

C3s: The Transition Years



Tom Russo
2022 NCM Corvette Bash
April 28, 2022

Topics

- Early C3s vs. Late C3s
- Federal regulations & the automotive industry
- Comfort, Convenience & Cosmetics options
- Performance waits for new technologies
- 1978 Limited Edition: The link to future Corvette Performance
- The Return of Corvette Performance

Corvette transitions from Cubic Inches, Horsepower & Performance





**Corvette transitions to
Comfort, Convenience & Cosmetics**

Federal Regulations throttle down the automotive industry

***What was the first
emission control device?***

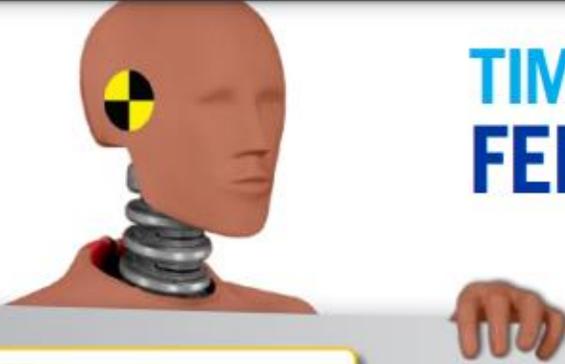
***RPO 242 in 1961:
PCV @ \$5.40***

Federal Regulations throttle down the automotive industry

- National Traffic and Motor Vehicle Safety Act enacted - 1966
 - Created the *National Highway and Traffic Safety Administration*
 - Seatbelts: Equipment and passenger education
 - Energy absorbing bumpers to sustain 5 mph crash
- Clean Air Act of 1970: Created *Environmental Protection Agency*
 - National Emission Standards for Hazardous Air Pollutants
 - Authorized requirements for control of motor vehicle emissions
 - EPA mandates phased-in reduction of lead content in gasoline – 1973
- Energy Policy and Conservation Act – 1975
 - Corporate Average Fuel Economy (CAFÉ) standards
 - Leaded fuel phase-out and fuel economy
 - Unleaded fuel required by 1975

TIMELINE OF FEDERAL MOTOR VEHICLE SAFETY STANDARDS

BY YEAR* AND NOTABLE TECHNOLOGIES



1967

- Seat belts
- Energy absorbing steering assemblies
- Door locks, latches, and hinges
- Occupant protection in interior impact
- Dual cylinders / Front disc brakes
- Trailer conspicuity tape

1970

- Child safety seats
- Side-impact protection

1984

Frontal air bags

First seat belt law enacted in New York

1995

Improved 6-year-old dummy for testing car seats

2000

Advanced air bags

2007

Electronic Stability Control (ESC)

2011

Rollover Curtain Air Bags



1968

Adhesive windshield bonding

1971

Roof crush resistance

1975

3-point belts extended to LTVs

1990

Dynamic side-impact test

1999

Child safety seat upper and lower tethers

2003

Fuel system integrity

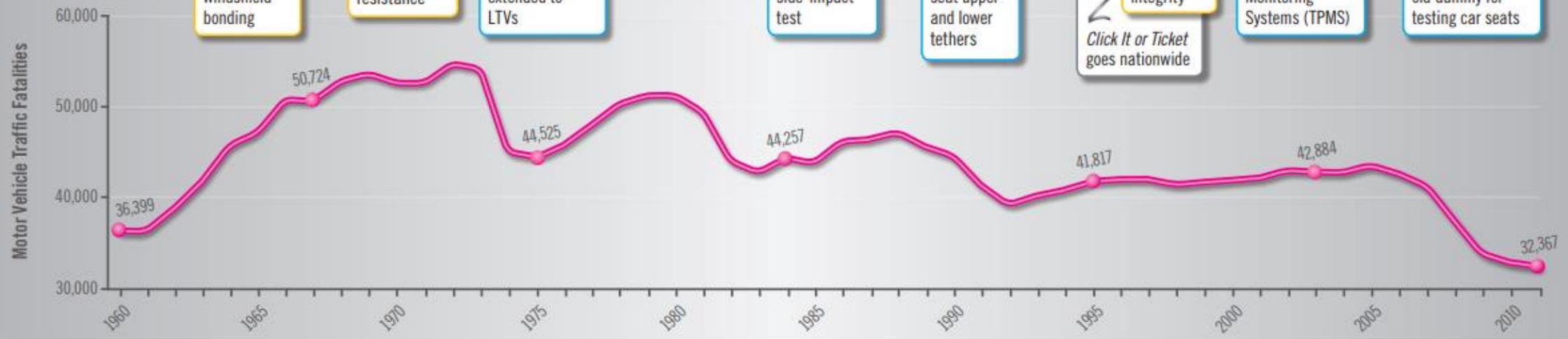
Click It or Ticket goes nationwide

2005

Tire Pressure Monitoring Systems (TPMS)

2012

Improved 10-year-old dummy for testing car seats

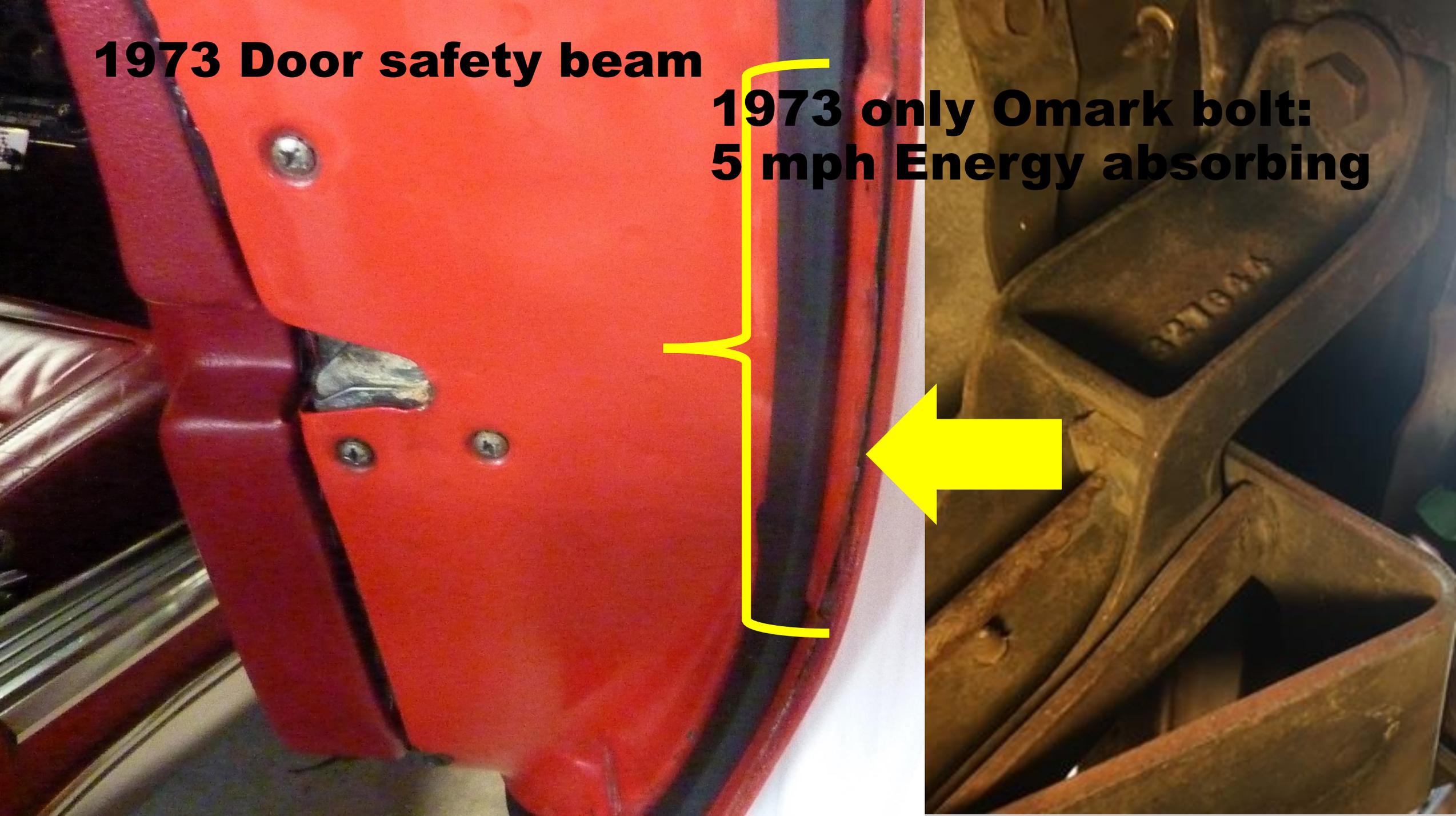


Federal Motor Vehicle Safety Standards

- Seat belts – seat belt use increased from 11% in 1981 to 68% in 1997
- Energy absorbing steering assemblies
- Door locks, latches and hinges
- Occupant protection in interior impact
- Dual master cylinders/Front disc brakes
- Energy absorbing front and rear bumpers

1973 Door safety beam

**1973 only Omark bolt:
5 mph Energy absorbing**



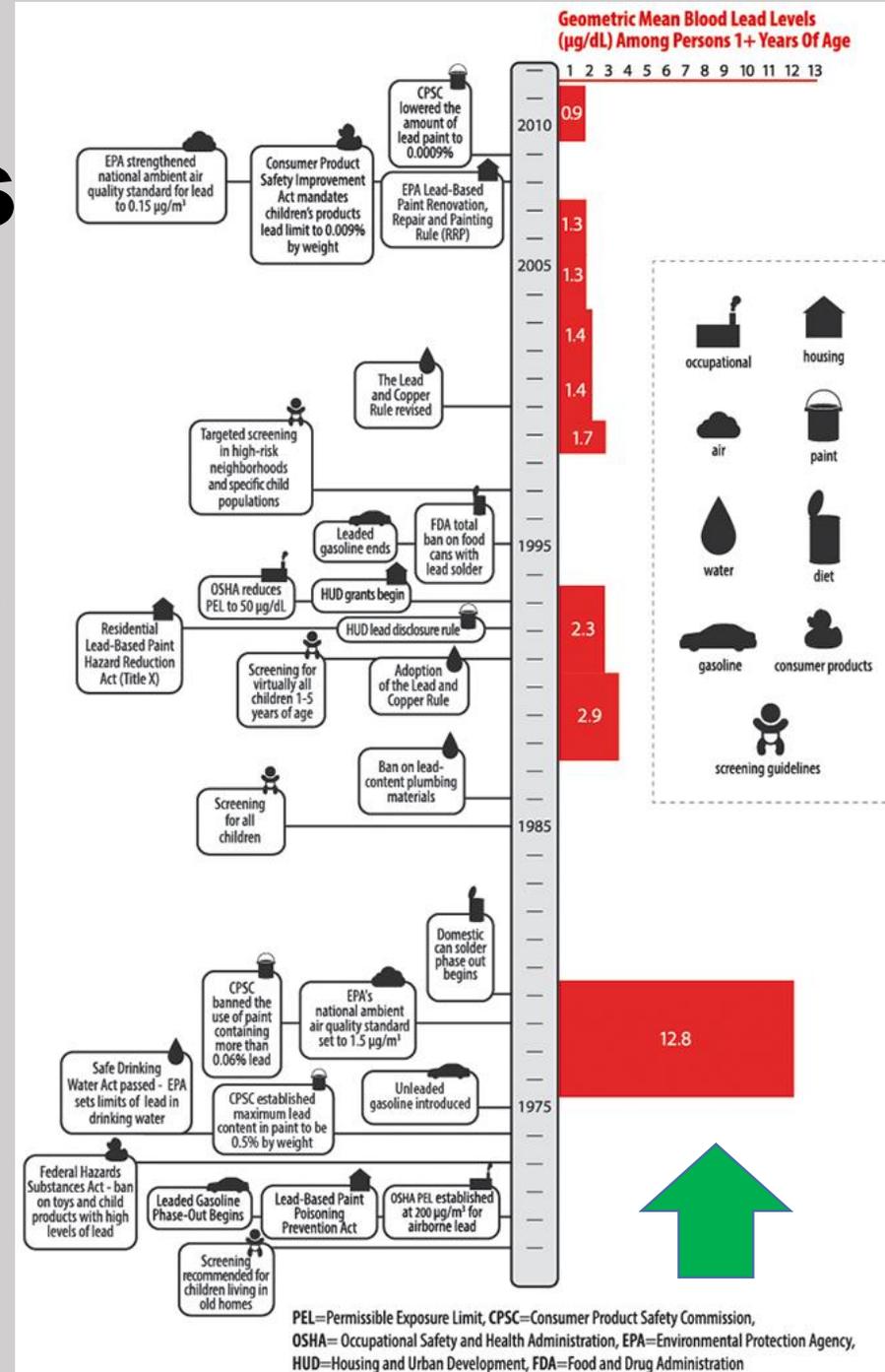
Leaded Gasoline & Health Concerns

- Known effects as early as 1924 among refinery workers
- Lead poisoning in New Jersey and Ohio workers
- By 1960s, research revealed low-level lead exposure.
- Children's particularly sensitive to low-level, ambient exposures to lead
- Prior to lead phase-out, amount of lead used was over 200,000 tons

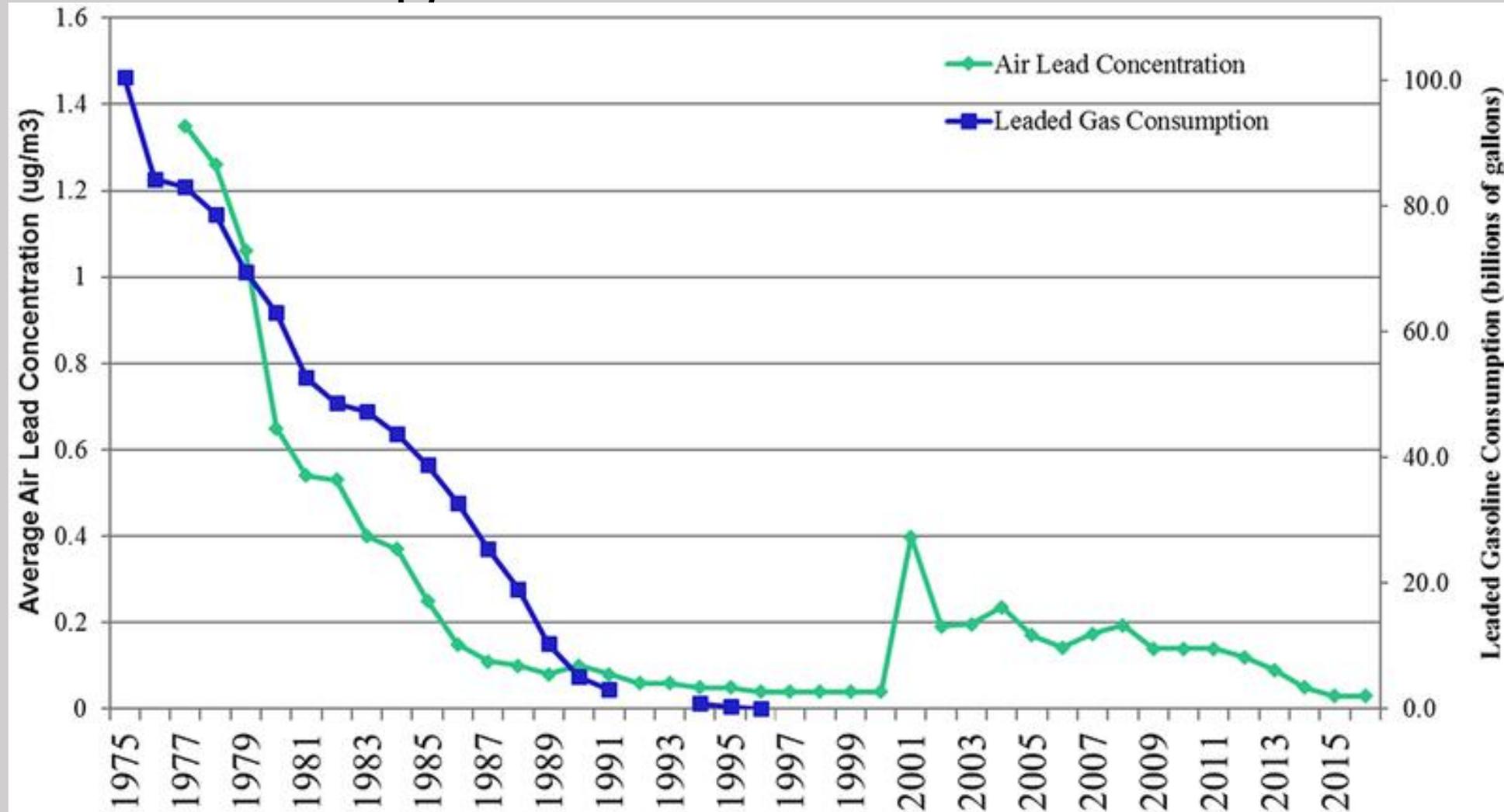


Control of Lead Sources Public Health Progress

- 1976-1980 and 2015-2016
- BLL (blood lead level, micrograms of lead/deciliter)
 - BLL in children aged 1-5 years fell from
 - **15.2 $\mu\text{g}/\text{dL}$ in 1976-1980 to**
 - **0.83 $\mu\text{g}/\text{dL}$ in 2011-2016**
- Blood-lead level reduction of lead
 - Leaded gasoline (major source)
 - Lead-based paint (early 1900s)
 - Can solder
 - Drinking water
 - Dietary lead exposure (FDA)



1975-2016 Leaded Gasoline & Average Air-Lead Concentrations



**The automotive industry
continues to
research octane sources
to meet
efficiency and greenhouse
gas regulations.**

The 1970s & Corvette RPOs: Regular Production Options

- 1970 – Eighteen (18) Powerteam Options
- 1982 – Three (3) Powerteam Options
 - One 200 hp with federal emissions
 - Two 200 hp with California emissions

The Emergence of new Technologies

- 1975 – High Energy Ignition & Electronic Tachometers
- 1975 – Engines engineered to run on unleaded fuel
- 1975 – Catalytic Converter (intro waited until lead removed from fuel)
- 1977 – RPO ZX2 Convenience Group (electronic controls)
- 1977 – RPO K30 Cruise Control (electro-mechanical devices)
- 1980 – RPO LG4 Computer Command Control (CA only)
- 1981 – RPO L81 Computer Command Control
- 1982 – 1YY07 Cross-Fire Injection

Comfort & Convenience Options

- 1977 – RPO ZX2 Convenience Group
- 1977 – Delco radio options (8-tracks & cassettes)
- 1977 – RPO K30 Cruise Control
- 1978 – RPO U75 Power Antenna
- 1979 – RPO ZQ2 Power Windows & Door Locks
- 1981 – RPO A42 Power Seat (driver's side only)
- 1981 – RPO UM4-UM6 & UN5 upgraded with ETR
- 1982 – RPO V08 Heavy-Duty Cooling

Cosmetics Options

- 1976 – RPO ZJ1
 - Custom Two-Tone Interior
- 1978 – RPO B2Z
 - Silver Anniversary Paint
- 1978 – RPO Z78
 - Limited Edition Pace Car
- 1981 – RPO D84
 - Two-Tone Paint
- 1982 – 1YY07
 - Collector Edition Hatchback



1978: Corvette Celebrates 25 Years

- Comfort, convenience & cosmetic options
- Special paint schemes & graphics
- How best to celebrate a special 25th anniversary event
- Link to an *Iconic* Event:
 - Link America's Sports Car to Indy 500
 - The "Greatest Spectacle in Racing"
- Limited editions to commemorate the event



GM Internal Dynamics

- The controversy: How many to build?
- Paint scheme: Throwback to Shark
- Production upgrades:
 - Fastback style of C2
 - Interior redesign
- Aerodynamics: Spoilers, front and rear
 - C2 – 0.503 Coefficient of drag (cd)
 - 1978 Pace Car – 0.443 cd
 - C8 – 0.286 cd

External: Marketplace Frenzy

- Customers ordering before dealers aware of special offering
- Speculators buying up contracts, sight unseen!
- Dealers renege and buyer's go to court
- Wall Street Journal March 1978





The Indy Corvette at the 500



corvette

1970
Indianapolis
pace car

OFFICIAL PACE CAR

62nd ANNUAL INDIANAPOLIS 500 MILE RACE

MAY 28, 1970

Goodyear
Official Pace Car

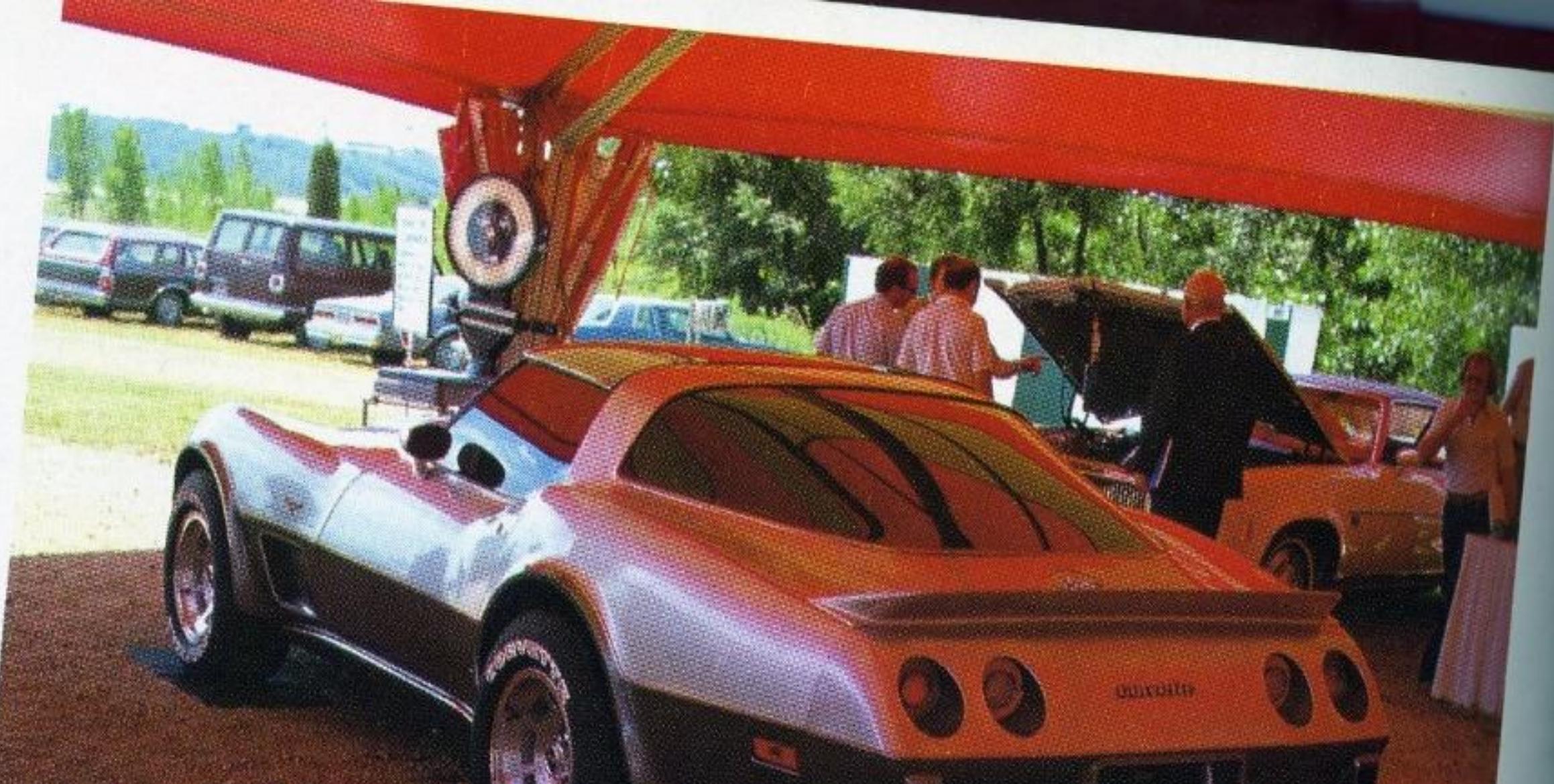
GOODYEAR
GT RADIAL

GOODYEAR
GT RADIAL

Stories that Fuel the Frenzy

- The Vette Vues Scoop – September 1977
- Darrell Hills Sr. and the March 1978 issue of WSJ
- Building lap vehicles (four) with Z78
- Uniting the first (0003) and last (6502) *dealer* production builds
- Barn Finds and 1978 Pace Cars in the Twenty-First Century





Vette Vues Scoops
Corvette Pace Car summer of 1977

Death's Door

Hospice Movement
Eases Family Care
for the Terminally Ill

Trained 'Home-Care Teams'
Aid Kin; Hospital-Type
Facilities Used if Needed

is Place Is a Miracle'

By JOAN LIBMAN

Reporter of THE WALL STREET JOURNAL
TUCSON, Ariz.—Violet Sawyer, a patient
at Hillhaven Hospice, knew she was
dying of cancer. She was asked what her
husband would be if she could have anything in
the world.

"To ride in a helicopter, she replied, start-
ing with everyone. And that is what she got.
The day of the trip, Violet was so excited
she couldn't eat her breakfast," recalls
Mrs. Teresa Marie, the hospice administra-

trator. To appreciate the humor, you have to
know Violet, this 63-year-old lady, flying
over Tucson, then ordering the pilot to
land at the hospice. When the trip was over,
she hugged the pilot and said there wasn't
a happier person in Tucson happier than she.
Mrs. Sawyer died three weeks later,
her final days brightened by that kind of
humor.

What's News—

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* * *

Business and Finance

MACHINE-TOOL ORDERS in February totaled \$309.6 million, down 1.5% from January but 61% above the year-earlier month. It was the third consecutive month in which orders topped \$300 million, a level reached only once before in the past decade.

(Story on Page 3)

* * *

Coal miners are expected to start returning to work this week under a new contract ratified Friday, but a normal flow of coal into users' stockpiles isn't likely until well into April.

(Story on Page 2)

* * *

ITT said a threatened suit by the SEC might prompt foreign governments to order the takeover of certain ITT units.

(Story on Page 3)

* * *

General Motors raised prices on its Chevrolet Chevette \$75 to \$95 a unit. The boost is the second in three months on the subcompact model.

(Story on Page 2)

* * *

AMC confirmed it has been seeking

World-Wide

BEGIN WON cabinet support for his policies and position in talks with Carter.

In a "thorough and serious" five-hour meeting, the prime minister received unanimous backing for his handling of tough talks with the U.S. President. The cabinet spokesman said afterward that the government still believes the plan for Palestinian self-rule on the West Bank is "a fair basis for the continuation" of peace talks with Egypt, an apparent rejection of U.S. demands for a commitment to withdraw eventually, under UN Resolution 242, from the occupied territory.

The spokesman did convey the government's commitment to "certain initiatives . . . to advance renewal of negotiations between Egypt and Israel."

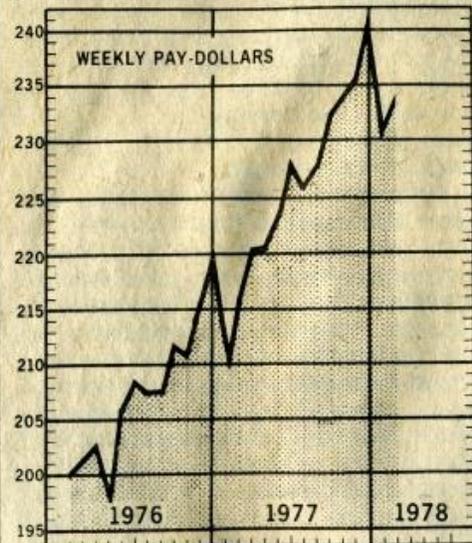
In Cairo, President Sadat told a group of American professors "President Carter should deal with the Middle East problem as a full partner and not as a mediator." The remark followed a statement in the official press that Sadat would hold "urgent consultations" about Begin's Washington trip.

In southern Lebanon, increasing numbers of UN troops moved into the Israeli-occupied region to take up peace-keeping chores amid scattered mortar fire from Palestinian guerrillas.

* * *

KIDNAPED BELGIAN industrialist

Weekly Earnings



AVERAGE WEEKLY PAY of factory workers in February rose to \$234.43 from a revised \$231.47 in January, the Labor Department reports.

*Few Want to Drive
This Car, but Many
Are Eager to Buy It*

* * *

*Collectors, Speculators Bid Up
Prices of 'Indy Corvettes'
Before They Reach Market*

The Outlook

Review of Current Trends In Business and Finance

NEW YORK

Last week the Joint Economic Committee of Congress shook up the stock market by proclaiming that wage and price controls may be needed before long if inflation continues at its present pace. The market is worried about inflation, but it's also fearful of the impact of controls on corporate profit margins. It's unlikely, however, that the government will move to formal controls any time soon.

As the Joint Committee recognized, the administration lacks the legal power to do much more than talk about inflation. The committee repeated its recommendation of a year ago that "legislation should be enacted authorizing the Council on Wage and Price Stability to require prenotification of planned price increases from selected industries and to delay for modest periods wage and price increases which could have serious inflationary effects."

It's hard to think of any administration action that would be more counterproductive than a presidential announcement that he wants controls authority from Congress. There would be a rush to raise prices and wages before the legislation went into effect.

There's little chance, moreover, that legislators could agree on a controls package. They've been hearing from constituents about inflation, of course, but their little enthusiasms for full-

Robert D. Lund,
GM VP & Chevrolet Division GM
Wall Street Journal, March 27, 1978

“I refuse to get involved!”

“Once a car becomes the dealer’s property,
he can do anything he wants with it.
He can even push it in the the ocean!”

CHEVROLET MOTOR DIVISION

General Motors Corporation

Inter-Organization Letter

To Mr. R. C. Stempel

Location Chevrolet Engineering Center 1-328B

From Mr. V. W. Piggins

Location Chevrolet Engineering Center L-107

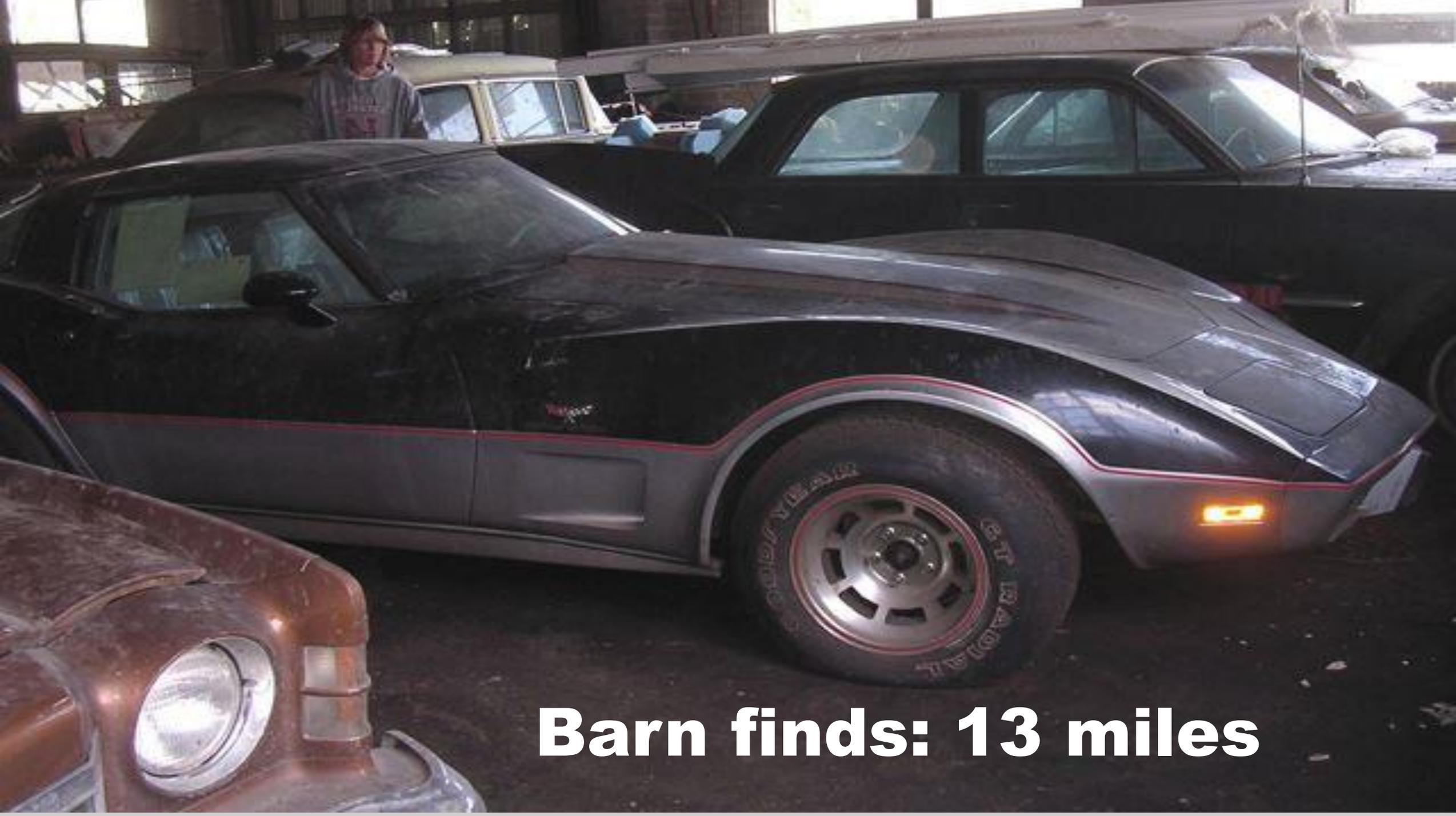
Subject INDIANAPOLIS PACE CAR

Date March 21, 1978

- Parade Lap Vehicle – 1Z87H8S-400006
 - Engineering prototype vehicle for Z78 development and sales promotion
 - Accompanies VIN 0001 as one of two VIP Parade vehicles
 - Assigned to USAC (U.S. Auto Club) as their Official Pace Car
- Back-up Pace Car – 1Z8748S-416658
 - Production pilot line vehicle with RPO Z78
 - Assigned to the Indianapolis Speedway Museum
- Actual Pace Car – 1Z8748S-900001
 - A GM Corporate historical vehicle
 - Assigned to GM Heritage Center
- Actual Pace Car – 1Z8748S-900002
 - VIP Parade vehicle
 - Keys presented to Indy 500 winning driver

The Bob McDorman Collection





Barn finds: 13 miles

Barn finds: 13 miles



**How many
Corvette Pace Cars?
1978 – 2021**

Corvette Pace Cars

- 1978 – C3 Coupe Jim Rathmann
- 1986 – C4 convertible Chuck Yeager
- 1995 – C4 Convertible Jim Perkins
- 1998 – C5 Coupe Parnelli Jones
- 2002 – C5 50th Anniversary Jim Caviezel
- 2004 – C5 Morgan Freeman
- 2005 – C6 Convertible General Colin Powell
- 2006 – C6 Z06 Coupe Lance Armstrong
- 2007 – C6 Patrick Dempsey
- 2008 – C6 Z06 E85 Emerson Fittipaldi
- 2012 – C6 ZR1 Guy Fieri
- 2013 – C7 Stingray Jim Harbaugh
- 2015 – C7 Z06 Jeff Gordon
- 2017 – C7 Grand Sport Jeffrey Morgan
- 2018 – ZR1 Victor Oladipo
- 2019 – Grand Sport Dale Earnhardt Jr
- 2020 – C8 Stingray Mark Reuss
- 2021 – C8 Convertible Danica Patrick

The Return of Corvette Performance

- 1978 – C3 Coupe *L82 220hp*
- 1986 – C4 convertible *L98 230hp*
- 1995 – C4 Convertible *LT1 300hp*
- 1998 – C5 Coupe *LS1 345hp*
- 2002 – C5 50th Anniversary *LS1 350hp*
- 2004 – C5 Commemorative Ed *LS1 350hp*
- 2005 – C6 Convertible *LS2 400hp*
- 2006 – C6 Z06 Coupe *LS7 427ci 505hp*
- 2007 – C6 Coupe *LS2 400hp*
- 2008 – C6 Z06 E85 *LS2 400 hp*
- 2012 – C6 ZR1 *LS9 630hp*
- 2013 – C7 ZR1 Stingray *LS9 638 hp*
- 2015 – C7 Z06 *LT4 650hp*
- 2017 – C7 Grand Sport *LT1 460hp*
- 2018 – C7 ZR1 *LT5 755hp*
- 2019 – C7 Grand Sport *LT1 460hp*
- 2020 – C8 Stingray *LT2 495hp*
- 2021 – C8 Convertible *LT2 495hp*

Corvette Pace Car Legacy



- Introduces GM Chevrolet's newest, performance marque
- Linkage to the "Greatest Spectacle in Racing"
- Special paint schemes and graphics
- Limited edition production
- Enthusiasts collect Corvette Pace Cars
- The 1978 Pace Car remains the first!

The Best of Both Worlds?

The industry transitioned to

Horsepower & Performance

adding

Comfort, Convenience & Cosmetics

Corvette 75th Anniversary in 2028?



What Pace Car to expect?

