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# THE M.C. GILL DOORWAY

*New Vistas in Composites*

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**Express Services**  
**M.C. GILL HOTLINE**  
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*Shirley*

*Candi*

*At Your  
Service*

Gilliner  
1066

Gilliner  
1366

Gilliner  
1367A

Gillfloor  
4417

Gillfloor  
5040

Gillfloor  
4323

Gillfloor  
5007C

Gillfloor  
5424

Gillfloor  
4505

**GILLINER AND GILLFLOOR TO GO**





# Just say when... and we'll deliver!

On more than one occasion, M.C. Gill has been quoted as saying *"We'll not lose an order because of lead time"*. The genesis of that quote goes back quite a few years to the days when the M.C. Gill Corp. was still struggling. Though such a policy often caused breaks in production that proved painfully inconvenient, it was a Gill legacy where the customer was king.

## **Building an Inventory...Then**

Because the volume of business back then was substantially smaller and more flexible than it is today, M.C. was able to offer a much quicker lead time. M.C. Gill looked forward to slow periods which would provide him the opportunity to build an inventory of the better selling cargo liners and sandwich panels. Therefore, when an order was placed, chances were good that the material would be on hand and could be shipped on an almost same day basis. As the business grew, the opportunity to keep one jump ahead abated considerably.

With the recent booms in the economy, the commercial aviation industry, and the M.C. Gill Corp., the limits of M.C.'s original statement were being stretched almost beyond the breaking point and we were becoming hard pressed to keep the Gill tradition intact. Truth be told, we did not get every order we bid simply because our lead times were sometimes greater than our competition – not often mind you, but sometimes. (Unlike Aesop's dog with a bone that saw his reflection in the water, we must show some restraint.) Moreover, during our routine of telephoning customers to follow up on open bids, we felt gratified and rewarded to learn that our customers continued to be pleased with our product quality and overall customer service.





However, we also learned that delivery lead times were often approaching intolerable, especially for maintenance and overhaul customers, and to a lesser extent the airlines themselves. We knew we had to do something and during the course of many brainstorming sessions “Express Services” was born.

### **And Now...Maintained Inventory**

What if, we postulated, we could take a page from the old days and build up and maintain a stock of our faster selling products. And since we are qualified to the cargo liner and flooring panel specifications of virtually every airframe manufacturer in the world, also add to that stock those parts that will complement an inventory to meet

the replacement needs of virtually every major passenger and freighter aircraft in the world. We reviewed historical sales records, and selected the products most in demand (about 25 of them) and determined the stocking levels of each to constitute the base for our new “Express Services” program.

Determining stocking levels was the easy part. The challenge was to find the manufacturing time to produce these products in the quantities determined. The aforementioned booms had pushed our production facilities almost to capacity and it would not be easy to find the time to build up a stock for the new program.

### **Vertical Integration to the Rescue**

Our long standing policy of vertical integration paid off once again. Because we manufacture almost all of our end products’ component parts – “raw materials” if you will – we place little dependence on outside suppliers to meet our material needs. Nor do we have to hope that their quality control policies are as rigid as ours. Thus, the production schedule required to build an inventory for “Express Services” was facilitated somewhat. It still meant a lot of nights and weekend overtime to accomplish the goal. But in about six to eight weeks the biggest part of the job was complete.



# Express Services ...how it works



As a result of very many employees working very hard for very long hours our new “Express Services” program is up and running. Essentially, if a customer places an order for one of the products included in our Express Services program<sup>1</sup>, he can count on that product being shipped within seven working days! Moreover, the products offered in this new program are interchangeable with almost any product specified by most airframe manufacturers and in most cases, the “Express Services” part is superior to the part(s) it interchanges with.

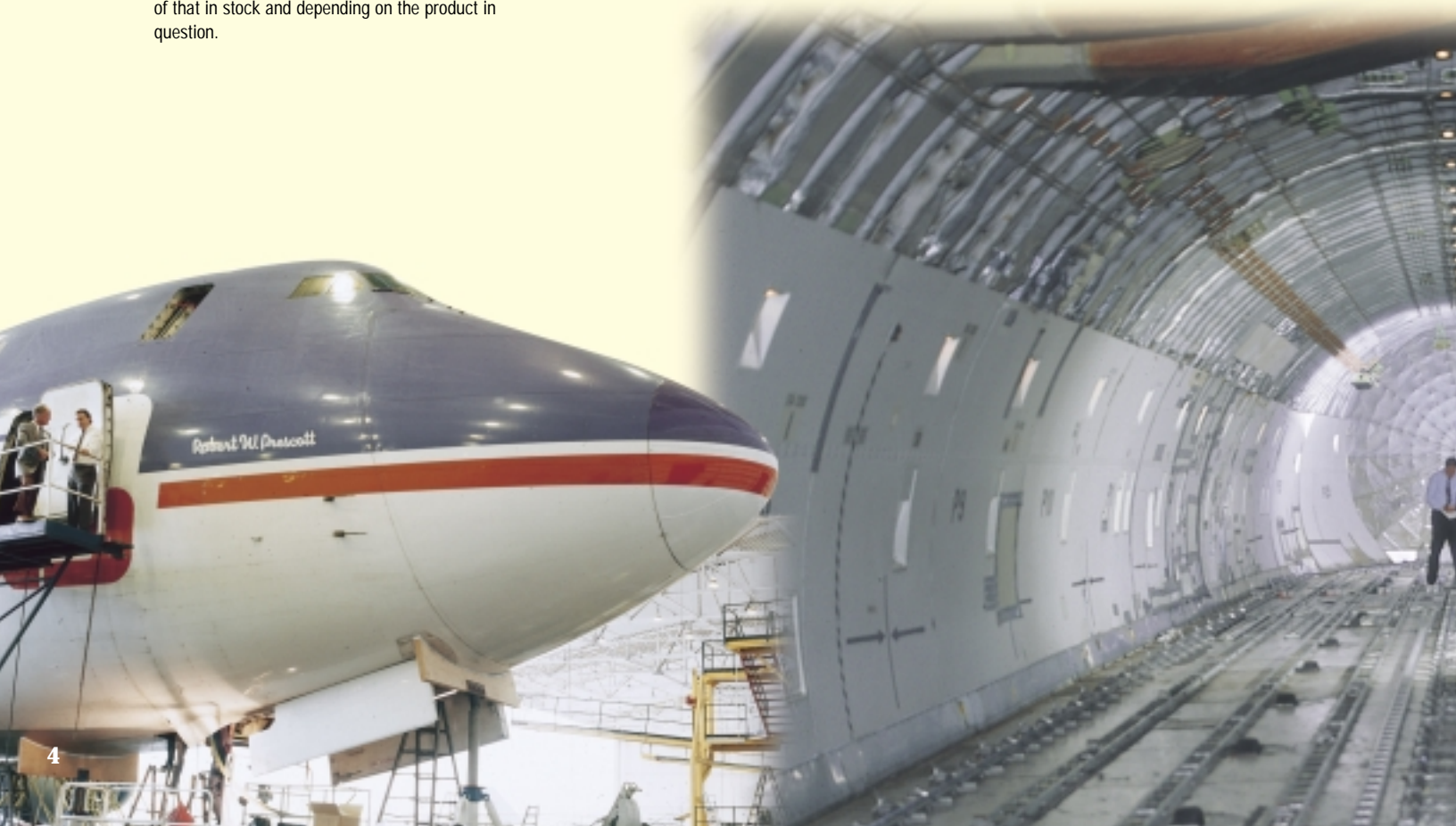
1. These orders are subject to maximum quantities of that in stock and depending on the product in question.

## AOG made easier

If the previous example is an AOG (Aircraft On Ground) order and the customer needs product immediately, it can be shipped within 24 hours. And yes, AOG orders will command a service charge over and above the regular price. This is necessary to account for additional handling charges incurred with this premium service. Nevertheless, the customer is assured that his order will be available for shipment in a timely manner, thus allowing him to put an aircraft back in the air soon. This, of course, presupposes that shipments will be subject to the usual timely pickup by the appropriate carriers, and that circumstances such as weather do not cause undue delay.

## Will it be Visa Or Mastercard?

Finally, depending on the amount of the invoice, customers can now use Visa or Mastercard to pay for their orders. Simply notify the customer service representative of intent to pay with a credit card, give him or her the card number and our rep will take care of the rest. This convenience is offered so that new customers won't have to delay shipment while waiting for a credit check, nor will any customer have to be concerned that an order may exceed their already established credit limit. Please note that the use of credit cards is NOT limited to “Express Services” or AOG orders, but can be used for most orders.





**We will not say, “No.”**

We’re not going to go as far out on a limb as to say we won’t EVER lose an order because of delivery time, but with our new “Express Services” program we can come pretty close to that assurance. We pride ourselves on the quality of customer service, one measure of which is our response to customer problems – in this instance, lead time from order placement to delivery date. We believe the “Express Services” program goes a long way toward solving that problem. If not, let us know – we will keep trying anyway.

**Products available for “Express Service”**

The data in Table 1 (Page 6) identify the products available in this new program, the type of aircraft for which these products are available, where on the aircraft they are located and the airframe manufacturer specification to which they are qualified. In addition to the products listed in Table 1 are those listed in the following tabulation. Although not necessarily called out in airframe manufacturers’ Qualified Products List (QPL), these have been proven as more than adequate replacement parts based on their in-service history.

**Products Available for Express Service**

M.C.GILL PART NO.	CONSTRUCTION	LOCATION IN AIRCRAFT
GILLINER 1066/ GILLINER 1366	FIBERGLASS CLOTH REINFORCED POLYESTER RESIN	LOCATION IN CARGO COMPARTMENT DEPENDENT ON THICKNESS
GILLINER 1367C	FIBERGLASS CLOTH REINFORCED PHENOLIC RESIN	SAME AS ABOVE
GILFLOOR 4030	ALUMINUM FACINGS/ ALUMINUM HONEY- COMB CORE	MANY INTERIOR APPLICATIONS INCLUDING BULK- HEADS, SHELVING, AND GALLEY PANELS
GILFLOOR 5007 GILFLOOR 5007B	FIBERGLASS CLOTH REINFORCED POLY- ESTER FACINGS END GRAIN BALSA WOOD CORE	FLOORING, BULK- HEADS, SHELVING, GALLEY PANELS, PARTITIONS, CARGO PALLET BASES



# Table 1...Express Service Available Parts<sup>1</sup> By Airframe Mfr.

BOEING						
AIRCRAFT TYPES	FLOOR PANELS			CARGO LINER		
	LOCATION	SPECIFICATION	M.C. GILL PART NO.	LOCATION*	SPECIFICATION	M.C. GILL PART NO.
737	PASSENGER COMPARTMENT	BMS 4-23 BMS 4-17 BMS 4-17, Ty VI	5424 4417 4417A	SIDEWALLS, CEILING	BMS 8-223, CL 2 GR B	1367, 1367A
				LOWER SIDEWALL	BMS 8-2 CL 3	1076B
				AFT FLOORING	BMS DWG	1266
747 747-400 767-200 767-300	PASSENGER COMPARTMENT	BMS 4-17 BMS 4-20 BMS 4-17 BMS 4-17, TY VI	4417 4709** 4417 4417A	SIDEWALLS	BMS 8-223, CL 2 GR B	1367, 1367A
				CEILING	BMS 8-2, CL 1, GR A	1076A
				SIDEWALLS, CEILING	BMS 8-223, CL 2 GR B	1367, 1367A
777	CARGO COMPARTMENT	BMS 4-20 BMS 4-17 TY VI	4709** 4417A	SIDEWALLS, CEILING	BMS 8-223, CL 4 GR B	1367B
757	PASSENGER COMPARTMENT	BMS 4-17 BMS 4-17, TY VI BMS 4-23	4417 TY II 4417A 5424	SIDEWALLS, CEILING	BMS 8-223, CL 2 GR B	1367, 1367A
DOUGLAS						
AIRCRAFT TYPES	FLOOR PANELS			CARGO LINER		
	LOCATION	SPECIFICATION	M.C. GILL PART NO.	LOCATION*	SPECIFICATION	M.C. GILL PART NO.
DC-9, DC-10 MD-11 MD-80 MD-90/B717	PASSENGER COMPARTMENT	BZZ-7002	4017T	SIDEWALLS, CEILING	DMS 1946 TY 1	1100
					DMS 2419 CL 1	1367A
DC-9, MD-80 B717	CARGO COMPARTMENT	DAC S00096	5242	SIDEWALLS, CEILING	DMS 2226 TY 1	1167
					CL 1	1367A
DC-10, MD-11	CARGO COMPARTMENT	DAC S3932193 DAC S4929905	5042B 5142	SIDEWALLS, CEILING	DMS 2419 CL 1	1100
					DMS 1946 TY 1	1367A
MD-11 MD-80 MD-90/B717	PASSENGER COMPARTMENT	DAC 7954400	4509	SIDEWALLS, CEILING	DMS 2226 TY 1	1167
					CL 1	1367A
AIRBUS						
AIRCRAFT TYPES	FLOOR PANELS			CARGO LINER <sup>2</sup>		
	LOCATION	SPECIFICATION	M.C. GILL PART NO.	LOCATION	SPECIFICATION	M.C. GILL PART NO.
A300, A310	PASSENGER COMPARTMENT	TL53/5000/79	4105			
		TL53/5000/79, ISSUE 8, ANNEX A, PC 3, TY 2	4405B			
	BULK CARGO COMPART- MENT	5360 M1B 000100	4323			
A330, A340	PASSENGER COMPARTMENT	TL53/5000/79, ISSUE 8, ANNEX A, PC 3, TY 2	4405B			
A319, A320 A321	PASSENGER COMPARTMENT	5360 M1B 000100	4205			
		5360 M1M 000600 TY PC3	4505			
	CONTAINER CARGO COMPARTMENT	5360 M1B 000100	4322			
	BULK CARGO COMPARTMENT	5360 M1B 000100	4323			
A300 SERIES (ALL MODELS)	BULK CARGO COMPARTMENT	5360 M1M 000500 ISSUE 3, TY BCC2	4223			
	CONTAINER CARGO COMPARTMENT AND FREIGHTER	5360 M1M 000500 ISSUE 5, TY CCC1	4522			

1. The M.C. Gill Corporation is qualified to all types of the specifications listed here, but all types may not be available in Express Services.

2. Airbus aircraft uses sandwich panels instead of cargo liners in the cargo compartment as original equipment.

\* Within the cargo compartment.

\*\* In qualification.

# THE ULTIMATE BALSAWOOD COMPOSITE PANEL

## **Gillfloor 5007C Has No Peer**

Its popularity is as great now as it was back when. And, in fact, it is still growing. Among airlines still using it are FedEx, Air Transport International, Ansett, Air Cargo Carriers, Challenge Airlines, Emery Worldwide, European Air Transport, and Zantop. Moreover, many of the major overhaul and maintenance companies are using 5007C as an integral part of their operations.

## **End Grain Balsa is Tough Stuff**

M.C. Gill has been producing end grain balsa wood core sandwich panels for almost 40 years. We know of no other panel design that has a better record of consistency and durability. Balsa wood is tricky to laminate, and densities must range between 7 and 14 pcf so that the wood is neither too soft nor too hard. Over the years we have learned to do it better and better, and the resultant panel has experienced a steady, healthy growth and acceptance in the aviation community.

An end grain balsa wood core has a multitude of advantages including high compressive strength (almost 2,000 psi in 5007C), resiliency and high fatigue resistance; good core shear strength, better thermal insulation than honeycomb, dent resistance, and a continuous surface for bonding – for improved peel resistance.

## **Better Resistance to Abrasion**

Twenty years ago, Federal Express collaborated with M.C. to develop a fiberglass/balsa floor panel with improved resistance to abrasion for use in and around the doorways – typically the highest wear area in a cargo-configured aircraft. By early 1979, we had developed Gillfloor 5007C and FedEx, among many has been using it ever since.

5007C consists of Gillfloor 5007B with an additional topmost resin rich surface of a different type reinforcement, one similar to Gillab 990C. This surface finish provides increased wear and abrasion resistance. And, at .015" thickness, it adds very little thickness or weight to the panel (see Table 1, pg. 9).

# GILLFLOOR 5007C



# THE NON

**Pioneers in any field are necessarily innovators. They have problems to solve, which they do in a unique or innovative manner. And they are highly motivated. They have to be driven in order to survive. M.C. Gill is no exception.**

Early in the 1960's a salesman introduced end grain balsa wood to M.C. Gill who thought it might have a future as aircraft flooring. In December 1963, M.C. introduced Gillfloor 5007, a sandwich panel constructed of polyester resin reinforced with fiberglass cloth facings secondary bonded to an end-grain balsa wood core<sup>1</sup>.

It didn't take long for him to find out he had a product that filled a long standing airline need—a flooring panel designed for use in passenger compartments that would withstand the abuse of high heels and food carts in that area. 5007 was light weight for those times, corrosion resistant and durable. And it was not long before it became the passenger compartment replacement flooring panel of choice of many airlines.

## 5007A...

### The New Kid on the Block

Another trait of industrial pioneers is that they continue to innovate and upgrade derivatives, never really satisfied with their original cre-

ations, to wit: Gillfloor 5007A which was introduced in June 1970. There were two principle reasons: first, 5007 required a two stage bonding process and 5007A needed only one, resulting in a less expensive product with a commensurate upgrade in quality. Second, 5007's resin formulation was changed to pass the new FAR 25.853, Appendix F flammability requirements. The product designation was changed to 5007A to denote the improved fire resistance and one-step processing.

## 5007B...Meeting Another Need

In the mid-70's, Boeing began using balsa core panels as original equipment lavatory flooring in their 737's. However, 5007A did not meet the wet climbing drum peel values required by the Boeing specification. Also, both United and American had been using 5007A extensively as replacement flooring. And both airlines became adamant that M.C. Gill develop a panel that would meet Boeing's wet peel spec. Enter Gillfloor 5007B in 1976.

## From the Lab to the Tarmac

Essentially, Gilllab 990C is a laminate for science-oriented laboratory countertops. Since the mid-1950's when M.C. developed it as a lab overlay, its wear and abrasion resistance have been recognized as equal to its outstanding chemical resistance. As testimony to this abrasion resistance and toughness, it served as the surface of a baggage

reclaim platform at Delta/Continental in the Los Angeles International Airport for more than ten years. Therefore, a top facing variation of 990C overlaying a 5007B fiberglass/end grain balsa core panel proved to be the combination FedEx was looking for.

## FedEx... And Many Others

As it turned out, FedEx wasn't the only operator whose cargo flooring woes were solved with 5007C. For example, now defunct Kimba Air Services in Calgary, Alberta, Canada, found 5007C had the right stuff for their DeHavilland Twin Otters. Typical cargo was oilfield drilling and ancillary equipment, all of which was made of steel. Western Airlines, since merged with Delta, converted the aft cargo compartment flooring in all their DC-10's to 5007C, replacing aluminum treadplate and saving considerable weight with the conversion. Finally, Flying Tiger Airline used 5007C almost since its introduction – not just in the doorways, but throughout their aircraft. The Tiger merged with FedEx in 1988 and the use of 5007C in their aircraft has continued uninterrupted to this day.

## Ecuadorian Export

The highest quality balsa trees grow prolifically along river banks in central Ecuador, are widely harvested, and sold by numerous lumber mills in the area. After the trees are felled and the bark and small limbs stripped, the wood is cut into small



This is but a portion of the raw stock balsa blocks we maintain in inventory.

1. "End grain" means that the grain of the wood is perpendicular to the panel facings—similar to a butcher's meat cutting block which gives it compressive strength and solid core benefits.



# PAREIL CARGO FLOORING PANEL

“sticks” two to four inches square by 50 inches long and glued together to form large blocks approximately 2' x 2' x 4', with grain in the 4' direction.

Once the blocks are received at our Easy Street plant, our Quality Control Department tests them to assure a critically specified density range of the sticks and satisfactory quality uniformity. After QC has approved, the blocks are trimmed and sliced to the varying thicknesses required for sandwich panel construction.

## True Survivor

With all the new generation flooring panels on the market today, all of which we also make, it is refreshing to see that the innovative 5007 panel series, and especially 5007C, has continued to grow...and remains the product of choice for aircraft flooring of the largest package and cargo carriers in the world. It substantiates the linkage between pioneer and innovator!

**TABLE 1...GILLFLOOR 5007C DATA**

BASED ON 0.4" THICK PANEL WITH 0.045"/0.030" THICK FACINGS AND 0.325" THICK END-GRAIN BALSA CORE AT 9.0 PCF NOMINAL DENSITY. TYPICAL AVERAGE PROPERTY VALUES.

PROPERTY	TEST METHOD	UNIT	VALUE
WEIGHT	ASTM C29	lb/sq ft (kg/sq m)	1.09 (0.49)
THICKNESS	ASTM C366	inch (mm)	0.400 (10.2)
SANDWICH PEEL	MIL-STD 401B	in-lb(N-m)/3 in width	52 (5.9)
LONG BEAM FLEXURAL ULTIMATE LOAD FACING STRESS DEFLECTION @ 100 LBS LOAD	MIL-STD 401B	lb (N) ksi (MPa) inch (mm)	431 (1917) 13.2 (91.0) 0.629 (16.0)
FLATWISE COMPRESSION	MIL-STD 401B	lb/sq in (kPa)	1982 (13665)
FLATWISE TENSILE	MIL-STD 401B	lb/sq in (kPa)	644 (4440)
IMPACT STRENGTH	BMS 4-17	lb (N)	1028 (4573)
INSERT SHEAR <sup>1</sup>	ASTM 3029	in-lb (N-m)	84 (114)
FLAMMABILITY - 60 SECOND VERTICAL SELF-EXTINGUISHING TIME BURN LENGTH DRIP EXTINGUISHING TIME	FAR 25.853	second inch (mm) second	0 0.6 (15.2) 0
FLAMMABILITY - 45 DEGREE SELF-EXTINGUISHING TIME AFTERGLOW PENETRATION	FAR 25.853	second second —	0 0 none

1. SHURLOK INSERT 5107-A3 USED IN TEST.



## THE FUNNY SIDE

To make a long story short,  
just let the boss walk in.

★ ★ ★

After winning the lottery, the successful  
Wall Street banker was so overjoyed  
he gave serious thought to  
repaying his student loan.

★ ★ ★

Why don't sheep shrink when they get wet?

★ ★ ★

Do they lock gas station bathrooms because  
they're afraid someone will clean them?

★ ★ ★

If a mute swears, does his mother wash his  
hands with soap?

★ ★ ★

The early bird may get the worm but the  
second mouse gets the cheese.

The first guy to see the light turn  
green is the driver of the second  
car in line.

★ ★ ★

Baby-sitter: A teen-ager who must behave  
like an adult so that adults can go out and  
behave like teen-agers.

★ ★ ★

A mind is like a steel trap...rusty  
and illegal in 37 states.

★ ★ ★

Who is General Failure and why is he  
reading my hard disk?

★ ★ ★

I intend to live forever. So far, so good.

★ ★ ★

Eagles may soar, but weasels don't get  
sucked into the engines.

## Trivia

The average mail carrier walks  
5.2 miles per delivery day.

★ ★ ★

It takes two tons of water to grow the wheat  
for a one-pound loaf of bread.

★ ★ ★

92 percent of the U.S. population  
bite their fingernails.

★ ★ ★

Four percent of U.S. adults  
think they have gum disease.  
75 percent actually do.

★ ★ ★

U.S. workers took 50 million  
sick days in 1996.

★ ★ ★

Nearly 85 percent of people killed  
by lightning are male.

★ ★ ★

Generally speaking, the USA has worse  
weather than any other country in the world.

All you ever wanted to know about finger-  
nails: they grow faster during  
the day in warm weather;  
men's grow faster than women's;  
they grow four times faster  
than toenails; and, the one on the middle fin-  
ger grows fastest.

★ ★ ★

Cows make in excess of 40,000 jaw move-  
ments per day.

★ ★ ★

A casual toss of a cow's head has the same  
clout as a 30 lb. sledgehammer.

★ ★ ★

There are more vehicles than persons in  
Wyoming.

★ ★ ★

If you're an amateur golfer  
the odds of you making a hole-in-one  
on a par-3 hole are 11,000 to 1.  
If you're a PGA pro, the odds are 750 to 1.