean?**

Dry stones.

**What city has no people?**

Electricity.

**What month has 28 days?**

All of them!

**What's the difference between a jeweler and a jailer?**

A jeweler sells watches and a jailer watches cells.

**What is the difference between a locomotive engineer and a teacher?**

One minds the train, the other trains the mind.

**How many animals did Moses take on the Ark?**

None — Noah built the ark.

**Why did the golfer bring two pairs of pants?**

In case he got a hole-in-one!

**What breed of dog wears contact lenses?**

A cock-eyed spaniel.

**What do you give a sick parrot?**

Tweetment.

**What happens to frogs that are illegally parked?**

They get toad away.