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Special points of interest:

- Dr. Brush
- CFM Energy Savings
- New Product

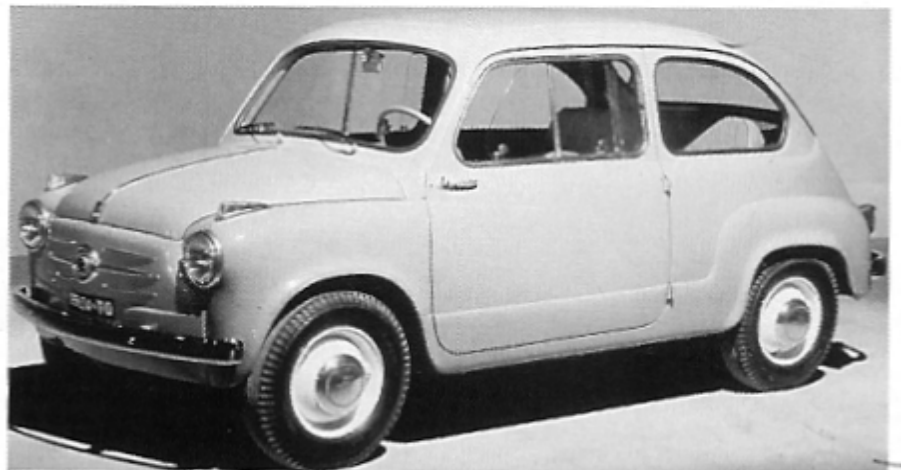
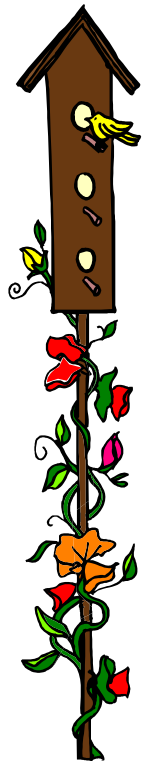
? Ask Dr. Brush



Contributed By:
Max Carthew
C.E.O.

FUEL EFFICIENT CARS OF YESTERYEAR

In 1956 Colonel Nasser nationalized and closed the Suez Canal causing severe oil shortages for European countries. The auto industry responded with a variety of innovative designs for small cars capable of carrying four passengers at 60 MPH with fuel efficiencies of 40MPG plus. Starting this issue we will look at the leading small cars of that period, and highlight some of the amazing engineering achievements of the late 50's and early 60's.

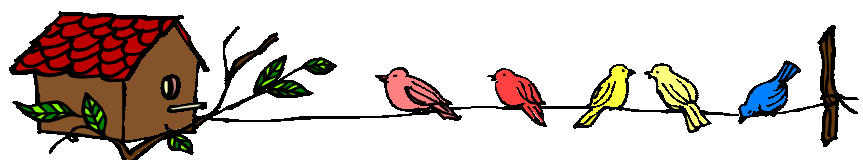


The Fiat 600 (1955)

The 600 of 1955 had a 635-cc rear-mounted engine developing 21.5 hp at 4600 rpm; it had a top speed of 95 km/h (59 mph) and a fuel consumption of 5.7 liters/100 km (49.6 mpg). There was a floor gear lever, rather than column change.

Courtesy: 100 Years of the Automobile
Contributed by: Max Carthew

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Energy Savings Through CFM Reduction

In all typical painting facilities, the use of supply and exhaust fans is a part of the painting process. There is an operation cost associated with the use of such equipment; this is reflected in the utility bill. Over time, running the fans will have a dramatic overhead cost toward operating a painting facility. Therefore, it is critical to pay attention to how much volume the fans are running, with respect to standard process specifications. If fans are operating at a volume above specifications, you are in turn spending more money on the utility bill than necessary, and there are potential operational savings opportunities. For example, say you have a small fan that is operating at 27 HP and 25,000 CFM; it would roughly cost \$4,640 per year. (Assuming \$0.04/kwhr, 24 hours a day, 5 days a week, 48 weeks) It is hard to believe, but a 20% reduction in CFM (25,000 CFM to 20,000 CFM) will be a 49% energy and money saving. Breaking it down, using the fan laws: Horsepower changes by the cube root of volume change:

$$(27\text{HP} \times (20,000\text{CFM}/25,000\text{CFM})^3) = 13.82\text{HP.} \quad \leftarrow \text{New HP}$$

↑ ↑ ↙
Original Horsepower New Volume/Old Volume Cube Root of Volume Change

Instead of spending \$4,640 per year each fan would cost \$2,375 per year. If the paint facility had 70 similar fans, the cost would be \$166,000 instead of \$325,000, resulting in an annual savings \$159,000 a year.

Contributed by: Derek Decker—Kettering Co-op Student

NEW PRODUCT

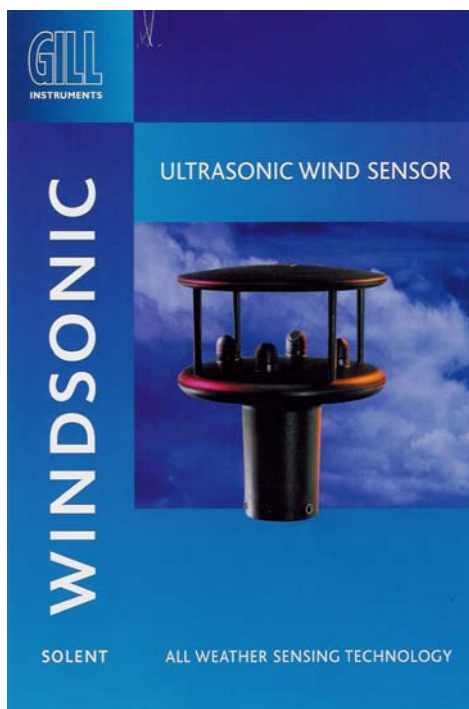
WINDSONIC – ULTRASONIC WIND SENSOR

At last, a real low cost high sensitivity alternative to pressure sensors in a single unit – Windsonic from Gill Instruments. Utilizing their expertise as the world's leading sonic manufacturer, Windsonic is based on their existing, highly successful, proven ultrasonic technology. Ideal for applications that demand economic airflow monitoring \ control, Windsonic is suitable for industrial environments.

A lightweight unit, Windsonic is of a robust, high strength construction designed to withstand installation and use with no fear of the damage commonly experienced with the more fragile pressure sensors. Without the need for expensive on-site calibration or maintenance and with a corrosion free exterior, Windsonic is a true fit and forget unit.

The flexible design allows users to easily configure Windsonic to deliver the information required. By using the software provided it is possible to select the output rate and choose units of measurement that suit a variety of applications. Ensuring accuracy and reliability, Windsonic automatically transmits an anemometer status code with each output to indicate its operating status. Available in three options, providing a number of different digital and analogue outputs, Windsonic is supplied with NMEA and RS232 digital output as standard.

Maintenance free, quick and easy to install, Windsonic is designed to be mounted using a standard pole fitting and comes complete with all screw fittings, a mating marine grade connector and comprehensive user manual.



Contributed by: William Ringrose—Manufacturing/R&D Manager

BRAGGING CORNER

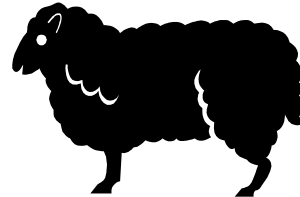


Heather Ringrose turned 18 on December 29, and celebrated with dad after all shutdown work was completed.



Eric Gifford has won the first ever OMEGA Slam Jam by defeating Kevin Dunbar P-I to P-I-G. This tournament was played by five OMEGA employees in the shop area of the office thanks to a basketball net recently built. The basketball net will provide many lunchtime games and tournaments. Good work Eric!

Sunday March 17, Jessica Carthew received two awards from the University of Michigan for outstanding scholarship. One diploma was for obtaining all A's several semesters in a row, and the other for graduating in the top 5% of her class. The whole Carthew clan and Jessica's fiancé, Jeremy, attended the ceremony. All are very proud.



Max and Annick Carthew's granddaughter, Mary Margaret, fourteen months, sings the first line of "Frere Jacques" in French and the first line of "Baa Baa Black Sheep" in English. Her grandparents think she is a little genius.

Mich - Again



Detroit's first hospital

When Antoine de Lamothe Cadillac founded Detroit in 1701, he intended to invite nuns from Quebec to establish a hospital. In those times, founding and running hospitals and schools was the exclusive job of women Catholic orders. Cadillac's dream never came true, and Detroit would have to wait 144 years, to have its first hospital, St. Vincent, established by the Daughters of Charity.

The Daughters of Charity began their work in Detroit by opening a school for boys, and another for girls, in June 1844. At the end of that year, the school was transferred to larger premises. Sister Rebecca, who had helped start the hospital in St. Louis, proposed the opening of a hospital in the former school building. The dwelling was fitted up for the care of the sick and opened June 9, 1845. Its first patient was Robert Bridgeman, a very poor Englishman, and a Protestant. He was treated free of a neglected ulcerated leg.

The number of patients at St. Vincent grew so large that a new facility was soon required. Mrs. Antoine Beaubien donated a site on St. Antoine St., and in 1850 the new hospital opened. It was re-named St. Mary, which still exists today, but not in the same location.

Contributed By: Annick Hivert-Carthew
Based on "The Catholic Church in Detroit," by George Paré



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