



Overheard Cams



ALFA ROMEO
1750
ITALY 1937-1944

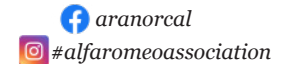
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The Alfa Romeo Association (ARA) is dedicated to the ownership, maintenance, preservation, operation, and enjoyment of the wonderful vehicles produced by Alfa Romeo. The ARA is based in the greater San Francisco Bay Area of California, but welcomes members from everywhere.

Alfa Romeo Association

PO Box 1458
Alameda, CA 94501

www.alfaromeoassociation.org



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On the Covers
8C 2300 at MAUTO in Turin, Italy
Photos by Bob Goldberg

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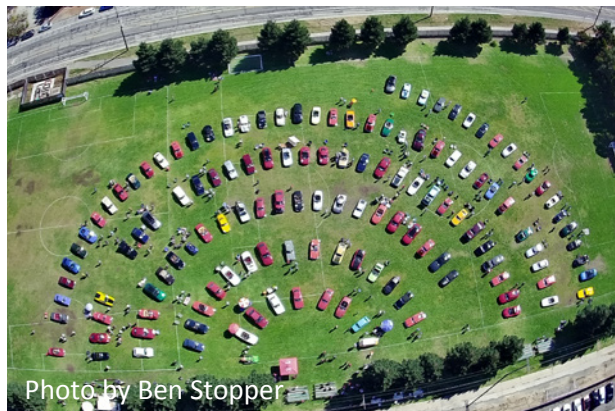
The Steering Column

Scott Pinsky, President

Even with Concorso buzz still in our ears, we moved forward last month with ARA's signature fund-raising event: the 36th annual All Italian Day Car and Motorcycle Show, held again at the Main Street Soccer Field in Alameda. We were blessed this year with great weather, wonderful attendance and, most importantly, a fantastic showing of cars. Around 160 cars, motorcycles, and scooters filled the green (see drone photo), ranging from a drool-worthy Ferrari 250 GT Lusso to an adorable yellow Fiat/Abarth Allemano Coupe (I now crave this, Mr. Schank!!!). And much, much in between!

This annual show, which draws rolling Italian hardware from across the Bay Area, benefits Special Olympics of Northern California, and many of the volunteers who helped staff the event were affiliated with SONC. Among the many others who helped us organize and present this terrific event were you, dear loyal ARA members, without whose selfless efforts the day could not have happened. Your efforts are greatly appreciated!

But most of all, we send a cacophonous "Thank you!" to the All Italian Day planning committee members and the volun-



teers who helped put all the pieces in place to achieve another remarkable day for all of us to enjoy.

It bears repeating that we are truly fortunate to have such a selfless and dedicated group of organizers at the helm of this and all our events. Their efforts are given out of a love for Alfas and the Club. Let's all give them a collective tip of the hat.

Moving forward, our next ARA membership meeting takes place on Tuesday evening, October 3, at Giovanni's, and we also look forward to the annual Alfa swap meet (hosted by Andrew Watry and Larry Dickman Jr.) on October 15 at the Cobra Experience collection in Martinez. See details



on the website event page. It's also a good opportunity to check out the Cobras in the museum.

Then, on October 22 we're invited to a member's private home in Napa for a lunch social. Space for this special event is limited, so please make your plans early.

Meanwhile, as we move into fall and summer fades into memory, give some thought to what you'd like to see happening with ARA and let us know if you have ideas for drives, events, or other club activities, especially if you have an activity you'd like to help organize. We're always happy to get input from members.

Andiamo!

LEZ AND ULEZ

If you have driven a car in London or some other major European Union city recently, you may have encountered new regulations restricting vehicle access based on emissions. The two terms of interest are LEZ (Low Emission Zone) and ULEZ (Ultra Low Emission Zone), the latter of which is currently specific to London.

The goal of these regulations is to combat climate change. The impact to drivers is that they are either banned from driving certain cars in these zones or must pay a fee to do so. For example, London currently charges a £12.50 (\$15.18) fee per day for some cars. One English car magazine mentioned that some Londoners have had to sell their older cars due to these fees.

You may be thinking “This doesn’t affect me, because I don’t rent cars in Europe.” I regret to inform those with classic cars in California that you are now on notice about the possible creation of low emission zones. Per [Nick Pope](#) in the Daily Caller:

“California is seeking information about the locations of classic cars in the state and the tendencies of their drivers after considering establishing “zero emissions zones,” according to a state survey obtained by the Daily Caller News Foundation.”

“The California Air Resources Board (CARB) sent out the survey about light-duty vehicles made in model year 1978 or earlier on Aug. 2, seeking information from respondents about tendencies they have while using the classic vehicles, including the county in which they are primarily driven. The survey on classic cars follows a 2019 CARB draft report which suggests that the state should ‘provide explicit authority to local jurisdictions to create zero-emission zones’ in order to combat climate change.”

I encountered my first LEZ situation recently when renting a car at Milan’s Malpensa airport in June. The agent offered me a regular or hybrid Fiat 500. After I chose the hybrid, she told me that it was a good choice as it could be driven in Milan’s LEZ.

I didn’t drive the 500 hybrid into the city center, but did drive Joe Hurwich’s Aston Martin into central Milan during the *1000 Miglia*. Milan must have waived their emission zone restriction when *1000 Miglia* cars drove through the city center!

THIS ISSUE

Although All Italian Day was held just a week before October 1st, its new schedule



London emission zone symbol

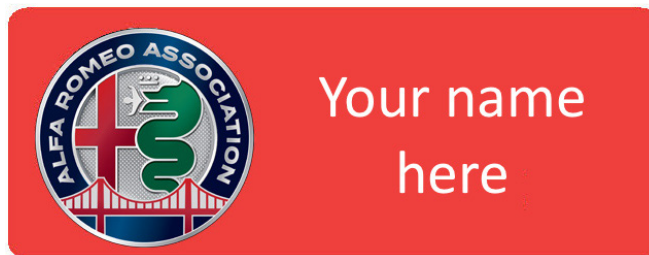
did not provide enough time to do a recap for this issue. So, instead, there is a teaser photo and the promise of a proper recap next month. (Yes, I attended the event—it was great, as usual.)

Articles this month: an Alfa Romeo press release about their Classiche Heritage program that provides certificates of authenticity and restoration services; Tod Bice’s outstanding photos from the Monterey Pre-Reunion; Ed Adams on last month’s East Bay meeting; model 33 coupe photos from the Museo Fratelli Cozzi archives; Mark Thornton’s dive into contact breaker points; and Jon Gavin’s commentary on three recent F1 races.

Also appearing is the first report about my car activities in Italy after the *1000 Miglia*: the “90 Years of MAUTO” exhibit.

Club Merchandise Available in the ARA Store

Click any photo below to be taken to the merchandise page in the club's online store.
The new club keychain, *top right*, is now available.





ARA Monthly Meetings

The club typically meets at 8 PM on the first Tuesday of each month with some exceptions.

North Bay meetings (Feb, May, Aug, Nov) held at

Aurora Ristorante Italiano Novato

8 Commercial Blvd, Suite A Novato, CA 94949

(415) 382-8488

auroranovato.com

East Bay meetings (Mar, Apr, May, Jun, Sep) held at

North Beach Pizza

1598 University Ave Berkeley, CA 94703

(510) 726-8504

www.northbeachpizzaberkeley.com

South Bay meetings (Jan, Apr, Jul, Oct) held at

Giovanni's New York Pizzeria

1127 Lawrence Expwy Sunnyvale, CA 94089

(408) 734-4221

www.giovannisnypizza.com

ARA Membership

Welcome new members

*John Cagliostro, Candace Carpenter
Ken N Dahl, Theresa Dahl
Fabrizio Dangelo, Dan S Fox
David Haugen, Lyle Maasdorp
Bruce Metras, Bruce S Owen*

Thank you to renewing members

*Paula Barber
Candace Carpenter, Darryl M Carpenter
Peter Gross, Robert D Hugel
Alex Jordan, George F Putnam
Curtis E Raitz, Lalo Ruiz
Thomas W Sigmon, Thomas J Sperow
Scott S Vogel, Austin Zhang*

ARA Tech Support Lines

Jim Allen • Nipomo, CA

750, 101, 102 and 106 series cars

(805) 929-6113; evening answering machine

Wes Ingram • Burlington, WA

Spica fuel injection

(360) 707-5701; wing@nwlinc.com

Tom Sahines • Milpitas, CA

Giuletta and Giulia cars

Mon to Fri: 12 noon–9pm

(408) 262-6279; tsahines@gmail.com

Remember that our tech team members are volunteers.

Please respect their time and thank them for all they do for the ARA!



2023 Event Calendar



Current/updated ARA event information is posted on the club's website — click the ARA club logo to view it.

<i>January</i>	<i>February</i>	<i>March</i>
8 DSARC Holiday Party [Sacramento] 28 Annual Meeting of Members	7 ARA NorthBay Members Mtg 19 Green Hills of Earth Tour/Lunch 26 Q1 ARA Board of Directors Mtg	7 ARA EastBay Members Mtg 18 Through the Mountains to the Ocean Drive 25 Murer House Pizze e Bocce [DSARC]
<i>April</i>	<i>May</i>	<i>June</i>
4 ARA SouthBay Members Mtg 5 ARA EastBay Members Mtg 8 Mozart Collection Tour 22 Spring Fling South Bay Drive 29 Glenn Oliveria Tech Session	2 ARA EastBay Members Mtg 6 One Lap of Marin 20 ARA-SFIAC Tour and Lunch [SF] 21 Q2 ARA Board of Directors Mtg	3 Blackhawk Cars and Coffee 5–15 AROC Goes to Italy #6 6 ARA EastBay Members Mtg 17–25 AROC National Convention/Tours [Ashville/Charlotte, North Carolina]
<i>July</i>	<i>August</i>	<i>September</i>
11 ARA EastBay Members Mtg 11 ARA SouthBay Members Mtg 15 Summer Party at Sturgeon's Mill 22 One Lap of South Bay	3– 6 Northwest Classic Rally [Oregon] 8 ARA NorthBay Members Mtg 13 Q3 ARA Board of Directors Mtg 13–20 Monterey Car Week +++ 19 ARA-AROC Concorso Italiano 19 Post-Concorso Dinner [onsite @CI]	5 ARA EastBay Members Mtg 22–24 Crater Lake Drive Weekend [DSARC] 24 All Italian Day Car/Motorcycle Show [SONC benefit event!]
<i>October</i>	<i>November</i>	<i>December</i>
3 ARA SouthBay Members Mtg 15 Alfa Romeo Swap Meet 19–23 AROC Goes to USGP COTA [Texas] 22 Members Lunch Social in Napa	4 Patrick Ottis Shop Tour 7 ARA NorthBay Members Mtg 18 Private Car Collection [Santa Clara] 19 Q4 ARA Board of Directors Mtg tbd Jon Norman Shop Tour [tentative]	3 ARA Holiday Luncheon [NOTE: We'll be at a NEW [to us] South San Francisco venue this year! Stay tuned for details.]

Monthly ARA Member Meetings

- Location, registration, and speaker information vary by meeting.
- Updates will be posted in both future issues of *Cams* and on our ARA website, but please check the website for the latest word about any upcoming meeting.
- Some months will have two meetings running concurrently in different regions.

January/April/October

South Bay Membership Meetings [ARA]

Tuesday evenings, except January: January 8th, April 4th, October 3rd

Location: [Giovanni's New York Pizzeria](#), 1127 Lawrence Expwy, Sunnyvale

Registration is not required.

February/May/August/November

North Bay Membership Meetings [ARA]

Tuesday evenings May 2nd, August 8th, November 7th

Location: [Aurora Ristorante Italiano](#), 8 Commercial Blvd A, Novato

Registration is strongly encouraged but not strictly required.

Questions? Please contact J. Hutson Hart at memberships@alfaromeoassociation.org.

March/April/May/June/July/September

East Bay Membership Meetings [ARA]

Evenings March 7th, April 5th, May 2nd, June 6th, July 11th, September 5th

Locations may vary by month:

March 7th – North Beach Pizza, Berkeley

April 5th – Fantasy Junction, 1145 Park Ave, Emeryville

May 2nd, June 6th, July 11th, July 11th, September 5th – North Beach Pizza, Berkeley

Questions? Please contact Ed Adams at edonadams@gmail.com.



Event Details

October

Annual Alfa Romeo Swap Meet

15th (Sunday) 8:00 AM–11:00 AM

Location: [The Cobra Experience](#), 777 Arnold Dr #200, Martinez [map link [here](#)]

Alfa parts, cars, tools, literature, junk. Open to all. Free to buyers and sellers. Rain or shine. Hosted by Andrew Watry and Larry Dickman, Jr.

No fee for swap, but **please** visit the Cobra Experience museum (requires admission fee) afterward; they'll appreciate it. [The Cobra Experience is fantastic!—*Ed.*]

We have the rear parking lot, northeast corner. Enter off Arnold east of the building where you see the *Alfa* sign. There will be a Cars'n'Coffee at 8:30 in the front main parking lot. Andrew will be there early to direct folks.

Questions: Please contact Andrew at 510 684-2350.



Summer Napa Lunch Social Event

22nd (Sunday) 11:00 AM–4:00 PM

Location: Member's Private Residence in the heart of beautiful Napa, CA

Join us in the heart of beautiful Napa, CA for a lunch social at a fellow ARA member's private residence. For lunch, ARA will cater appetizers and an assortment of sandwiches, side dishes and beverages for a nominal fee. We will also have some areas set up to view the last F1 race of the season that day.

Register for the lunch [here](#).

Questions: Please contact Laurie Delimon at social@alfaromeoassociation.org.



Event Details

November

Patrick Ottis Shop Tour

4th (Saturday) 9:00 AM–12:00 PM

Location: 1220 10th St., Berkeley, CA 94710 [[map here](#)]

Patrick Ottis is known as the foremost Ferrari engine builder in the USA. His shop, Patrick Ottis Co. ([website](#)), does mechanical restorations of vintage Ferraris to concours specifications.

Patrick has also been a Ferrari Class Judge at the Pebble Beach Concour d'Elegance for many years and has shown (and **won**) with his own cars on the lawn. Patrick will tell the stories of the cars he has in his shop and describe the intricacies of the work he does. It's always a fascinating presentation. He is generous and open to questions about Ferraris, engine building, concours judging, or anything else.

Please drive your Alfa. There will be plenty of good parking places where you can display your car. Please arrive by 9:00am. The presentation will begin shortly thereafter.

If you have any questions, please contact:

Bill DeGolia
VP, Alfa Romeo Association
vp@alfaromeoassociation.org
925-683-6420



Event Details

November

Private Collection Tour

18th (Saturday) 11:00 AM–2:00 PM

Location: Private Collection in Santa Clara, CA

tour of an amazing private automotive collection located in Santa Clara CA near the San Jose airport. The collection spans two rooms.

Room #1 houses some 40 cars from 1904 through 1926. The owner of the collection will give us a short narrative on the antique cars. Many of these autos have been featured at the prestigious Pebble Beach Concours.

Room #2 houses some 35 European sports cars (Alfas included) from 1948 through 1990. An additional bonus here are some vintage motorcycles and model T race cars. We will be free to wander around this room.

The tour will be strictly limited to 25 entrants so sign up early. A strict rule is that no photography of any kind is allowed! Directions to the collection will be emailed to those who register for the tour.

ARA member and Tech Advisor Tom Sahines and the owner of the collection will lead the tour.

Register for the tour [here](#). (We are considering a short drive prior to the event and lunch after the tour for those who are interested.)

Questions: Please contact Andy Epstein at andy@alfaromeoassociation.org.



Event Details

December

ARA Holiday Luncheon [Save the date!]

3rd (Sunday) noon–2:30 PM

New venue: [Basque Cultural Center](#) in South San Francisco

Registration opens October 15th

Watch our website and this space in the Cams for details!



2023 Racing/Track Events of Interest

These are non-ARA events – Details and registration information are available on the individual event websites — Please check before making your plans

WEATHERTECH RACEWAY LAGUNA SECA, MONTEREY, CA

MAY 5-7 – TRANS AM SPEEDFEST
MAY 12-14 – MOTUL COURSE DE MONTEREY (IMSA)
JUNE 23-25 – CSRG–LAPS FOR LAGUNA
JULY 1-2 – SCCA RACE WEEKEND REGIONAL 9 & 10
JULY 7-9 – MOTOAMERICA SUPERBIKE SPEEDFEST AT MONTEREY
JULY 14-16 – AHRMA CLASSIC MOTOFESt OF MONTEREY
JULY 29-30 – SCCA RACE WEEKEND REGIONAL 11 & 12
AUGUST 12-13 – MONTEREY PRE-REUNION
AUGUST 16-19 – ROLEX MONTEREY MOTORSPORTS REUNION
AUGUST 20 – CORKSCREW HILLCLIMB & COMMUNITY DAY
SEPTEMBER 8-10 – FIRESTONE GRAND PRIX OF MONTEREY (INDYCAR)
SEPTEMBER 28-OCTOBER 1 – PORSCHE RENNSPORT REUNION 7

THUNDERHILL RACEWAY PARK, WILLOWS, CA

FEBRUARY 18-19 – 24HOURS OF LEMONS–YOKOHAMA 3 TRACKS, 1 RACE 2023
MARCH 18-19 – SCCA RACE WEEKEND REGIONAL 3 & 4
MAY 27-28 – 24HOURS OF LEMONS–YOKOHAMA DAYS OF THUNDERHILL 2023
APRIL 15-16 --SCCA RACE WEEKEND REGIONAL 5 & 6
APRIL 29-30 – NASA RACE WEEKEND
MAY 5-7 – SCCA WESTERN REGION SHOOTOUT
JUNE 3-4 – SCCA RACE WEEKEND REGIONAL 7 & 8
SEPTEMBER TBD – NASA CHAMPIONSHIP WEEKEND
OCTOBER 27-29 – SCCA RACE WEEKEND REGIONAL 15, 16, & 17
NOVEMBER 3-5 – CSRG–SEASON FINALE
NOVEMBER 10-12 –NASA 25 HOURS OF THUNDERHILL

SONOMA RACEWAY [SEARS POINT], SONOMA, CA

FEBRUARY 25-26 – SCCA RACE WEEKEND REGIONAL 1 & 2
MARCH 4-5 – NASA RACE WEEKEND
MARCH 24-26 – CSRG–DAVID LOVE VINTAGE RACES
MARCH 31-APRIL – FANATEC GT WORLD CHALLENGE
APRIL 29-30 – SVRA RACE WEEKEND
JUNE 9–GENERAL TIRE 200 – ARCA MENARDS SERIES WEST
JUNE 10–DOORDASH 250 – NASCAR XFINITY SERIES
JUNE 11–TOYOTA SAVEMART 350 – NASCAR CUP SERIES
JUNE 24-25–NASA RACE WEEKEND
JULY 22 – FERRARI CHALLENGE NORTH AMERICA
JULY 28-30 – DENSO NHRA SONOMA NATIONALS
AUGUST 18-20 – NASA RACE WEEKEND
SEPTEMBER 2-3 – SCCA RACE WEEKEND REGIONAL 13 & 14
SEPTEMBER 8-10 – CSRG–CHARITY CHALLENGE
OCTOBER 14-15 – NASA RACE WEEKEND
NOVEMBER 10-12 – VELOCITY INVITATIONAL
DECEMBER 2-3 – 24HOURS OF LEMONS–YOKOHAMA ARSE-FREEZE-APALOOZA 2023



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The Alfa Romeo Classiche Heritage Program

Alfa Romeo

- Alfa Romeo is pleased to present the “Alfa Romeo Classiche” heritage program, a specific set of services designed to protect and promote its history which is carried out in close cooperation with Stellantis’ Heritage Dept. The presentation will take place on the occasion of the 39th edition of Auto e Moto d’Epoca, one of the most important vintage car and motorcycle events in Europe.
- The heritage program includes two types of certificates and repair and restoration activities. In particular, the Certificate of Authenticity is issued directly by the brand’s top management, which is supported by the Heritage team and the main experts in Alfa Romeo history.
- A new, redesigned heritage area will make its debut on the Alfa Romeo official website, where the brand will welcome all those passionate owners who wish to certify and restore their prized vehicles.

The 39th edition of “Auto e Moto d’Epoca”, one of the most important events in Europe for vintage car and motorcycle enthusiasts, is Alfa Romeo’s chance to present the “Alfa Romeo Classiche” heritage program, a range of services with the

precise aim of protecting and promoting the history of the iconic Italian brand. For the first time in Stellantis, the brand’s top management is personally involved in all the activities that make up the whole range of its dedicated services. In fact, the certification committee is chaired by Alfa Romeo’s CEO and the Head of Heritage department, with the support of the Alfa Romeo Museum, the location of the production registers and all the technical documentation used by the committee to analyze the information on the examined cars.

Jean Philippe Imparato—Alfa Romeo CEO: “Alfa Romeo is going through a key phase in its history. The historical period we are going through is a genuine evolution. The brand’s future includes very ambitious goals aimed at redefining the concept of sportiness in the 21st century, while remaining faithful to its DNA. While planning for the future, our heritage is always our main source of inspiration. For us, the Alfa Romeo Classiche heritage program aims to enhance our historic automotive heritage by certifying the authenticity of vintage Alfa Romeos and giving new life to marvelous examples that still captivate and excite car enthusiasts around the world.”



The Alfa Romeo Classiche heritage program consists of the Certificate of Origin – which has been offered for Alfa Romeo cars since 2016 – together with the Certificate of Authenticity and the Restoration. The Top management of the brand personally chairs and intervenes in the committee that evaluates historic cars and issues the certifications with the support of the Heritage team and the experts in Alfa Romeo history.

Certificate of Origin: Alfa Romeo offers the opportunity to discover the history of each car through its chassis number. The service provides for an accurate document

review at the Brand's production registers and the issue of a certificate certifying the car's year of production and original configuration: model specifications, engine serial number, original exterior and interior details.

Certificate of Authenticity: After analyzing in detail the historic car taken under consideration and verifying its production data and technical specifications at the company archives, Alfa Romeo, with the support of the Heritage department, certifies the authenticity of the classic car. To obtain this certification each car goes through a rigorous inspection and evalu-

ation process which is carried out by the specialized team, verifying the authenticity of the car and its components and the functioning of the main mechanical parts. The vehicle can be examined at the Officine Classiche in Mirafiori or directly at the customer's home, if he prefers, or at the Stelantis & You sales and service dealership in Rome and Palermo.

Restoration service: Furthermore, the same team that takes care of the' historical collection is available to private clients, with services ranging from simple maintenance to complete restoration: from diagnosis to exterior restoration, repair of

individual mechanical and aesthetic components, and final testing.

A dedicated area to owners of timeless icons on the official Alfa Romeo website: The brand will introduce an area dedicated on its website to the new "Alfa Romeo Classiche" heritage program that allows lucky owners of historic cars to make use of programs dedicated to Certificates of Authenticity and Restoration. It will therefore be possible to receive all the information and support necessary to start a dedicated and personalized program directly from the brand's website. *CAMS*

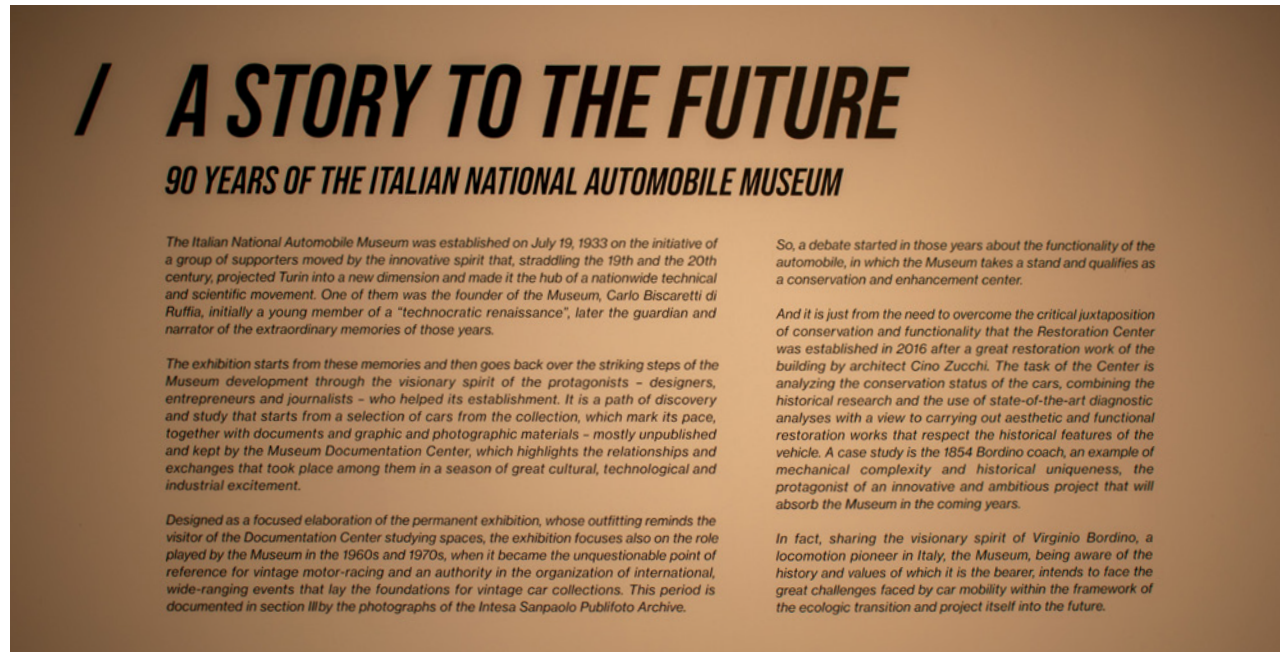


MAUTO (Museo Nazionale dell'Automobile) created a special exhibit for its ninetieth anniversary: "A story to the future." The exhibit outlines the history of the museum by providing details about visionaries, including museum founder Carlo Biscaretti di Ruffia, the evolution of its building, and its collection of artifacts.

Select vehicles are displayed along with curated photos and informational placards. Placard on the walls focus on the city of Turin and its pioneering citizens who foresaw the importance of the automobile. On the floor near each car is a placard giving specifics about that car, as well as general information about the model.

The exhibit was curated by Ilaria Pani and Davide Lorenzone. Davide is known to *Cams* readers from previous articles based on visits when he showed me the documentation and restoration centers. Mariella Mengozzi, MAUTO Director and friend of the club, who passed away in May (see my July *Cams* column), is also given credit: "Special thanks to Mariella Mengozzi for her trust and support."

If you will be in Italy in early October, plan to visit the museum before this exhibit closes on the 8th. A note to my friends at MATUO: please create an online version of this exhibit for all to view. *CAMS*



Panhard & Levassor, 1894



Léon Bollée Voiturette 3 HP, 1895-99

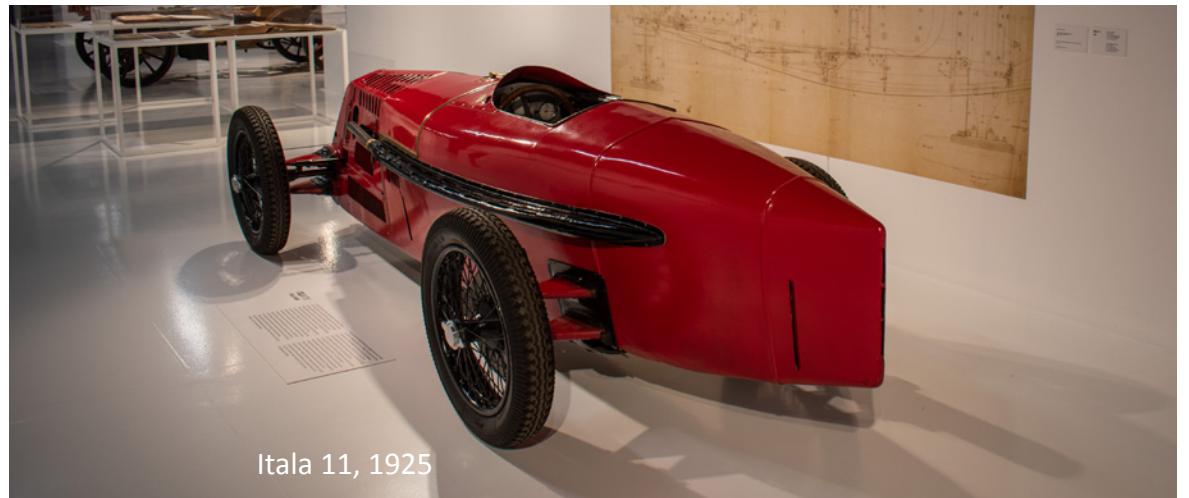
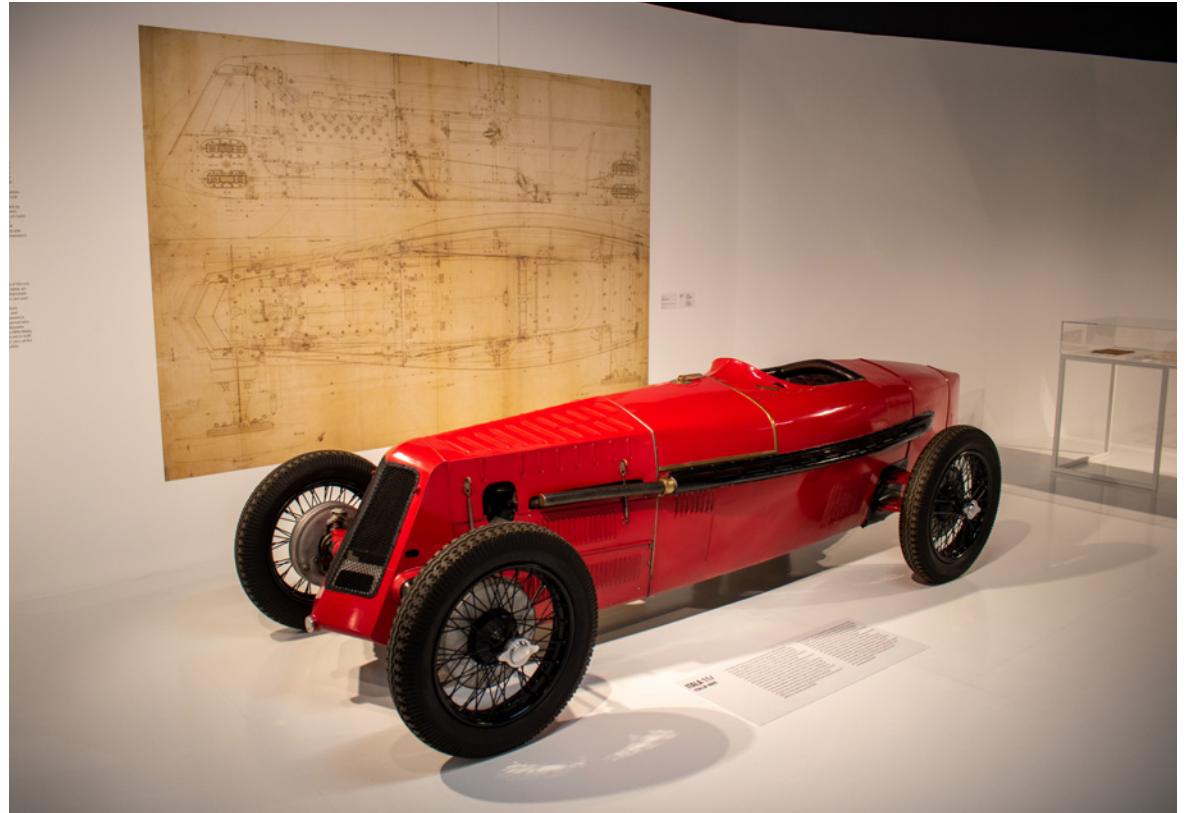


FIAT 18/24 HP, 1907-1908

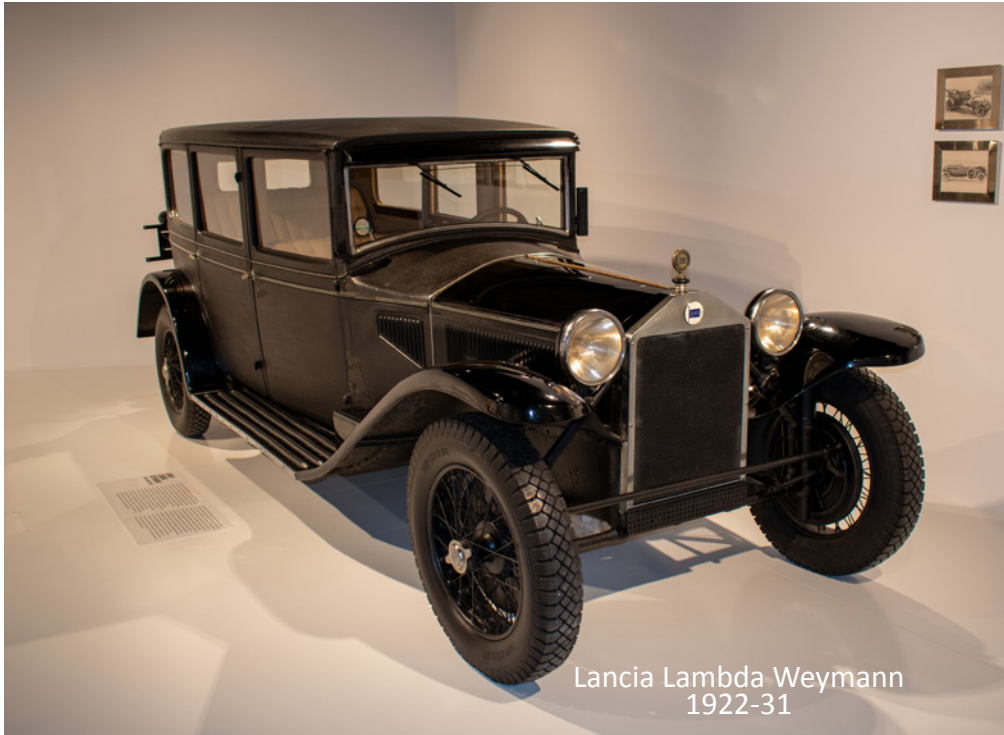


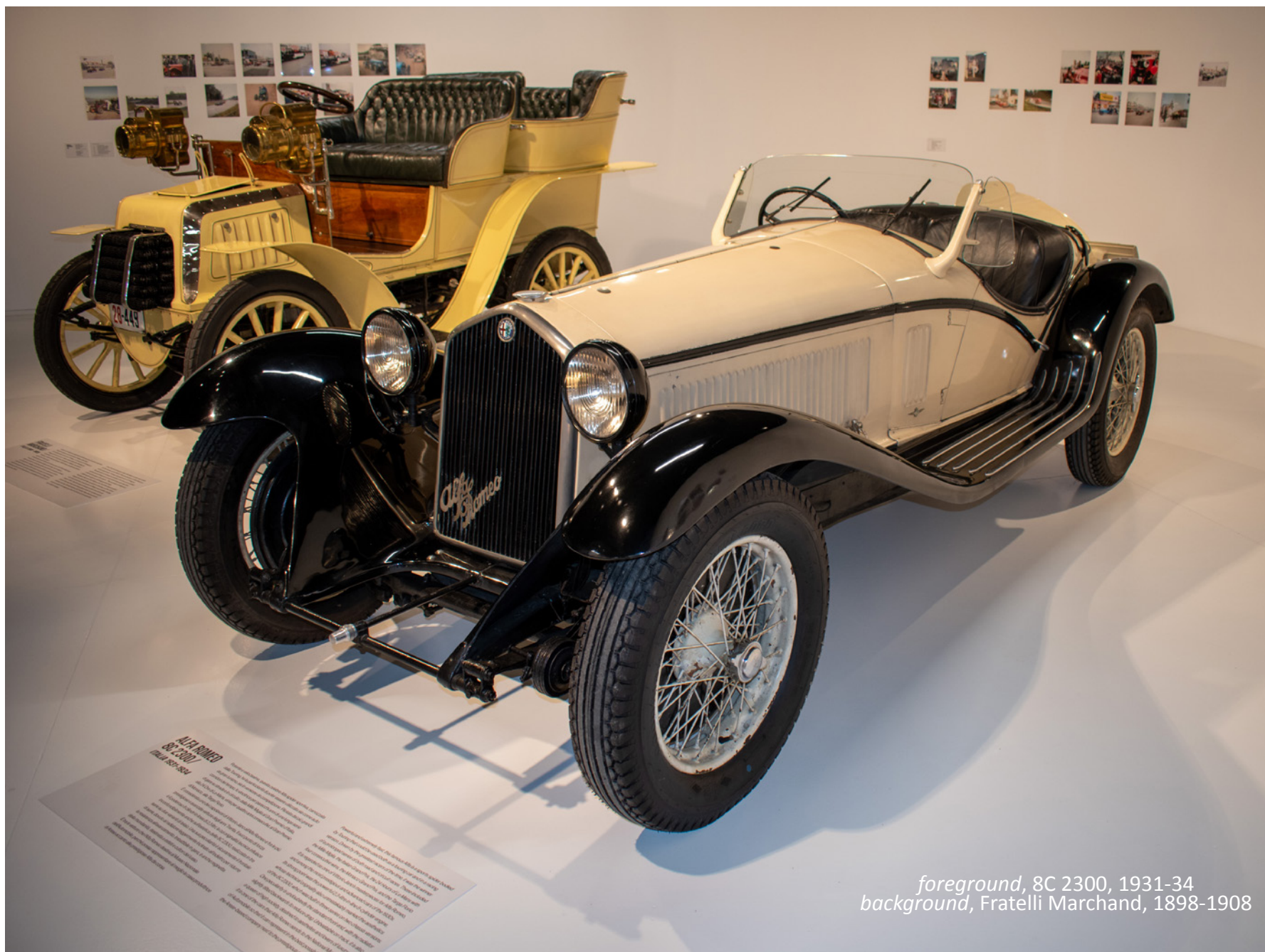


FIAT 18/24 HP



Itala 11, 1925





foreground, 8C 2300, 1931-34
background, Fratelli Marchand, 1898-1908

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Monterey Pre-Reunion

Tod Bice





East Bay Meeting

Ed Adams

The ARA held its East Bay meeting at North Beach Pizza in Berkeley on Tuesday September 9th, with more than twenty club members enjoying pizza, beer, and “cameratismo.”

The meeting opened with a moment of silence in remembrance of Louisiana Gale, who passed away recently. She and her husband Dick have hosted the One Lap of Marin—and their famous Boat Parties at the end of the drive—for many, many years. She will be missed by all of us. Our sincere sympathies to Dick.

We had the great luck to have Conrad Stevenson as our guest speaker. He has been a center of Alfa Romeo restoration (and other Alfa adventures) on the West Coast for decades.

Conrad talked quite a bit about the history of the black TZ1 he restored for last year’s Pebble Beach. This particular car is a milestone in the history of women’s SCCA racing; Nadeene Brengle of San Di-



Conrad Stevenson ([Petrolicious video](#))

ego and Phyllis Gaylard of SoCal raced and won with this car in the late 60’s and early 70’s. (See automediamedia.revsinstitute.org/1964-alfa-romeo-tz-and-its-champion-driver)

Conrad also revealed a pet project he has been working on for years, fabricating a

mid-engine V8 Alfa. The project, using a Montreal V8, does not have a completion date yet, but he will keep us posted when it finally gets on the road. Can hardly wait! CAMS

Conrad speaks in this [Petrolicious video](#)

All Italian Day Recap Preview

Bob Goldberg

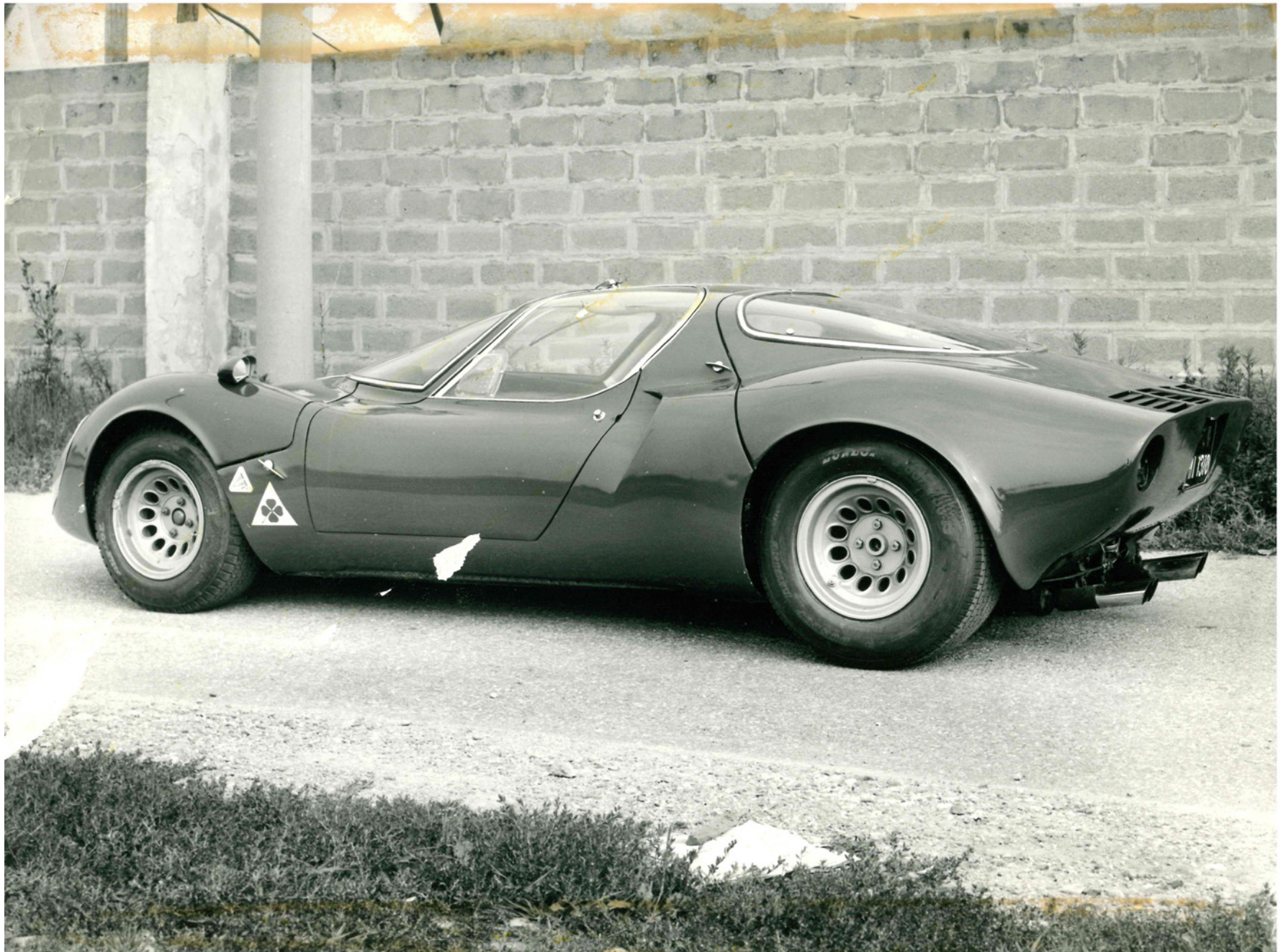
Next month's *Overheard Cams*
will feature a comprehensive recap

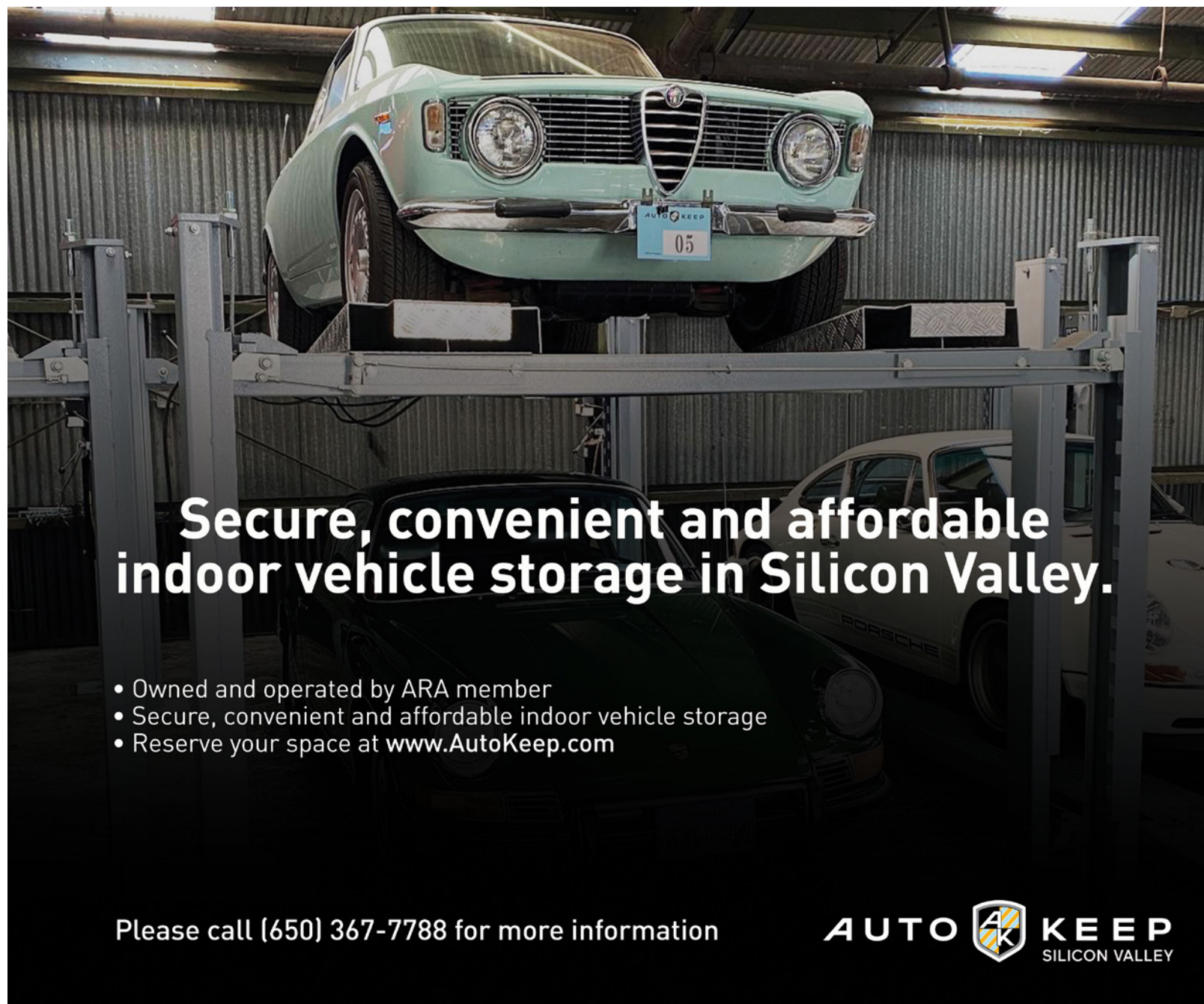




Images provided by [Museo Fratelli Cozzi](#)   








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SILICON VALLEY

These days a programmable electronic distributor energizes the Berlina ignition. I don't plan to go back to the original mechanical distributor with contact breaker points. A friend suggested that I could state this with more emphasis. It's true. I am delighted with the performance features of the new distributor. I have every reason to expect that it will run OK for years.

My view? Contact breaker points in a mechanical distributor are among the most interesting artifacts present in the type 115 Berlina. This technology was developed to maturity and widely adopted, nearly universal in autos when the Alfa was new. The mechanical distributor and contact breaker points look simple in concept, on the surface, but real-world experience informs a different understanding, rich with detail, complexity, and innovation by manufacturers.

We will look at products from four manufacturers, or possibly marketers. This imprecise statement arises out of practical circumstance, as it was not clear in the 1970s and 1980s just exactly which manufacturer produced which set of points. There were variations in what parts were sold by a retail outlet under a particular brand name. Looking at detail design and manufacturing technology,

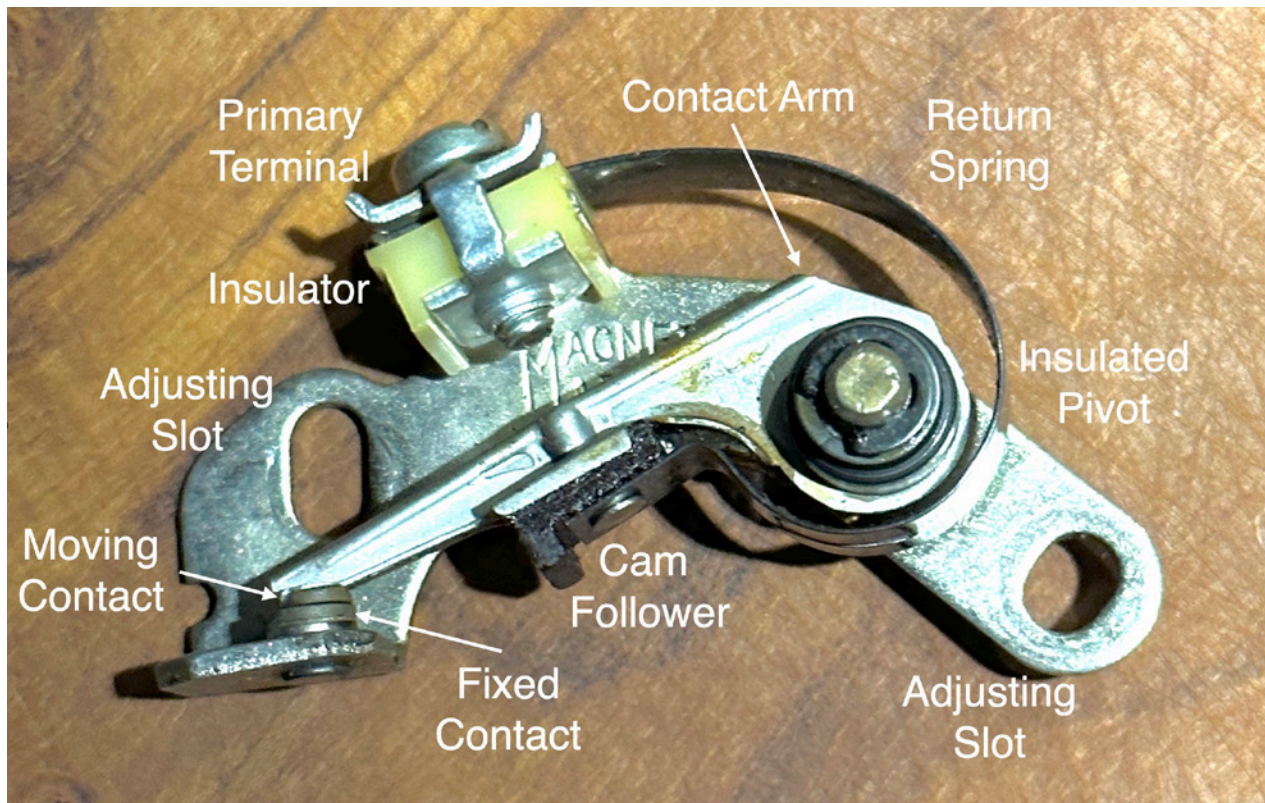


Fig. 1. Parts layout of type 115 contact breaker points

you could readily see similarities, for example between sets in packages from Alfa, Marelli, and Repco.

The article looks in detail at six sets of type 115 contact breaker points. All of these sets of points have been used, some of them refinished and run for more than one life cycle. A set of points typically ran for about six months, before being refin-

ished or replaced in the course of a routine ignition tune up.

DESIGN AND MATERIALS

Engineers use the typical abundance of specialized words and phrases when describing contact breaker points, their design, and their materials, so it's worth a few minutes to sketch this.



Fig.2. Top, straight points;
bottom, curved points

Figure 1 shows a photo with callouts identifying components of a set of contact breaker points, as described below.

Set of points. By convention, engineers and technicians call the contact breaker points assembly a set of points.

Frame. Pressed steel frame.

Pivot. Brass pivot, riveted in place.

Pivot bearing. Polymer bearing at pivot.

Return spring. Steel spring returns the moving contact to the closed position as the distributor cam lobe moves past the cam

follower. Steel spring is blued.

Moving contact. Moving contact on a pressed steel arm with a polymer cam follower partway along.

Cam follower. Polymer cam follower, typically riveted in place. Some of these are fabricated in brown phenolic material. Requires a little grease, a specialized formulation sold for this application.

Fixed contact. Fixed contact on a tab folded up, standing perpendicular to the pressed steel frame.

Wire terminal and insulator. The terminal is the screw type. Polymer components such as the insulator at the wire terminal are fabricated in different white or black dielectric polymers.

Type 115 Berlins were typically fit with one of two kinds of points. For simplicity technicians and parts specialists called these straight points or curved points. The pressed steel frame differs between the two. Otherwise, these sets of points are about the same. The pressed steel parts are often bright plated. Figure 2 shows two sets of used Marelli contact breaker points, one straight and one curved.

CONTACT BREAKER POINTS TERMINOLOGY

Figure 3 shows an ignition system diagram for the Alfa's distributor with contact breaker points.

Worn contacts. When running contact breaker points, owners, technicians and engineers alike held the realistic view that the

points would need replacing, likely more than once per year. This stands apart from the amazing performance we expect from more recently manufactured cars. The term worn contacts serves pretty well to capture the essence of the situation. It's a satisfying term to engineers as it is both largely true and also unspecific. Are these weasel words? Close enough. The reason the term works well is that by saying worn contacts the engineer does not get drawn into speculating about just what exactly caused the wear in the first place. Engineers and technicians like to keep it simple. Suppose we find that the distributor has worn contacts. The thing to do is to replace the worn contacts and then go driving.

Condenser. A friend reminded me of the importance of the condenser in the distributor. The condenser helps tune the resonance of the coil circuit, tending to enhance output. The condenser can also help manage the rate of wear on the contacts. Under some circumstances the condenser can help limit radio frequency interference from the ignition system.

Cone and pit. The centerpiece of the non-speculation about worn contacts is that the wear is not quite like anything we encounter elsewhere on the car. I think it's fair to ask why the contacts wear in the first place. When you hold the distributor in your hand and turn the distributor shaft,

continued on page 61

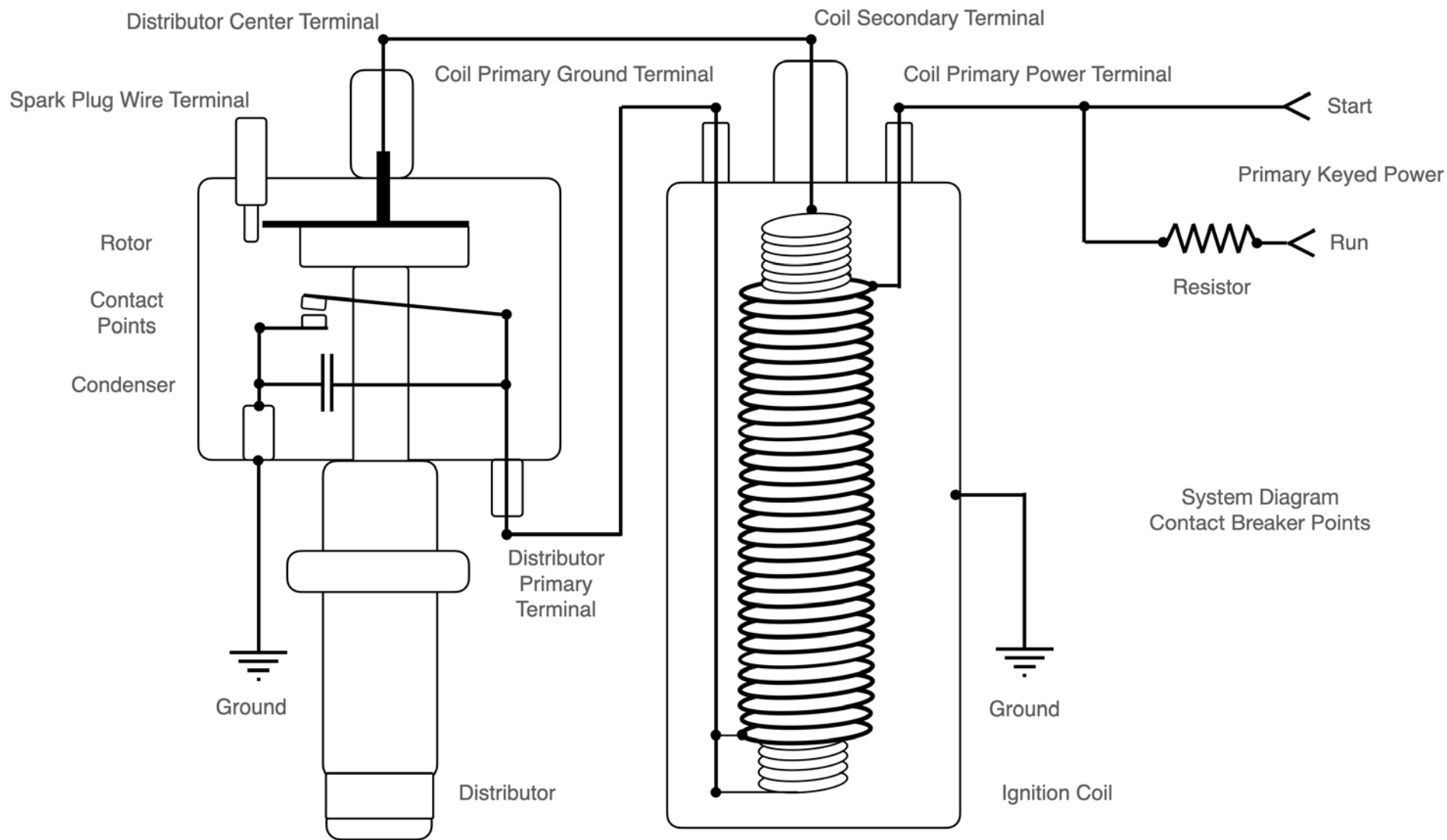


Fig. 3. Ignition system with contract breaker points

continued from page 58

you see that the points simply open and close. What could go wrong? Plenty.

The reasoning goes like this. We've just used current flow through the contacts to energize the coil primary. Now we're going to open the contacts, causing the coil secondary to go to high voltage, in what engineers call an inductive kick. In that moment, we assume that all of the stored energy goes forward, as intended, into the discharge at the spark plug electrodes. None of the stored energy goes backwards, forming an arc at the points.

Why would anybody advance that argument? Of course, some of the stored energy forms an arc at the points. Maybe not much of the stored energy, but lots of energy is there. Now repeat this eighty million times, about right for 10K miles and four cylinders. Even just a fraction of the available energy is enough to damage the points.

Metal erosion. Suppose that we accept that an arc may form at the contacts every time they open. There's visual evidence of the damage that results. Engineers tend to prefer stoic terms such as metal erosion, arc spall, and metal transfer when discussing this awkward reality. The bottom line? Over months of driving, metal transfers from one contact to the other, that transfer forming what technicians call cone and pit. A metal cone forms on one contact, matched by a pit directly opposite on the



Fig. 4. Tool assortment

other contact.

Manufacturers mentioned the metals cobalt and tungsten in advertising. Whatever the reality, we can state with confidence that such metals do not give up easy; not getting welded, not getting vaporized, not much anyhow, and not getting ignited. So, the car with its contact breaker points, almost always with cone and pit, kept running for a good long time, long enough to be practical and useful, but not forever.

REFINISHING CONTACT BREAKER POINTS

If we wish, we can usually refinish worn contact breaker points to return them to ser-

vice. Many technicians have what is called a point file in their toolbox for this purpose. Figure 4 shows an assortment of tools for working with contact breaker points. The point file is to right of the wrench.

Point files are typically small and thin, finished with rounded edges. They need to be made with fine teeth and alloy steel hardened enough to cut the contact breaker points material. Perfection was not the goal, rather just to level off the cone and pit, particularly the cone. Doing so made it possible to measure and to adjust the contact breaker point gap, otherwise prevented by the presence of the cone.

More often I used a strip of silicon carbide paper, about 320 or 400 grit, trimmed to about 6 inches x 0.5 inches. I applied water, soapy water, or isopropyl alcohol to help the silicon carbide paper slide smoothly between the contacts. The force from the return spring was sufficient, as I drew the strip between the contacts, to apply pressure and refinish the rough surfaces. You must reverse the paper at intervals since it only refinishes one contact surface at a time.

I cannot recommend refinishing contact breaker points as a cost saving measure. That's too much like subsistence motoring, as practiced by grad students and young engineers. Refinishing contact breaker points can make sense if it happens you do not have a new set of points to install.

USED CONTACT BREAKER POINTS

In this section we look at six sets of used contact breaker points to see what we can learn from inspection. All six were good enough to run the car, and all six were removed and replaced as part of a routine tune up, done at roughly six thousand mile or six-month intervals. One to two ignition tune ups per year was about right for a daily driver covering a little more than ten thousand miles in a year.

Performance shortfalls caused by worn contact breaker points include such familiar things as hard starting, drivability problems, lack of power at high revs, and deterioration in fuel economy.

Manufacturers generally followed common industry practices in manufacturing contact breaker points, while at the same time working to their own detail design, particularly when it comes to the configuration of the fixed contact.



Fig. 5. Marelli cone and pit

Marelli cone and pit. In figure 5 we see well-developed cone and pit, but nothing too bad. I did not refinish these contacts.



Fig. 6. Marelli severe wear

Marelli severe wear. In figure 6 we see a fixed contact eroded more severely. I did refinish these contacts ... you can tell by the reduced thickness of the metal ... so these ran for a good long time. Note the typical design that sizes the moving contact smaller than the fixed contact.

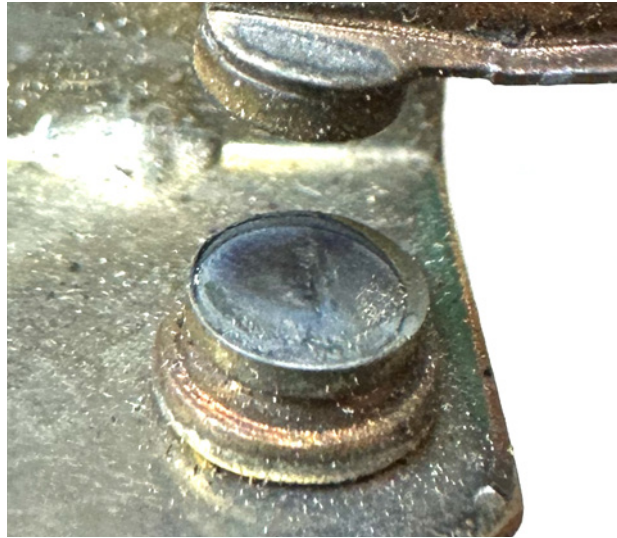


Fig. 7. Light wear

Light wear. Here we see a routine example of minor cone and pit erosion. I did not refinish these contacts, but they are promising candidates. In figure 7 we can also see a wear pattern that is decidedly asymmetric, offset to some extent to the far side of the fixed contact, away from the pivot and cam follower. I could have adjusted the fixed contact alignment to match the moving contact a little better. Manufacturers fabricating the base plate positioned the fixed contact on a relatively narrow tab. The metal is soft enough that you can use pliers to twist the tab as needed to line up the points.



Fig. 8. Sorensen segmented fixed contact

Sorensen segmented fixed contact. I am pleased to show this photo, figure 8, illustrating how drastically you can change the design of contact breaker points and yet fail to defeat the natural imperative of cone and pit. Sorensen cut their fixed contact, not the moving contact, to create a four-segment geometry. It's possible that they cast them in this form. These refractory metals are not easy to machine. On the car, after a lot of driving, each segment of the fixed contact developed a small cone and pit. I find it remarkable that the cone and pit on each segment match so nearly.

Unlike the other designs, these contact breaker points feature a moving contact slightly larger in outline than the fixed contact.



Fig. 9. Sorensen high miles

Sorensen high miles. Sorensen contact breaker points shown in figure 9 have made it through two or more life cycles. The refractory metal alloy contacts are worn down partly by arc erosion, but also by refinishing. By refinishing the points, I could run them two life cycles and sometimes three.

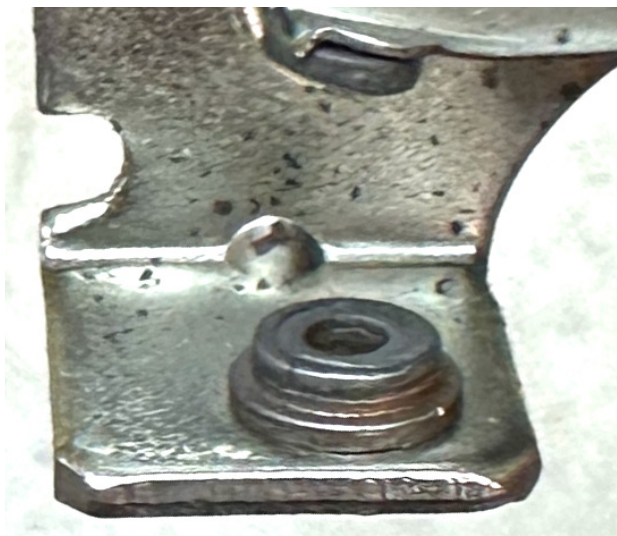


Fig. 10. Standard Motor Products ventilated fixed contact

Standard Motor Products ventilated fixed contact. These contact breaker points feature a central hole on the fixed contact. In these points the engineer sees an intentional and interesting detail design feature. Both the inner and outer edges of the fixed contact are finished to a smooth radius, minimizing any sharp edges. That's a way to manage the gradient of electric field strength over the surface, providing no obvious place for cone and pit formation to begin. The full surface of the fixed contact, the portion that matches the slightly smaller outline of the moving contact, experiences arc spall erosion, evening out the wear, allowing the points to run for a long time.

I think we can argue that these points did not develop cone and pit. We might also agree that the contact surfaces have been subject to wear, as expected, as shown in figure 10. These points were easy to refinish because there wasn't much wrong with them in the first place. Kudos to the manufacturers.

CONCLUSION

In this article we have looked back to the stock original ignition system with contact breaker points. Contact breaker points in a mechanical distributor are among the most interesting artifacts present in an older car.

When the type 115 Berlina was new, contact breaker points were already a mature product, well developed, nearly universal in autos at that time. Owners and technicians alike understood that contact breaker points required timely replacement, typically more than once per year.

Although I cannot recommend refinishing contact breaker points as a cost-saving proposition, refinishing may be appropriate as an expedient. *CAMS*

FURTHER READING

I can recommend the Standard Motor Products, Inc. eCatalog: www.standard-brand.com/en This large company now markets Sorensen brand products as well. I view their contact breaker points in terms of high quality and expert knowledge of materials technology.

F1 Review: Races 14–16

Jon Gavin

Back from summer break, the back half of the season kicks off with coverage of three races. The Dutch, Italian and Singapore races are covered for your edification. But first some news.

NEWS

Haas confirmed that their '23 driver line up would continue into '24 with the re-signing of both Nico Hülkenberg and Kevin Magnussen. No indication of the duration of the contracts so likely one year. A stable and experienced driver roster is one less thing for Haas to worry about.

Mercedes finally re-signed Lewis Hamilton for another two years. This was expected but the long gestation of the deal stoked speculation he might go elsewhere. Not really. His teammate George Russell also signed on again for the same period.

At Alpha Tauri, Liam Lawson was wheeled in to sub for Daniel Ricciardo after the latter broke his hand in a crash at Zandvoort. Lawson continued to race at Monza and Singapore and maybe beyond until Ricciardo is match fit again. Yuki Tsunoda and Daniel Ricciardo were later confirmed for '24 with Liam Lawson as full-time reserve. Lawson is Red Bull's up and coming prospect and when not on reserve driver duty is campaigning Super Formula in Japan.

Race Results & Championship Standings - After Round 16						
Team	Team Points	Driver	Holland Result	Italy Result	Singapore Result	Driver Points
Red Bull	597	Max Verstappen (VER)	1	1	5	374
		Sergio Pérez (PER)	4	2	8	223
Mercedes	289	Lewis Hamilton (HAM)	6	6	3	180
		George Russell (RUS)	DNF	5	DNF	109
Ferrari	265	Carlos Sainz Jr (SAI)	5	3	1	142
		Charles Leclerc (LEC)	DNF	4	4	123
Aston Martin	217	Fernando Alonso (ALO)	2	9	15	170
		Lance Stroll (STR)	11	16	DNS	47
McLaren	139	Lando Norris (NOR)	7	8	2	97
		Oscar Piastri (PIA)	9	12	7	42
Alpine	81	Pierre Gasly (GAS)	3	15	6	45
		Esteban Ocon (OCO)	10	DNF	DNF	36
Williams	21	Alexander Albon (ALB)	8	7	11	21
		Logan Sargeant (SAR)	DNF	13	14	0
Haas	12	Nico Hülkenberg (HUL)	12	17	13	9
		Kevin Magnussen (MAG)	16	18	10	3
Alfa Romeo	10	Valtteri Bottas (BOT)	14	10	DNF	6
		Zhou Guanyu (ZHO)	DNF	14	12	4
Alpha Tauri	5	Yuki Tsunoda (TSU)	15	DNS	DNF	3
		Nyck De Vries (DEV)	—	—	—	0
		Daniel Ricciardo (RIC)	—	—	—	0
		Liam Lawson (LAW)	13	11	9	2

Fastest Lap Point (if in top 10)

DNF/F: Did Not Start/Finish

Alfa/Sauber, re-signed Guanyu Zhou for the '24 season. There was some chatter that he might not make it. Sauber's Theo Pourchaire is likely to win F2 this season and will be looking for a seat. Aston's reserve Felipe Drugovich's name was also in the frame.

The return of Lance Stroll at Aston Martin is not formalised but being the son of the team owner probably helps his tenure.

McLaren announced the extension of new arrival Oscar Piastri. His strong performance so far has warranted locking him in through 2026.

As of writing, Williams still have an open seat as Logan Sargeant struggles to justify a renewal for '24.

No one was fired at Alpine this month.

UPCOMING RACES

#	Date	Grand Prix
17	24 Sept	Japan
18	8 Oct	Qatar
19	22 Oct	USA (Austin)
20	29 Oct	Mexico
21	5 Nov	Brazil

RACE 14: HOLLAND, ZANDVOORT

F1 visited the Circuit Zandvoort for the third time in the present era. Races have been held on and off dating right back to the beginning in 1952 although today's track is not the same as the original. Set amongst sand dunes on the remote North Sea coast of Holland, it's now a short and

twisty layout. The track features banked corners at turns three and fourteen for added interest but otherwise has little in the way of elevation change over its 4.3 km length. A narrow track makes overtaking tricky and set ups will be more to the higher downforce end of the spectrum. The sand from the dunes also ends up blown onto the track and lies in wait for anyone going off the racing line. Because of location, weather is changeable. This was a regular weekend with no experimental procedural changes deployed. Race distance seventy-two laps.

WEEKEND OVERVIEW—HOLLAND

The pace of updates slowed a bit, but some changes were still evident. Haas brought a new front wing and other smaller changes to match. McLaren had a new rear wing in addition to a new rear beam wing. Aston Martin brought a raft of smaller changes around the rear of their car.

Free Practice One (FP1) was greeted by sunshine and high humidity. A sea breeze kept the track at a middling 32C. Ferrari replaced Carlos Sainz with their young/reserve driver Robert Shwartzman to partially fill their obligations to devote two sessions per season to young drivers.

Initial runs were on a mix of medium and hard tyres as cars circulated clearing some of the sand in the process. About halfway through some teams deployed soft tyres as they went about their programs. With about eighteen minutes remaining, Hülken-

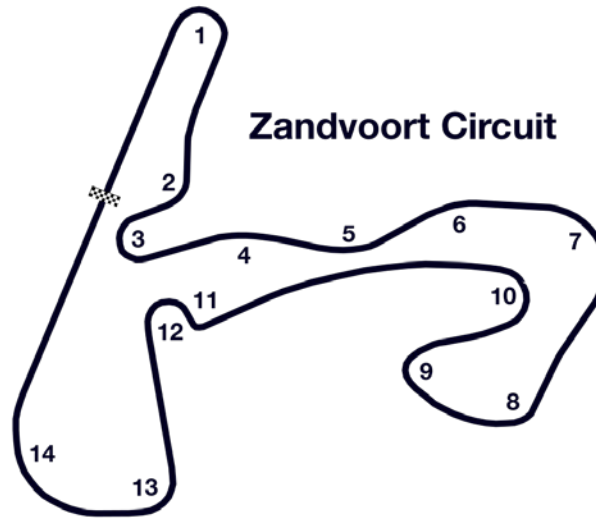
berg span in turn thirteen (T13) and ended up in the gravel at T14 bringing out a Red Flag for recovery. About eight minutes were lost. Home star Verstappen topped the board in his Red Bull with Alonso second in the Aston and Hamilton third for Mercedes. Williams looked good with Albon fifth and teammate Sargeant seventh. Shwartzman kept his nose clean and circulated without incident. Leclerc in the other Ferrari was only just ahead of him in sixteenth place.

Later in the day it was time for FP2. The skies had clouded over, and track temperature dropped to 19C. The session would remain dry, however. Cars came out and quickly filled the tight track. About ten minutes into the session, Piastri lost his McLaren riding the high route through the banking of T3. He ended up into the wall, stopped side aligned with the generally accepted direction of travel. A few moments later Ricciardo entered T3 on the same path and was faced with a dilemma of either ramming Piastri or steering into the wall. He chose the latter but in doing so the steering wheel whipped back on him and broke his hand. The was the end of his weekend and a hospital visit was required. Reserve driver Liam Lawson was called up to run the Alpha Tauri for the rest of the weekend. About fifteen minutes running time was lost under the Red Flag that was thrown. On restart, the soft tyres came out and the lap times dropped. Norris led the timings with Verstappen second and Albon

a good third. Both Ferraris were well down the order as they again struggled for pace.

The run up to FP3 was damp with on and off rain and low 16C track temps. About five minutes in, heavy rain arrived. Some cars went out with most having a torrid time with much spray and standing water leading to off track excursions. Inevitably someone over did it—this time it was Magnussen who left the track at the exit of T3 and contacted the wall. A Red Flag followed and about seven minutes were lost for recovery. The rain was still falling as the track reopened and a mix of full wet and intermediate tyres were deployed to suit. Five minutes into this period, Leclerc, pushing hard, overshot T1 halting the car just short of the wall. A couple of minutes later Zhou in the Alfa had a snap in T13. He ended up beached in the gravel, warranting another Red Flag with another ten minutes time lost. On the restart the track was drying a little, but still Lawson span between T13 and T14 resulting in another Red Flag being thrown. The time lost for this one was shorter because he got himself back to the pits. Times began to fall quickly, but off-track moments continued, including another two offs at T1 for Leclerc. In this period Verstappen set the fast time, Russell was second for Mercedes, and Pérez in the other Red Bull was third. The Ferraris were mid pack.

The rain had stopped for the start of qualifying and it was a little brighter over



the circuit. Initial laps were peppered with off track moments. By the halfway point the track was drying, so every lap was faster than the one before. Some cars put on a fresh set towards the end, but at two minutes to go light rain started. The cars continued to go faster but not by much. Top time was set by Albon followed by Verstappen and then the McLaren pair of Piastri and Norris. Sainz did better for fifth, but Leclerc only just made the cut in fourteenth.

On to Q2. Once again it was brighter and as the cars circulated on their intermediate tyres, times fell. With five minutes remaining a distinct dry line began to emerge in some sections. Most took this as a sign to pit for a fresh set and all the fast times were set in the dying minutes. Verstappen returned to the top with Piastri second and Albon third. Leclerc was fifth and Sainz cut

it fine in ninth. Sargeant brought the other Williams in tenth for a double Q3 for Williams. Hamilton exited in thirteenth.

With no more rain and a dryer track, slick tyres featured for some in their initial Q3 laps, others stuck with the intermediate to get a safe time on record. Sargeant, a soft tyre runner, mis-handled things and span off on one of the narrower dry sections hitting the barrier in T2. A Red Flag held the session and upon their return the cars were all on the soft tyre chasing the times down. With four minutes remaining Leclerc had a big off at the exit of T9 calling out another Red Flag. Once clear, there were just a few minutes remaining, time for one or two fast laps. Verstappen went fastest. Norris was second, Russell third, and Albon a fine fourth. Sainz was sixth and Leclerc still recorded ninth.

Sunday's race began in seemingly fair conditions. All but Hamilton chose the soft tyre to start. On the formation lap rain was reported but not enough to dive into the pit lane for wet tyres. Off the line, Verstappen held off Norris to retain the lead and Alonso picked up a couple of places for third. By the end of the opening lap the rain was coming down hard and six cars chose to pit on what was the optimum strategy. Those on softs skated around for another lap and another five cars pitted at the end of lap two taking the second-best approach. Those that still stayed out would now need to tough it out and hope they could minimise

losses. Norris and the two Mercedes cars gave up the fight and pitted on laps four and five.

The lead then changed several times but by the end of lap five the order settled a little when the rain had abated. Up top, the beneficiaries were Pérez now in the lead, Zhou in second in the Alfa, and Gasly in third in the Alpine. Verstappen pitted on lap two and was in fourth. The soft tyre cars and the late stoppers were all at the bottom of the list, almost a minute behind. By lap eight the tide began to turn and the soft tyre cars started to improve as the track dried and the intermediate tyres started to wear. On lap ten, Piastri did the fastest lap on softs but with more rain expected, albeit light, a decision had to be made and a batch of cars came in to change on to dry tyres. At the end of lap eleven Red Bull pitted Verstappen to take the lead from Pérez which he would hold to the end. Alonso was now back into third, Gasly fourth and Sainz fifth.

On lap fourteen raindrops were again detected but by now everyone was back on the dry tyres. On lap sixteen Sargent crashed his Williams (due to a mechanical issue) and a Safety Car was deployed. Only a few cars took to the pits.

The race restarted on lap twenty-two with a now very dry track ahead. Up front the lead five retained their positions but began to spread out as Verstappen exerted his superiority. Sainz was the first of the

leaders to pit on lap forty-two and others followed suit. Despite a slow stop for Alonso, from which he quickly recovered, the top order was resumed but Sainz had got ahead of Gasly due to his serving a speeding penalty.

Around lap fifty-four some forecasts of incoming heavy rain were relayed to drivers. On lap fifty-seven a little rain was detected.

Heavy rain then came in and all stopped for intermediate tyres and then resumed. On lap sixty-three Pérez had an off allowing Alonso into second. Shortly thereafter Zhou hit the wall in T1 which would eventually bring out a Red Flag. Just before the flag, Pérez pitted for full wets but could not leave the pit due to the Red Flag. A count back would preserve his third place for a restart.

About forty-five minutes were lost waiting for the rain. The cars then did one lap to restore the start order then followed the Safety Car out of the pits to do a rolling start, all on intermediate tyres. The race resumed on lap sixty-seven with news that Pérez had a pit lane speeding five second penalty. The top five order would be retained to the line resulting in a victory for Verstappen, second for Alonso, and Gasly jumped Pérez for third in the final classification due to the penalty. Sainz retained fifth. Verstappen equaled Vettel's record of nine consecutive victories.

Overall, a fun race to watch despite the metronomic performance from Verstappen.

Rain really spiced up the show. Ferrari, in the form of Sainz, did a fair job considering their pace had been off all weekend as the track and car never seemed to click. Leclerc retired after his front endplate was knocked off in contact and the debris went on to damage the floor as he drove over it. A morale boosting result for Gasly and Alpine. Alonso is pushing closer to a win for Aston.

ALFA'S WEEKEND—HOLLAND

Alfa Session Results - Holland							
Driver	FP1	FP2	FP3	Qual	Grid	Race	Gain
BOT	15	9	8	19	18	14	+4
ZHO	17	15	19	16	15	DNF	NA

For this weekend the team went all out on activations featuring Boogie. Readers are no doubt in tune with him. Just in case not: Boogie is a renowned Swiss based German graffiti artist and his style was presented on a special F1 art car for the fans to enjoy. Special merch was available and the real race cars carried some Boogie artwork on the front nose and wing as did the driver's race suits. The art car and other items will be available for a charity auction should you need it. Another Augmented Reality model was released, and the livery will be available in the '23 F1 video game.

No performance updates were declared for the weekend, so it was a case of getting the best out of the current package.

Both cars tramped out with the rest of the pack at the start of FP1. Guanyu went for a fast lap on the hard tyre, but returned to the pit with radio discussion about low charging levels.

Valtteri, on mediums, did a couple of sighting laps and returned to the pits. After a few minutes in the garage he came back out again on the same tyres and ran a sequence of four push laps interspersed with cool down/recharge laps. He went faster each time and was in third place by the end of this sequence. A pit box start was performed and he returned to the garage. Thirty-five minutes remained.

After an extended stay in the garage Guanyu rejoined as Valtteri finished using the same set of hard tyres. He ran four consecutive fast laps, and he too improved each time finishing up twelfth.

Valtteri's adjustments took about eight minutes and he returned on the medium tyres again. This time he ran three fast laps with cool/recharge laps in between. Only his final lap yielded improvement, by which he moved up to ninth.

Guanyu returned with twenty minutes to go on medium tyres. His first flying lap was interrupted by Hülkenberg's crash.

With ten minutes to go the track reopened and both cars came out on medium tyres onto a busy track. Guanyu picked up 0.6s and fifteenth place but did not further improve. Meanwhile Valtteri was on a continuous run, but was well off the pace

as he did a high fuel race simulation to the chequered flag. Overall, Guanyu dropped back to seventeenth and Valtteri finished fifteenth. Both cars did practice starts on the grid.

The Alfas were first on track for the FP2 session with Guanyu ahead of Valtteri and the rest of the pack behind. Guanyu sported medium tyres, Valtteri the hard. First out meant they initially topped the timings, Valtteri a couple of tenths the faster. They took a cool/charge lap trying to keep out of the way of others on fast laps on a crowded track. They continued the cycle improving a little when traffic was not in the way and they returned to the pits when a Red Flag was thrown for Piastri and Ricciardo's incident.

Both cars joined the queue to get back on track now shod with the soft tyre for some qualifying simulation runs. Guanyu went to fifth then Valtteri took fifth. Both did a couple more laps separated by double cool/recharge laps coming through the pits to do a pit stop start in the process. Both cars gained a little time before returning to the pits. Twenty minutes remained.

A few moments of peace on the track ensued before most of the cars returned, including Valtteri who was on used soft tyres. He would go round and do a pit stop for a used hard tyre. Guanyu came out about a lap behind on the used medium tyre. He too pitted changing to used softs. Both cars then ran consecutive laps to the flag, both

running a race simulation and testing out various engine modes as they went. Both drivers took a practice start from the grid after the end of the session. Final placings were fifteenth for Guanyu and ninth for Valtteri.

A couple of minutes into the FP3 session Guanyu took to the track on the full wet tyre. Valtteri joined about a lap behind, similarly equipped. Guanyu reported that he was ready for inters on his second lap and the team decided to box for a change at the end of that lap. Valtteri also pitted for a change, but a Red Flag was thrown for Magnussen's crash preventing any fast laps on the new tyres.

Post flag, the Alfas were first on track, Valtteri ahead, and both still on the intermediate tyre. The track was still wet, and rain was falling on and off. Guanyu bettered his prior wet tyre time by a tenth, Valtteri did not. They continued to circulate. At thirty-five minutes to go Guanyu left the track in T13 and got beached in the gravel bringing out another Red Flag and ending his session.

Valtteri came out again on the intermediates on to a still wet track. He picked up about eight tenths on his earlier full wet tyre time and was now fifth. He continued to circulate until a Red Flag was thrown for Lawson, but his times did not improve and he was by now eighth.

After a brief stoppage, the track was now drying and Valtteri picked up a second on

his first flying lap, good for sixth place. He took a charge lap to prepare for one more push lap before the flag. This was his fastest lap of the session, two and a half seconds faster as the conditions improved. This put him fourth, although he would drop to eighth at the end of the session as others completed their laps. Valtteri did a grid practice start after the flag. Guanyu was nineteenth at the end.

Both cars went out on the intermediate tyre to begin qualifying on a track that was still very wet in places. Valtteri attacked the course first with Guanyu a few turns behind. Valtteri's first time was the fastest, though many were still to record their times. Guanyu went sixth. Next lap, Valtteri picked up half a second, good for third. Guanyu topped that and went to second. Both took a charge lap and went for another push lap. As the track was drying Valtteri picked up another one and a half seconds, but this was only good for tenth at this point. Guanyu improved too but was now in sixteenth. On the next lap Valtteri went slower and was now fourteenth. Guanyu made a step, jumping up to twelfth with almost a second gained. Both drivers debated and decided to take a fresh set of intermediates with six minutes to go. The team had to stack the stop. Both cars gained a second, Guanyu was now eighth, half a second ahead of Valtteri in thirteenth. Both cars took a charge lap with just time for one more push lap afterwards. Guanyu

picked up a tenth and fifteenth place, Valtteri found four tenths and eighteenth. Their ultimate positions were Guanyu sixteenth and Valtteri nineteenth. So ended their qualifying.

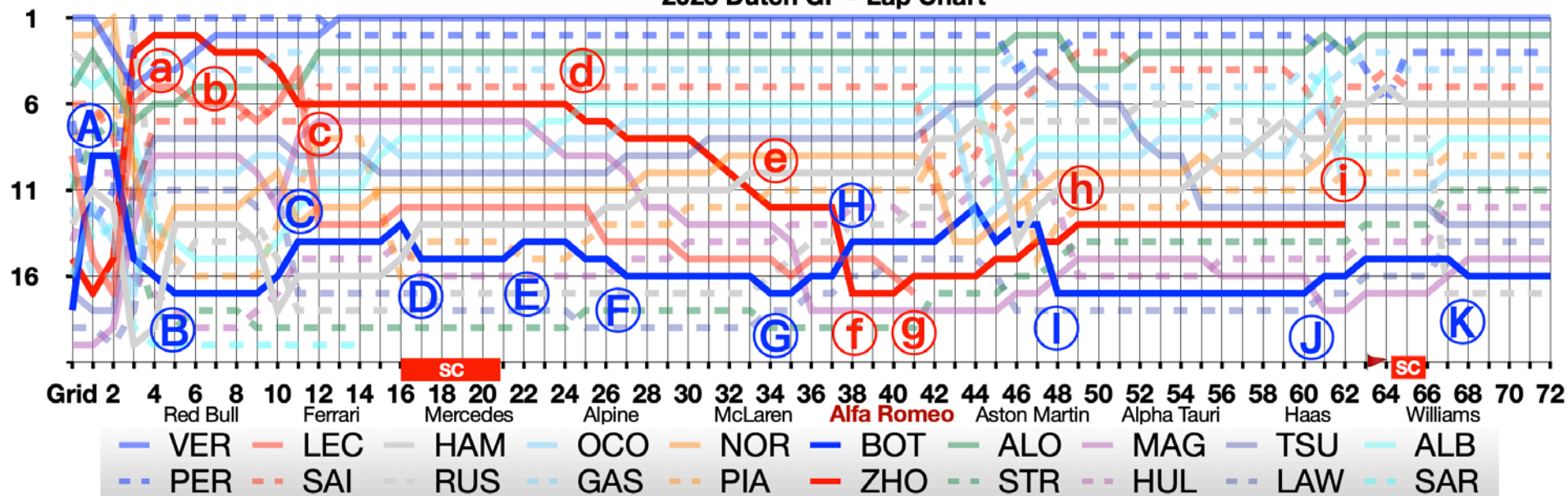
For the race, Magnussen would make a pit lane start helping Valtteri with a spot. Tsunoda picked up a penalty in qualifying and this helped Guanyu with a one grid place boost.

Off the line Guanyu lost a spot to Ocon in the Alpine before T1 and Valtteri came by in T1. In T7 he passed Sargeant and had a good look at Ocon in T9. Sargeant came back by in T11 which is where the rain started to get heavy. Guanyu and the team began to discuss a tyre change; driver pushed for intermediates, but the team thought it best to stay out. In the few seconds before the pit entry Guanyu prevailed and he came in for the wet tyres on what was the best strategy. He rejoined in fifteenth, only behind Pérez in the group that pitted. As the rest of the field made their pit calls, he shot up the leaderboard and passed the stricken cars that did not pit to emerge second on lap four (a). Pérez was over ten seconds ahead, Gasly fairly close behind and Verstappen now in fourth and on a charge. On lap seven Verstappen came by fairly easily in T3 moving Guanyu to third (b). Guanyu was now getting calls to manage the tyre as the track dried but with the possibility of rain soon. By lap nine, Gasly was putting the pressure on and at the end

of lap eleven Guanyu pitted for a medium tyre. Others pitted but all for the soft tyre. Gasly stayed out but Alonso pitted from fifth. Guanyu exited now in fifth with the soft shod Alonso on his tail. He quickly succumbed to Alonso in T3 dropping to sixth. Gasly stopped the next lap but emerged still ahead. Sainz also pitted but had a slow stop so moving Guanyu back into fifth. On lap thirteen Sainz retook fifth on the way to T1 (c). He stayed there through the small rain and Safety Car period during which he was requested to save fuel.

At the restart, he retained his sixth position. On lap twenty-five, Albon got by into T1 (d) and a backwards slide began fueled by a combination of the slower tyre, DRS, and a slower car. His retreat ran at a rate of about one car per lap, but he stabilised at twelfth by the end of lap thirty-four (e). At the end of lap thirty-seven he pitted on to soft tyres and a wing adjust, returning to the track in seventeenth. The ailing Leclerc called it a day at the end of lap forty-one moving Guanyu up to sixteenth (g). A few laps later he caught and passed Lawson into T1 on lap forty-five for fifteenth. Others began to make their final pit stops and he climbed up to thirteenth by lap forty-nine (h). He stabilised there for over ten laps. On lap sixty-one he got a call to pit for in-ters as the rain started to get heavy. On lap sixty-three as the rain became very heavy, he overshot T1 and hit the wall. He was OK but his race was done (i).

2023 Dutch GP - Lap Chart



Valtteri left the line well and found a gap into T1 passing Tsunoda and Guanyu. He passed Ocon in T2 and Sargeant in T3. Hamilton was next in T6 and Hülkenberg in T9. As the rain hit, Gasly ahead and others took to the pits leaving Valtteri in ninth but still on the soft tyre in the rain (A). He got up as high as sixth due to pit stops, but did not pit himself opting to tough it out and this soon proved to be a mistake as he dropped back precipitously to fifteenth at the end of lap three. More spots were lost on laps four and five as the late stoppers recovered positions dropping him to seventeenth (B). As the track dried the situation improved as some cars ahead took to the pits for soft tyres moving him up to four-

teenth on lap eleven (C). On lap sixteen, he was pushing Leclerc when Sargeant crashed and put a stop to the challenge. Valtteri opted to pit under the Safety Car for a set of mediums and he rejoined fifteenth to follow the Safety Car for a few laps (D). On the restart he held position and in T10 Piastri went wide allowing Valtteri to move up to fourteenth (E). Piastri regrouped a couple of laps later and got back by in T3 on lap twenty-five. He again caught Leclerc but on lap twenty-seven Hülkenberg came by into T1 dropping him to sixteenth (F), where he would stay for the next few laps following Hülkenberg then back on the tail of Leclerc.

On lap thirty-four he got up alongside Leclerc in T1 but couldn't quite make it

stick. This allowed Russell to sneak by and Valtteri dropped to seventeenth (G). On lap thirty-eight he successfully passed the injured Leclerc into T1 and combined with a couple of pit stops he was now up to fourteenth (H). Around lap forty-three others pitted but soon regained position then Valtteri made his last stop at the end of lap forty-seven taking soft tyres again (I). He held position for about the next ten laps. On lap sixty he pitted again with the rain incoming being the first to take the intermediate tyre. On the next lap Magnussen pitted and a spot was gained (J).

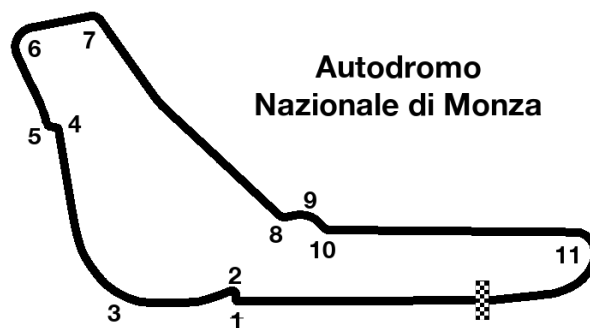
As Guanyu planted his car in the barrier at T1, Valtteri followed him off-track but was able to get the car turned and

he rejoined. Valtteri picked up a spot at Guanyu's expense before the red flag. On the restart, he retained fifteenth but on T5 Lawson came by as Russell also retired after contact so fifteenth was retained. Magnussen then passed by about the same place a lap later demoting Valtteri to sixteenth (K) where he would cross the line. However, both Tsunoda and Magnussen would pick up time penalties and thus Valtteri got a boost to fourteenth in the final classification.

Overall, a race that was influenced by the weather. It's probably not fair to discount the weather unless it is done so in its entirety. In that case, the team probably would have finished about where they started but none-the-less, Guanyu running second for a while was great to see. Near competitors also failed to score points but Alpha Tauri did look stronger.

RACE 15: ITALY, MONZA

The Autodromo Nazionale di Monza is another of the historical tracks. Stretching back over a hundred years, it was originally built as a long track including a banked oval section. Whilst remnants of that oval are still clearly visible, the outright danger of this arrangement led to bypassing the oval and keeping the remaining flat section. Aside from kinks added to contain speed the track is essentially unchanged. Monza still boasts the highest speeds of any current F1 track and is deservedly referred



to as The Temple of Speed. It's about as straight as a circuit can be and requires only six braking events in the 5.8 km lap for today's F1 cars.

Given the nature of the layout, low drag and low downforce is the recipe for top speed, though the high-speed corners cannot be completely ignored in the set up. The track surface is not too abrasive, so a one-stop race is expected under normal circumstances. There are some bumps in the surface that will limit just how low the cars can be run. Race distance fifty-three laps.

WEEKEND OVERVIEW—ITALY

The Alternate Tyre Allocation experiment was run again for this weekend. Briefly, this reduces the number of tyre sets from thirteen to eleven for the entire weekend. In qualifying, tyres hardness is prescribed, and each successive round reduces the tyre hardness by one notch, so Q3 uses the soft tyre only. This does mean teams must be careful in their usage in the practice sessions and in the race used sets might be needed.

Driver-wise this was the first full weekend for Liam Lawson at Alpha Tauri and Felipe Drugovich was in for Lance Stroll in FP1 as part of Aston's young driver requirement.

Changes in a general sense were everywhere as teams bring their lowest drag configurations to this track. Beyond that, McLaren brought another tip to tail update to improve their low drag set up. Alpine had more cooling evident for extended full throttle running. They also had a new rear beam wing to try out. Red Bull were trying different rear wings during the early sessions to optimise the down force/drag trade off.

Ferrari had some cosmetic updates for their home race with splashes of yellow on the still mainly red driver's outfits and cars celebrating their LeMans win.

Alfa were also sporting a beautiful home race tricolore livery and logos promoting the newly announced Tipo 33 Stradale.

Both Ferraris, Bottas' Alfa, Russell's Mercedes, and both Alpha Tauri drivers took their final free new Internal Combustion Engines, MGU-H and K units, and turbochargers.

The track was at a medium 37C and skies above partly cloudy for the start of FP1. Cars trickled out over the opening minutes on a mix of tyres. Some aero induced bouncing was seen on the high-speed sections—something the teams would have to dial down by ride height and spring rate

adjustment. Leclerc spent some time in the garage as the team looked over the rear of his car. But otherwise, it was a very run of the mill session with no major events. Verstappen was fastest, Sainz second, and Pérez third. Leclerc was fourth.

Weather for FP2 was similar with the track at 35C. Most of the cars piled out filling the track with a line of cars. Halfway round Stroll came to a halt bringing out a Red Flag before most could set representative times. This was unfortunate for him as he got no running in FP1 either. About six minutes were lost to clear the Aston.

As the track went green the cars once again came out en masse. Initial tyre choice was mainly the medium, but a sprinkle of other choices were in play. After first fast laps most followed with a cool/charge lap before going for a fast lap again, but track position was already becoming a challenge. Just after the halfway point about half the cars came out again. More then joined with most of the pack out on softs all looking for a read on next day's qualifying under representative conditions. Inevitably, a traffic jam formed at the end of the lap and Verstappen on a fast lap got delayed. At about twenty minutes to go most cars peeled back into the pits. At about twelve minutes to go cars came out again mainly on mediums to run to high fuel race simulations. At nine to go Pérez span and backed into the barrier exiting the final corner crunching the special rear wing.

After a Red Flag the track went green with four minutes remaining and all the non-broken cars came out for a few more laps.

Ultimately Sainz was fastest from Norris and Pérez. Verstappen was only fifth and Leclerc sixth. Hamilton was having a bad time and ended up only seventeenth although he did not run the soft tyre.

FP3 was warmer with the sun fully out and the track at 39C. Stroll was out early as he had much to do to catch up. In the first twenty minutes there were several different run plans on display: race simulations, parts testing, and quali-style fast laps. The track emptied somewhat before refilling for another mixed period. At about twenty minutes to go the track filled again for a final run with mixed programs. Ultimately, Sainz led the timing, Verstappen a close second, and Hamilton, having a better day, in third. Leclerc was half a second off Sainz in fourth.

Qualifying was next. Temperatures were stable from the morning practice session. Early on Verstappen and Alonso had laps deleted for track limit violations but both had time to remediate the loss. At the mid-point both Red Bulls were at the top followed by the Ferraris. As expected, everyone wanted the last time and so the cars all bunched up before the final turn to launch onto the straight at the best moment. Fortunately, everyone got a lap started before the flag fell. Verstappen remained fastest,

Albon second, and Leclerc third. Sainz was down in seventh.

In Q2, all except the Mercedes cars came out to get times on the board. Most took to the pits after a single fast lap and as they did so, the Mercedes came out for runs in the lull. With a few minutes remaining the cars came out for a final push. While some cut it fine, everyone made it round to get a final fast lap started. Verstappen was fastest followed by Leclerc and Sainz. Pérez was fourth, Albon fifth.

Q3 was next with ten cars still in play and the soft tyre starring. Cars trickled out to build for a push lap. To the satisfaction of the crowd, Sainz was fastest followed by Leclerc then Verstappen, just a tenth off. All cars pitted, put on fresh tyres and sat until the three-minute mark when Alonso led the cars onto the track to line up for one more lap to find the pole sitter and the top half of the grid. Leclerc was the first of the prospects to start his lap and he flung the Ferrari round the track to take the top time. But, behind, Verstappen knocked him off the top spot. Then Sainz came round and took the pole by just one hundredth. Russell took fourth, Pérez fifth and Albon sixth.

Timings revealed the compromises: Red Bull were making time in the corners, Ferrari making their time on the straights. Similarly, Albon in the Williams was very fast on the straights.

Next to consider was the race. Despite the hopes and build up for Ferrari at home,

the somewhat inevitable result of a Red Bull one-two still managed to transpire with Verstappen in the top position. This represented his taking a tenth victory in a row, thus setting a new record for that stat. Additionally, Red Bull as a team notched up fifteen wins in a row, another record. Whilst this can (and does) lead to a bit of predictability in the races, it is still an immense achievement, and it doesn't look like they are done yet.

How we got there at Monza was still worth reviewing. Before the race got going, Tsunoda broke down on the formation lap and parked up. The pack went around for a second time, but the Alpha Tauri was still stranded. Once the cars returned to the grid, there was some obvious lack of communication. The cars sat with no control lights to indicate what was next and no word from Race Control. For several minutes there was a standoff until a delay was declared and the grid was opened to the teams. All this took about twenty minutes before they set off again on a third formation lap which went well, and the start was properly taken. Two laps were sliced off the race distance to compensate.

Off the line Sainz held off Verstappen and cut over to take the racing line into T1. Leclerc had a nose in but settled back into third. The three leading cars pulled away but stayed close together when DRS was enabled. Verstappen noted Sainz was already beginning to slide and he took a

run at him into T1 on lap six. Sainz thwarted this attempt closing off the gap in T2. Verstappen wisely backed out and held his fire for a bit knowing that the Ferrari's tyres were unlikely to last. And so it was on lap fifteen, charging into T1 Sainz had a front lock up. This compromised his exit from T2, and Verstappen got alongside with the inside line into T3 and it was job done. He held the lead to the line, aside from some pit stop shuffling.

Unsurprisingly, the single pit stops for the leaders was initiated by Sainz on lap nineteen. Verstappen and Leclerc were next. Sainz just kept ahead of Leclerc with a fast out lap, but it was very close. Leclerc pushed hard but his colder tyres put him at a disadvantage, and he had to settle in behind. Pérez was now behind Leclerc and closed in to try a pass on lap thirty-one into T1. He was rebuffed but on the next lap he got that pass done on the main straight and set about Sainz just up the road. Sainz had already reported tyre concerns and by lap forty-one the pressure was on. Pérez made several attempts that were robustly fended off by Sainz until on lap forty-six he cruised past on the main straight to take second.

Both Ferrari drivers wanted the third podium spot at the home race, and they went at it aggressively considering that any contact could have erased all spoils for the weekend. The team gave a very ambiguous order not to take risks, so neither really backed off. Experienced race craft pre-

vailed. Despite a smoky front lock up from Leclerc on the final lap into T1, both cars came home unscathed. Fingernail biting stuff for the pit wall.

Final score was Verstappen first, Pérez back where he should be in second. Sainz was third and Leclerc fourth. Although not the fairytale ending that the Tifosi hoped for, it was actually a really good result for Ferrari and maybe the sport too. Sainz was able to take it to Red Bull at least as long as his tyres lasted; all the other contenders for best of the rest were well behind. To be fair, Ferrari threw everything at this race — super low drag configurations, fresh power-trains, and even a sensible and competent strategy. A fun race to watch.

ALFA'S WEEKEND—ITALY

Alfa Session Results - Italy							
Driver	FP1	FP2	FP3	Qual	Grid	Race	Gain
BOT	15	12	16	14	14	10	+4
ZHO	20	19	19	16	16	14	+2

In FP1, both Alfas went out about five minutes into the session. Both cars barely got out of the garage when they reported anti-stall cutting in. This is a feature that pops the clutch when engine revs drop too low. They were rescued and pushed back into the garages for investigation. A software issue was later blamed. After almost twenty minutes, Guanyu came out on soft tyres with no repeat of the earlier issue. Valtteri

came out a couple of minutes later also with softs. Guanyu's first fast lap wasn't fast, and he was in nineteenth. Valtteri's first fast lap was about half a second faster than Guanyu's but he was on the radio reporting no rear end grip in the high speed areas citing the rear end to be at fault. He pitted for a big front wing adjustment to try to balance the car and returned to the track. Valtteri went for a fast lap with the revised settings. After the lap he reported the rear end to still be bad and he pitted again citing the car as un-drivable. Guanyu tried another fast lap but he was not making progress and he pitted without completing the lap complaining of bottoming.

With sixteen minutes to go Valtteri returned to the track on a fresh set of soft tyres. He went for a fast lap. Guanyu came out three minutes later also on fresh softs. Valtteri ran a couple of laps with a cool/charge in between and got up to fifteenth on the second one. He then ran a double cool/charge with a pit stop for wing adjustment and tried once more without improvement. One last try resulted in a lockup in T1 and the session was done without any further improvement.

Guanyu's first fast lap wasn't any faster and he remained in twentieth position. He too went for a double cool/charge with a visit to the pit lane. He did not stop in the box but did do a practice start. Guanyu improved a fraction on his next lap, but

remained last. Both cars went around for a grid practice start. Not such a useful session with a low lap count for both cars. Final placings were Valtteri fifteenth and Guanyu twentieth.

Both cars were out along with the rest of the pack as the track went live for FP2 selecting the medium tyre to start. Stroll stopped the session early and so the Alfas managed to get the only two recorded lap times with Guanyu first and Valtteri second.

After the Red Flag cleared, their next lap times put Valtteri tenth and Guanyu just behind in eleventh. They did a cool/charge and found a bit of a gap to go for another fast lap. Valtteri went a fraction faster for now fourteenth, and Guanyu a fraction slower for sixteenth. Both cars came into the pits and were pushed into their garages with forty minutes remaining.

At twenty-six minutes to go Valtteri emerged on new soft tyres with Guanyu just behind also on new softs. Now it was time for a qualifying simulation. Valtteri got a clean start, but Guanyu got a bit tied up in slow traffic approaching the start of the lap. Valtteri picked up over a second and jumped to eleventh, Guanyu encountered more traffic in-lap and backed out. He made a bit of a gap then went for another push lap while Valtteri ran a double cool/charge including a dive into the pits to do a practice start. Guanyu's lap was nine

tenths quicker but at this point he was still in nineteenth. Guanyu did a double cool/charge with pit lane start. Valtteri's next lap was a little faster and he moved to twelfth returning to the pits afterwards. Guanyu started his next fast lap which was a couple of tenths faster but still he was stuck in nineteenth. He returned to the pits. Thirteen minutes remained.

They stayed in the garage until after Pérez' crash when they came out on used mediums. Both cars took a grid practice start. Overall, a fair twelfth for Valtteri and a rather disappointing nineteenth for Guanyu.

Valtteri was first on track as the track opened for FP3. Guanyu was a few places behind. Both cars started on used tyres, Valtteri on mediums, Guanyu on softs. Guanyu did his now customary turn-by-turn radio check. Both cars pitted after the out lap, where Valtteri did a practice start at the end of the pit lane and Guanyu swapped on to used mediums. They went on to run a series of consecutive fast laps in a race pace simulation. As such, no records were set, and the pair were at the bottom of the time sheet. As they proceeded updates on relative performance, both at lap level and specific corners were passed over the radio. They ran for about twenty minutes before coming into the pits. Valtteri did a practice pit stop before being pushed into the garage. Guanyu was pushed away too.

Both cars were still at the bottom of the timing.

Just before the halfway point, both cars emerged on new medium tyres. Both ran much quicker but not relative to the pack—they only managed seventeenth for Valtteri and eighteenth for Guanyu. Both took a single cool/charge and then another fast lap. Guanyu went a little faster and the pair swapped positions on the timing. Both took a single cool/charge then did one more fast lap. No additional improvement and both cars pitted with twenty minutes left on the clock. Both cars retired to their garages.

With just under fifteen minutes remaining both cars came out now on new hard tyres and proceeded to a fast lap. Speeds were better and Valtteri jumped to eleventh, Guanyu to sixteenth. Both did a cool charge and then another push lap. Valtteri straight-lined turn eight crossing the gravel trap so backed out. Guanyu was close behind and lifted too. Both went for another fast lap, Valtteri reported front locking into T1 and T2, and backed off to push again next time round. Guanyu went 1ms faster so did not move from his by now eighteenth. Valtteri then went half a tenth faster and was now fourteenth. With time running out, both got one more lap but with no improvement. Both cars did a grid practice start. Final placings were sixteenth for Valtteri and nineteenth for Guanyu.

In qualifying both cars went out together at the back of a batch of about two thirds of

the grid, about a lap behind the first car on track. Valtteri's first lap was good for seventh, Guanyu's fifth. After a cool/charge, the next fast laps yielded tenth for Valtteri, sixth for Guanyu. Both returned to the pits with seven minutes remaining. Both cars were garaged, Valtteri took a front wing adjustment.

Both cars left their garages again with three minutes on the clock. They started their laps towards the front of the queue and had a clear run. Valtteri was going well and finished half a second up in twelfth. Guanyu lost a little time in traffic and was now fifteenth. With more cars behind they dropped down the order to their final positions, Guanyu sixteenth and Valtteri fourteenth. Thus, Valtteri advanced to Q2 and Guanyu's day was done.

In Q2, Valtteri was at the bottom of the timing after his first fast lap. He pitted and was wheeled into the garage for fresh tyres and to wait for his next run to begin. Time ticked away and with under three minutes to go he left the garage, slightly delayed by a McLaren crossing his path exiting from the neighbouring garage. Time was now short, and he was instructed to push and overtake to get to the line before the flag. He duly did and crossed the line to start his push lap with a twenty second margin. He was able to improve a tad and moved to his final qualifying position of fourteenth. At that point he was done for the day.

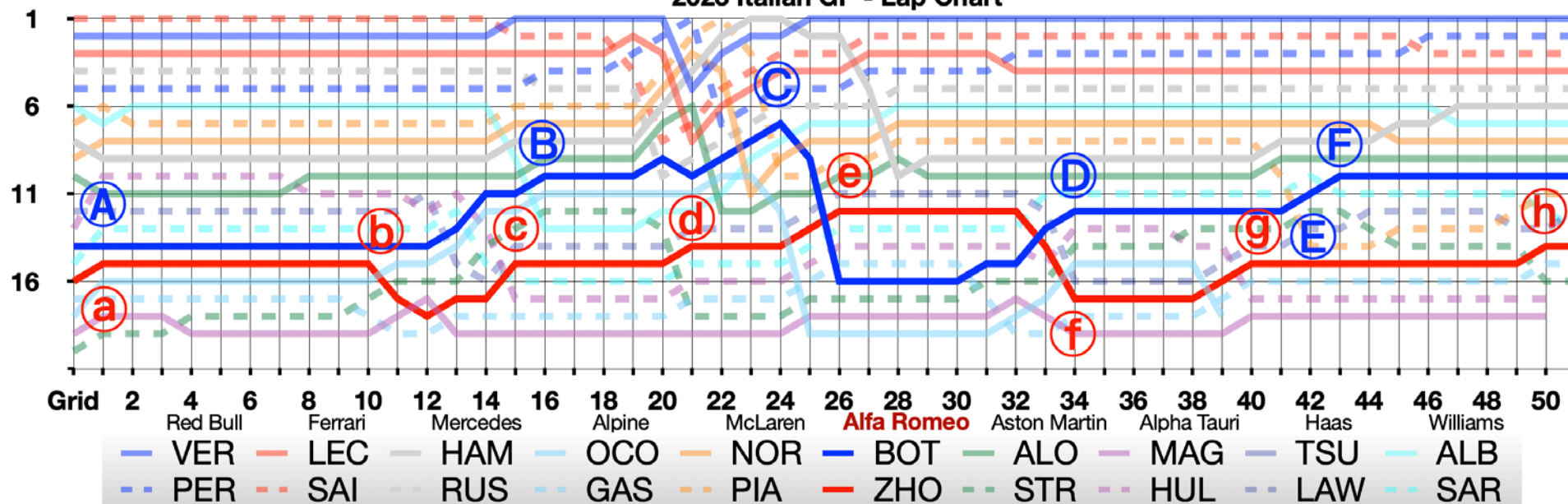
On race day the cars lined up in their

qualifying positions, no adjustments were needed. Both cars benefitted one spot from Tsunoda's formation lap break down. Most of the grid, including Guanyu, chose to start on the medium tyre, but Valtteri took the reverse strategy and started on the hard tyre along with a couple of others. Valtteri's set was not new. The thrice restarted formation laps gave the team and drivers more opportunity to optimise the launch parameters for throttle and clutch.

Once finally underway, Valtteri had a good launch and quickly came up behind Lawson's Alpha Tauri. He jumped right and got around but into T1 was delayed by Hülkenberg, almost running into him as the Haas braked into the T1 traffic. This allowed Lawson back past through T1 and T2. Valtteri caught Lawson into T4 and it looked like there might have been a little contact in T4 and T5. Valtteri backed out and this allowed Sargeant's Williams to slip by in T5 (A). He followed Sargeant for a while just slightly dropping back. A series of pit stops brought him up to tenth by lap sixteen as some cars locked in a two-stop race (B). Similarly, as the lead cars made their one stop, he rose to a high of seventh before making his one stop at the end of lap twenty-five (C).

He rejoined in sixteenth with Gasly's Alpine ahead, Stroll's Aston behind. He moved forward and had Gasly in sight when the Alpine pitted to initiate another batch of pit stops for those on a two-stop

2023 Italian GP - Lap Chart



strategy. Valtteri once again climbed the order to twelfth on lap thirty-four (D). On lap forty-one Hamilton and Piastri had contact into T4 resulting in a pit stop for the McLaren and gifting a spot (E). Sargeant was immediately ahead and with DRS assist Valtteri caught and passed him into T1 on lap forty-three (F). Valtteri was now in the points in tenth, but Sargeant also saw the points slipping away so was not prepared to let go so easily. The super slippery Williams got a nose alongside on the way to T4 and coming in to T4 there was a contact — Williams front wheel to Alfa sidepod resulting in both cars going wide in T5 and some choice language from Valtteri over the radio. Sargeant gave the spot back and the pit

confirmed no observed problems on Valtteri's car. Still in tenth, Valtteri pulled away from Sargeant who was now carrying some damage. With Alonso seventeen seconds up the road he cruised to the line for tenth and a point, the first for the team in a long while.

Guanyu's race started cleanly with a numerical gain of one spot at Tsunoda's expense. He was quite fast up to T1, but traffic there prevented any gains so he slotted in behind Valtteri in fifteenth (a). Guanyu reported feeling contact and that was probably Ocon coming in hot into T5 in the Alpine. No damage reported.

There wasn't too much he could do as both he and Valtteri ahead had the DRS

benefit as did Ocon just behind. The stalemate was broken when Guanyu pitted for an early stop on lap eleven picking up a set of used hard tyres (b). He rejoined eighteenth but rose back to fifteenth as others made their early stops (c). Lawson came out from the pits just ahead of Guanyu and was now the target and within DRS range. Guanyu would end up following him for most of the rest of the race. At this point Lawson was faster and by lap sixteen had escaped DRS. Guanyu put his head down and managed to recover DRS for a few laps before dropping back again. On lap twenty-one Stroll pitted moving Guanyu up a spot (d). Lawson was fighting with Alonso and once again Guanyu closed into DRS

range, now on lap twenty-three. Despite this, he could not make much impact as Lawson benefitted from DRS with Alonso. On laps twenty-four and five, Ocon and Valtteri pitted for their only stop and two places were gained (e).

Lawson was still ahead. Guanyu's engineer was giving feedback on where he could improve. Mainly he was suggesting slightly easier into the chicanes to get a better exit speed. Despite this he did drop back a bit and at the end of lap thirty-three both Guanyu and Lawson pitted on to medium tyres. He rejoined, still behind Lawson but now by four seconds and in seventeenth place. On these tyres, Lawson was quicker, and the gap opened slowly. Ocon slowed and Guanyu passed him on lap thirty-nine then Hülkenberg pitted on the next lap gaining Guanyu two spots to fifteenth (g).

Lawson had got away and Piastri was now in the mix ahead having pitted. Stroll was also in front but dropping backwards. On lap fifty Guanyu pulled a pass on Stroll on the main straight to take fourteenth which he held to the line one lap later (h).

Overall, a much better weekend despite an onerous looking start on the Friday especially for Guanyu. The team got a point with Valtteri and neither Haas (ahead) nor Alpha Tauri (behind) scored any championship points.

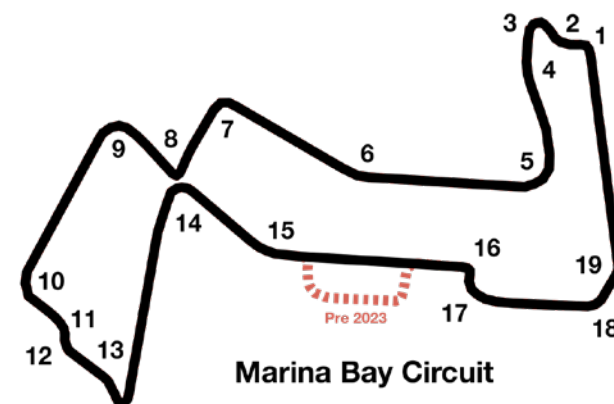
RACE 16: SINGAPORE, MARINA BAY

Singapore was home to the first night race in 2008 and it has remained on the calendar since. The track winds its way around the Marina area of the island state. Although held after sundown, the environment is always hot and humid as befits Singapore's equatorial location ensuring a workout for the drivers. It's also a long duration race as average speeds are low.

For 2023, the track was simplified somewhat as the unique section that ran in front of and then under a grandstand was eliminated due to construction. Four tight corners were removed, shortening the lap slightly as shown in the track map. Lap times were expected to drop, and the new layout should improve the flow.

The track is laid out on city streets, so it tends to be bumpy although the first sector has been resurfaced. Walls are close and there is little run-off. Overtaking is traditionally difficult, so qualifying is important and gains are more likely to be made with pit strategy. A safety car is common even though one of the frequent points of jeopardy was removed with the new layout.

Tyre wear is moderate and with a lack of long straights, downforce is more important than outright power. Race distance is now sixty-two tours of a 4.9 km lap.



WEEKEND OVERVIEW—SINGAPORE

Top of the agenda was the likelihood of Red Bull continuing their unbeaten record as they march on towards a perfect season.

The FIA also resurrected two prior Technical Directives (TDs) to announce a clamp down on flexi wings and floor movement. The regulations require aero components to be fixed and the TD explains how this will be enforced. Teams get a benefit from variable aero so are continuously probing the limits of the enforcement. The FIA chose this moment to tighten up and close off some potential design directions. Some changes on the cars were expected, although the review was not obviously targeted at one team's design.

Additionally, the FIA announced that some changes for 2026 would be brought

forward to 2025. These changes would seek to limit outwash—sideways deflection of air—which makes overtaking more difficult but improves aero efficiency. The most recent regulations attempted to limit outwash, but teams have found loopholes making an early change necessary.

Many updates were present. McLaren brought an almost new car (from the aero perspective) and spent much of the weekend evaluating it on Norris' car. Pretty much everything visible was new. Alpha Tauri had revised much from the sidepod inlet backwards. Alpine had wider and rounder inlets, new mirror housings and rear beam wing. Mercedes had revised brake ducting and Ferrari a new front wing. Alfa had a major update with new front wing, floor fences, diffuser and rear corners.

On the non-technical side, McLaren brought a new paint job and Williams flew a full-on Gulf inspired livery for this weekend.

FP1 was held in the daytime under hazy sun and with track temperatures at 45C. These are not the conditions for qualifying or the race, so this session was more about cleaning up the track and evaluating all the new bits. A mix of hard and medium tyres were deployed first on the dusty track, softs were saved for later in the session. Early on grip was evidently low as Alonso had a minor off and others were catching slides. Norris' McLaren was decorated from tip to

tail with Flow-Viz paint as they evaluated their thoroughly revised car. Hamilton was having trouble with cooked brakes. In the final third of the session, soft tyres were installed on many cars.

The most interesting event was the presence of some local fauna in the form of large lizards crossing the track causing yellow flags on several occasions. These creatures seemed impervious to the presence of high speed F1 cars. No harm came to either party and they were not seen again over the weekend.

New parts seemed to be working for Ferrari and McLaren as Leclerc led the timings, with Sainz second. Verstappen was third and Norris fourth.

FP2 was run in race appropriate conditions: night time. Track temp was down to 36C. Initial laps were once again on the medium and hard tyres. For some, rear end grip was still low and off-line the track was still very dusty. About halfway through the soft tyres were applied and qualifying simulations performed. Both Red Bulls were struggling with rear end grip and could only post seventh and eight times.

With that work done the teams reverted to long runs, mainly on medium tyres to finish out the session. Sainz topped the timings ahead of Leclerc, Russell, and Alonso. Red Bull had what was probably their worst Friday for a long time.

FP3 was once again in daylight. The hazy sun only allowed for a 39C track tempera-

ture this time. Notably, as happens in this region, there was a heavy rain shower before the session that washed away much of the rubber laid down. The track was dry for the start of the session. Once again, the session started with a preponderance of medium tyres. The Red Bulls were still struggling although Verstappen did manage to top the timings at about twenty minutes in. Russell bolted on softs at the halfway point and jumped to the top. Others waited until near the end before trying this. Sainz jumped past Russell. Leclerc, despite really trying, could not get better than fifth. Norris was third and Verstappen fourth, the latter having big problems with gearbox shift speeds. Pérez was down in eighth with handling still not resolved.

Quali was set to be interesting as the usual contenders for pole were off the pace. The track was a bit cooler at 35C and the sun had set. Further cooling and additional rubber would lead to track evolution during the session.

Q1 saw all cars out on softs as no one wanted to risk not progressing due to grip. After the first set of tyres were done, Sainz was ahead of Verstappen and Leclerc. With just a few minutes remaining all the cars came out again for a final try on soft tyres. Fast laps began with the now usual queue of cars just before the start of the lap. Operations were curtailed in the last minute by a big crash as Stroll hit the wall head on coming out of the last turn. The front of the car

was completely gone, and the power unit separated from the safety cell. A big mess. He made a mandatory visit to the medical center and was pronounced well, but would not take to the track on race day. With all this an unusual order resulted: Tsunoda was fastest ahead of Pérez, Hülkenberg, Lawson, and Magnussen.

Clean up and barrier repair significantly delayed the start of Q2 where Magnussen initially went faster than the Red Bulls, but they all fell down the order as the track improved and others were able to top the timing. Mercedes went out after most were done with their first tyre set and Russell went to the top, Hamilton struggling a bit more in fifth at that point.

At about four minutes to go the cars began to come out for a final push lap. Verstappen had a terrible lap with tyres not ready and he ended up in eleventh and shockingly, out of qualifying. Teammate Pérez span and finished twelfth ensuring no Red Bull participation in Q3—a major upset. Sainz continued his good weekend with top timing, ahead of Russell and Alonso. Magnussen was fourth and Hülkenberg sixth backing up a great qualifying run for Haas. Alpha Tauri's Lawson squeezed into Q3 in tenth in only his third F1 outing.

Q3 was fairly straight forward. After a first run Sainz still had the lead over Leclerc and Norris. A second run saw Russell almost take the top, but Sainz beat him by less than a tenth. Leclerc was in third.

An interesting grid was thus set. Red Bull and Verstappen in particular, have shown ability to work up from lowly positions but the difficulty of overtaking at this track might make for a different winner.

The race itself was interesting but not initially thrilling. Overall, the race driven by tactics, but the opportunity for the tactics was driven by a change in the status quo. At this race, Red Bull were not dominant through the weekend and were not expected to be so in the race. Thus, an approach that played to the strengths (or more accurately minimised weaknesses) of the pole sitter could be exploited. First off, tyre choices. Most took the medium with a few critical exceptions. Both Red Bulls, starting down the order, took the hard tyre in a bid to try something different. Leclerc, starting third, took a soft tyre. Off the line, Sainz held the lead and Leclerc, critically, took second from Russell with the dual benefit of grippy tyres and being on the clean side of the grid. This was an important objective. With the two red cars in the lead on a track with low overtaking possibilities, they could dictate the pace. And so they did. Leclerc, a bit reluctantly at first, played the team game by holding up the field whilst Sainz eked out a small margin up front. The slow pace mitigated the Ferrari weak point of high in-race tyre wear. Slow pace also kept the pack bunched up, thus making sure anyone who might chance an early stop would be destined to rejoin in

last place with little hope of moving back up the running order. So now Ferrari could dictate when to stop and with the pace, one stop would be all that was really needed. Of course, this was absent a Safety Car, an unlikely proposition although the revised layout significantly reduced that possibility.

On lap nineteen, Sargeant obliged by hitting the wall. He broke his front wing but was able to return to the pits, dragging the wing section along with him. After a bit of a delay, on lap twenty the Safety Car (SC) was deployed to clean up. This triggered a mass pit stop with the top teams double stacking their cars to take advantage of this gift. For the Red Bulls this came at the worst time—too late to do an early stop on a two stop run and too early to ditch their hard tyres on a single stop run. So, they stayed out. Ferrari got Sainz out ahead of Verstappen and in the lead, but Leclerc was a victim of traffic in the pit lane and got delayed dropping behind both Mercedes' and Norris.

The SC ended at the end of lap twenty-two and despite some Verstappen pressure, Sainz got a clean getaway on the restart. Both Red Bulls, already having weekend long grip issues, soon began to show their tyre wear. Over the next five or so laps, the Red Bulls dropped back to sixth and seventh. Up front Sainz was again managing pace to keep just ahead of Russell, now second, and to keep the pack together. All while also managing his tyres. Norris was now third, Hamilton fourth, and

Leclerc fifth with the race was about half-way through.

On lap forty, Pérez' tyres were done, and he pitted for a set of mediums. Verstappen, in a similar predicament, did the same on the following lap. This, by Ferrari design, put them out of contention as they dropped well down the order.

On lap forty-three Ocon pulled over and a Virtual Safety Car (VSC) was deployed. This freezes the action and is less beneficial a time to pit than the full SC. None the less there is some time to be gained by doing so. Most stayed out but Mercedes threw down the gauntlet and pitted both cars for fresh medium tyres that they had saved over the weekend's endeavours, unlike others. Although it cost them time and position, they still rejoined fourth and fifth and were at a strong advantage.

The VSC was removed on lap forty-five and racing recommenced. It only took until lap fifty-three for Russell to catch and pass Leclerc for third and Hamilton was right behind. Leclerc's tyres were done, and he could not defend. A couple of laps later Russell was onto Norris' tail. Clever race-craft by Sainz saw him slow to allow Norris just within DRS range. This then made it very difficult for Russell to get by Norris. He did try but Norris just held him off. Sainz showed he had pace in hand as he opened the gap as it looked like Russell would make a pass but as soon as Norris had re-secured position, Sainz dropped

back. In doing so, he manipulated Norris to block Russell, but it all remained close and tense as the leading four cars circulated within a second and a half over the last five laps. Norris was quite happy to be used in this way as it was also helping him hold on to second ahead of a much faster pair of cars. The pressure from the Mercedes' on Norris remained high. Hamilton was also pushing Russell, but it looked like this would be the finishing order. On the very final lap, Norris just touched the wall going in to T10 but with no problem for him. Russell, right behind, and probably with his attention locked onto Norris' gearbox, took an inch wider line, tapped the wall in the same place just hard enough to knock him off the line. He then straight-lined into the barrier throwing away a third place which Hamilton inherited.

Finishing order was Sainz (a very happy man), Norris (well satisfied with second) and Hamilton third (a bit subdued). Leclerc came in fourth, happy for the team and ahead of Verstappen, who had made some good progress on the medium tyre in the latter part of the race. Lawson made a fine ninth in his third outing and Magnussen tenth allowing Haas to gain something from their strong qualifying.

Conspiracy theorists link the arrival of the TDs with Red Bull's retreat. More likely there was an initial set-up error that carried forward into the weekend. We'll know more next race at Suzuka, a more predictable

venue that the semi-wildcard that is the streets of Singapore.

ALFA'S WEEKEND -SINGAPORE

Alfa Session Results - Singapore							
Driver	FP1	FP2	FP3	Qual	Grid	Race	Gain
BOT	14	10	18	16	16	DNF	NA
ZHO	18	17	19	19	19	12	+7

With the momentum of a point at Monza and the settling of the driver line up for 2024, Singapore should have seen a positive push. The addition of updates to the hardware should have helped too. However, it didn't really work out that way.

In FP1 both cars were out early, Valtteri choosing the less popular medium tyre, Guanyu the hard tyre. Valtteri was ahead and Guanyu did his turn-by-turn radio check on the out lap. Guanyu ran three consecutive laps picking up time. He ran a cool/charge lap then two more laps with another cool/charge in between. Despite going faster each time, he finished this sequence in fifteenth.

Valtteri did four laps interspersed with cool/charge laps and also picked up time each lap, but he too was down the order in thirteenth. Both cars returned to the pits with twenty minutes of the session gone.

After a little under ten minutes in the garage, Valtteri emerged and did a practice start at the end of the pit lane with new medium tyres. Guanyu waited just over a

minute then came out doing the same start, also on new mediums. At this point the track was lightly occupied. Both cars tried for fast laps with cool/charge in between but lizards, traffic, and a lock up for Guanyu in T8 forced back offs. Valtteri's best lap left him eighth before he pitted, Guanyu tried one extra lap, which didn't help, and he ended up fourteenth.

At twelve minutes to go, Valtteri came out on used mediums. He did an end of pit lane practice start before running a few more push laps with cool/charge in between. More Lizard sightings curtailed some fast runs, and he ran out the clock finishing fourteenth. Guanyu took a couple of minutes longer to come out on the used hard tyre, also doing a pit lane practice start. He was sporting Flow-Viz paint on the new front wing and ran at race pace until the end of the session at which point he was eighteenth. Both cars did a practice start from the grid.

FP2 was held later in the day under the lights. Both cars went out promptly doing practice starts at the pit exit. Valtteri was ahead on new hard tyres, Guanyu behind on new mediums.

The first twenty minutes were spent doing fast laps interspersed with cool/charge laps. Valtteri ran three, Guanyu caught traffic on his third so ran a fourth fast lap. Both were going significantly faster each time but so were others as the track improved. At the end of this segment they pitted, Valt-

teri was ninth, Guanyu down in nineteenth.

After about five minutes, Valtteri emerged on new soft tyres. Guanyu would do the same but about another four minutes later. Both ran two fast laps with a double cool/charge lap in between and made improvements to their times. Valtteri was offered a third lap but elected to push on with the next segment and returned to the pit in tenth. Guanyu also pitted, now seventeenth but much happier with the car's front end.

With fifteen minutes to go Valtteri headed out on used softs, taking a practice start on the way. He pitted at the end of the out lap and switched out for a set of used hard tyres doing a practice launch from the box. Guanyu came out after this also on softs. He followed the same pattern swapping on to used medium tyres. Both cars ran consecutive laps to the flag at race pace so no improvements to positions. Valtteri finished tenth, Guanyu down in seventeenth. Both cars took a start from the grid after the flag.

On to FP3. Valtteri was first on track with Guanyu close behind as they both went out on new softs on the now green track. They began their push laps on an almost empty circuit so consequently went to the top of the timing. Both cars did a double cool/charge, Guanyu popping into the pits for a pit lane practice start. Their next push laps resulted in second for Valtteri and sixth for Guanyu, although only a third of the

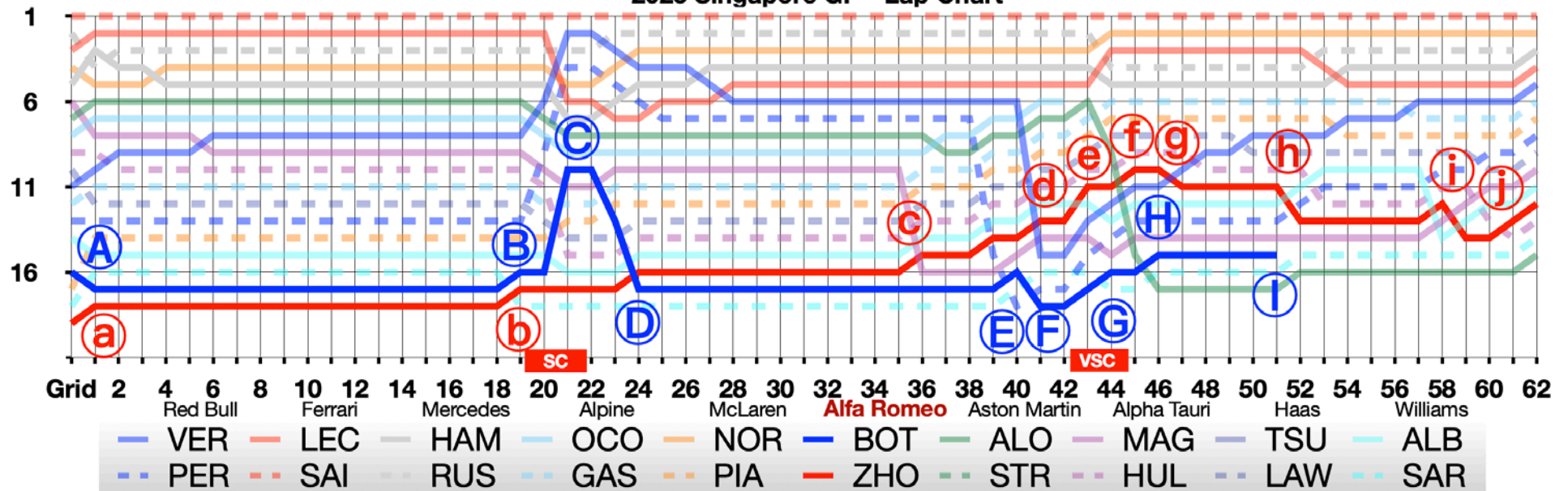
cars had times on the board at the thirteen minute point.

Valtteri came out five minutes later with used softs, doing a practice start at the pit exit. Guanyu followed the same pattern about half a minute later. Both cars ran a series of consecutive laps at race pace. They continued to clock up laps, working on their lines and brake settings until just over twenty minutes remained. At this point earlier fast times had been eclipsed and they were now down the order, Valtteri in eighteenth, Guanyu bringing up the rear in twentieth.

Valtteri came out again at fourteen minutes to go on fresh softs to get some laps as the sun began to set. Guanyu followed a couple of minutes behind. They did a couple of fast laps with double cool/charge in between. They made good gains on the first lap but little on the second. Valtteri just had time for a third lap but waited for Guanyu to come by and in doing so missed out as the clock ran out. Neither car was in great shape, Valtteri eighteenth and Guanyu nineteenth.

On to qualifying. For Q1 both cars were out towards the front sporting new softs. Valtteri was ahead of Guanyu. Those first laps put Valtteri fourth, Guanyu fifth, but with more fast runners still to post a time. They took a very slow double cool/recharge lap and got feedback on where they were losing time. They paused into the final turns to make a gap and hit the gas with

2023 Singapore GP - Lap Chart



nine minutes left on the clock. Despite a clear lap they both picked up only a fraction and were now sixteenth and seventeenth. They returned to the pits to prepare for a last chance, both taking a small front wing adjustment.

It was a quick turn; the cars were back out after less than ninety seconds in the garage with about three and a half minutes remaining. This put them close to the front of the lead out for final laps. Valtteri was ahead, both were on the soft tyre. Guanyu had a little lockup into T14 again and both cars found traffic at the end of the lap. Valtteri picked up eight tenths and jumped briefly to eleventh. Guanyu gained six tenths but was only good for nineteenth. As

the others finished up Valtteri was dropped down to his final position of sixteenth and Guanyu remained nineteenth by the end of the session. With that, qualifying was done. In post session interviews, Valtteri was already looking to Japan for any hope.

For the race, the team elected to make a bunch of changes on Guanyu's car and that resulted in a pit stop start for him. This wasn't much of a loss given the qualifying result. They started him on the soft tyre. Valtteri was the only non-Red Bull to start on the hard tyre.

Off the line Piastri quickly got by Valtteri. Sargeant also got by in T3. Tsunoda slowed after a clash with Pérez and Valtteri was up a place again for seventeenth at the end

of the opening lap (A). In the early laps he was not able to do much, and he went into tyre management mode allowing a gap to open to Sargeant ahead. Valtteri needed the hard tyre to last for a swap to mediums somewhere in the second half. The race was pretty much neutralised until Sargeant crashed on lap nineteen. Just before Sargeant crashed the gap was up to about four seconds but he did pick up a spot as a result (B). Valtteri did not stop under the SC and rose to tenth, briefly (C).

After the restart, he quickly dropped back to sixteenth reporting no grip on the older hard tyres. He then let Guanyu by on lap twenty-four leaving him seventeenth (D). On lap twenty-seven, he reported the tyre

coming back to life again but even so he was losing sight of Guanyu ahead. By lap thirty-three the gap passed four seconds and a lap later he was asked to increase pace. A lap or so later he reported he was at max, but the gap had gone up a fraction.

On lap forty, Pérez pitted and he gained a spot (E), but a lap later Valtteri was called in for new mediums. He was given clearance to push to the end on this set. He rejoined eighteenth (F). On lap forty-four Ocon stopped and a place was gained. Sargeant pitted at the end of lap forty-four for another place (G). Alonso had a bad pit stop and served a penalty, so he rejoined just ahead of Valtteri. Alonso then had a spin at T14 on lap forty-seven and Valtteri was now up to fifteenth (H). On lap fifty-two, he was told to slow a little for the next two laps. Then on lap fifty-three he was told to stop shifting and stop the car which he did just past T14, ending his race (I).

Guanyu's pit lane start put him about four seconds off the back which he overcame by about T13 catching up to Valtteri. Tsunoda's retirement was worth a place (a). At the end of lap two Guanyu pitted on to the hard tyre, presumably for an attempt to go to the finish or be ready to take advantage of a future Safety Car. This put him way off the back of the pack, almost thirty

seconds. By lap eleven he had reduced that to twenty seconds, lapping a second a lap faster than Valtteri ahead. He picked up a couple more seconds by the time Sargeant crashed. Under the SC, Guanyu pitted for a medium, with an idea to take it to the end. On the faster tyre he was able to close on Albon picking up DRS on lap twenty-eight. By lap thirty-one he was starting to fall back again out of DRS range and used some additional battery boost to just regain DRS.

On lap thirty-six, Magnussen had a series of offs resulting in his dropping down the order. Guanyu overtook him into T14 on lap thirty-seven (c) but had again lost DRS to Albon in the process. He set to work to close the gap back down. He gained about half a second, but was still outside the magic one second gap for DRS. Both Red Bulls pitted and Guanyu picked up two spots for thirteenth (d).

Ocon's demise and Albon's stop under the VSC brought Guanyu two more places for eleventh (e).

Alonso's bad stop brought him to tenth, in the points, on lap forty-five (f) but a recovering Verstappen took that away on lap forty-seven (g) passing in T13. Hülkenberg was just a second ahead and Guanyu worked that down over the next laps. By the end of lap fifty-one he was very close to Hülkenberg and he was now being held up.

He also reported tyres to be gone resulting in both Albon and Pérez getting by on lap fifty-two (h). With those two out of the way, he could try again on Hülkenberg and despite the tyres, he was able to close down on him. He was on the Haas's tail by lap fifty-seven.

On lap fifty-eight Pérez and Albon clashed resulting in Albon dropping behind Guanyu. On the next lap, Albon got back by, and Magnussen also got by, dropping Guanyu to fourteenth (i). Once again Hülkenberg was ahead. On lap sixty-one he finally got the job done passing the Haas in T14 (j). Russell's crash on the final lap yielded one more spot for a final twelfth.

It didn't look like Valtteri would have made points if his car had lasted. Guanyu was a little closer than usual to the points but still a no-score was the result. Haas gained a point opening the gap further and Alpha Tauri picked up two points putting the squeeze on from behind in the Constructor's Championship race.

In Japan, next time, the team will need to work on dialing in the updates which don't obviously seem to have provided much gain. A couple more updates are scheduled for Austin and Vegas to try to boost the team in the latter part of the season. *CAMS*

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