

JUNE '56

FOUR  
BARREL!For the VW  
AND THE  
PORSCHE**Flashing Get-Away!**FOR THE **VW****PORSCHE**

JAGUAR XK-140, Etc.

With the World Championship

**ABARTH**

GRAND-PRIX TYPE

**Dual Exhaust Mufflers**

■ Step up your engine power enormously with this revolutionary, free-exhaust muffler by Abarth, makers of the systems used on the Grand Prix Ferrari, Mercedes and others of the world's finest cars. Easy to install. The Abarth will outlast several ordinary mufflers.

VW, MODEL A-100 \$32.50  
For 1956 VW, Deluxe Model A-200 \$34.50  
PORSCHE, MODEL P-1000 \$39.50



Automotive Indoor-Outdoor Air

**Thermometer**

■ Now available in America! Accurately indicates inside and outside temperatures.

TH-311-6V (For 6-Volt Systems) \$9.95  
TH-311-12V (For 12-Volt Systems) \$9.95

**VW Dashboard**

FROM EUROPE'S LEADING MAKER

**Precision Instruments  
Complete Dashboard**

From MotoMeter, maker of the original VW operating accessories, here is a beautiful, complete dashboard for your VW!

COMPLETE VW DASHBOARD \$44.95

SEPARATE INSTRUMENTS AVAILABLE

OIL TEMPERATURE GAUGE	\$16.75
GASOLINE LEVEL GAUGE	\$18.00
PRECISION AMMETER	\$4.95
CHROME-PLATED UNDER-DASH MOUNTING BRACKET	\$1.75
RESERVE FUEL WARNING LIGHT	\$4.95

Write for Booklet • Dealer Inquiries Invited  
FISHER PRODUCTS, 21-25 44th Dr., L.I.C., N.Y.

**letters****hot jag**

Dear Sir:

I have just finished reading your new issue of SCI and I like it immensely. The technical portion reminds me of the "Auto Car," which I have always regarded as tops.

At present I have a Mark VII Jaguar '52. She is a beautiful piece of machinery but not made for slow traffic, which one will invariably meet in large cities. The motor will heat rapidly in hot weather and begin to boil if you don't get on open highway soon.

The ignition timing and carburetion have been adjusted to the manual.

What steps can be taken to cure this fault?

Sincerely,  
Dr. C. M. Walters  
Camden, Arkansas

*This is a common failing of the earlier Jaguar models — the roadsters as well as the Mk VII sedans. There isn't much that can be done about it except to put shielding around the radiator so that ALL the incoming air is ducted through the core. Providing premium fuel is used as standard operating procedure, ignition settings a bit higher than those recommended can be used. The exact amount is dependent on the condition of the car and the amount of carbon deposited in the combustion chambers. The final setting is best made on a chassis dynamometer for peak results. — Ed.*

**blower trouble**

Sir:

Can you offer assistance in the following? I have about exhausted all sources available to me for advice, e.g.: the Judson Supercharger people, the SU bunch in England, etc.

I have installed a Judson blower on my MG-TD (1951). It is equipped with one SU 1 3/8 inch carburetor containing originally a .100 inch jet with needle "RA." The set-up is too rich for this altitude, where we operate between 5000 and 10,000 feet regularly. The Judson people advise an "RB" needle (which is leaner in the lower ranges but far richer in the upper ranges); the SU people advise using .090 inch jet, which starves the damned thing out.

The problem is that no one has run an MG out here without dual carbs and I can't determine what would be the proper jet-needle set up on an MG with a single 1 3/8 inch SU on it.

Thanks in advance for any assistance

you can offer by way of direct answer or referring my problem along the line.

Sincerely,  
William A. Glassford  
Denver, Colorado

*For one thing, a blower installation must be given its final adjustment and setting by painstaking use of an exhaust analyzer and a chassis dynamometer. It takes work but it's the only way to do the job right.*

*Under normal circumstances the Judson recommendations would be advisable, but in your high-altitude area the situation changes somewhat. A mixture near normal in the lower ranges and richer in the upper ranges is generally the best since the higher the pressure developed the richer the mixture must be to keep from burning valves and holing pistons. The 1 3/8 inch SU would do the job at normal altitude but in a higher altitude the problem is one of air density rather than lbs. per square inch pressure, particularly in view of the blower. A 1 1/2 inch carburetor would be a better choice, using Judson's figures. Further, installation of the AEG 122 camshaft is indicated, using "red" Mk II valve springs if these are not already on the car.*

*An alternative is to switch to the Solex unit now used on the Porsche Super. This unit carries an accelerator pump and is a simpler unit to keep in adjustment and to set. Since it is a downdraft carburetor the Solex will require some adaptation through an elbow which can easily be fabricated from tubing by any of the many specialty shops in your area. If you can get him interested in MG's and blowers, Bill Kenz, of streamliner fame, is about the best man in the area for turning out real goin' machinery. A further item, if you care to go that far, (and in your case it's advisable) is exhaust tuning. — Ed.*

The Editor, SCI

As to your article on tuning the Porsche (August, 1955) you stated that lowering the Porsche keeps the rear end stable. I have a VW and would like to know how this can be done. Could you please send me some information along this line.

Thank you.

Sincerely,  
Gilbert Stort

*Slacking off the rear torsion bars to produce a slight negative camber helps to stabilize both the VW and the Porsche. — Ed.*

**rapid bird**

Sir:

Happened to pick up the January

'56 issue of your magazine and it made sufficiently good reading to warrant the year's subscription.

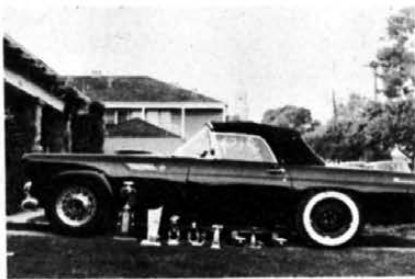
Noticed with interest the article on Bill Frick's Thunderlac. Here in southern California we are making "T" Birds run that fast with modified engines and at a considerable lesser cost than the "\$2000" noted in your article. My own T-Bird, with full street equipment, except for open pipes and slicks, turned 108.69 at Santa Ana Drag Strip, February 5, '56 (second run, Car No. 81). Elapsed time was 13.03. I might add that the car is as smooth as stock for street use and will idle at 10 mph in high gear.

The "go" is provided by an Edelbrock modified engine and McCullough supercharger blowing through an Edelbrock "triple" manifold. Total engine cost was approximately \$1300 and required only one week's time for modification and installation.

Enclosed is picture of car and the eight trophies picked up at the local Drag strips in the last seven months.

Also am enclosing a check, \$3.50, for my subscription.

J. L. Peters  
Hollywood, California



oh?

Dear Sir:

What is it with you guys always flipping over some of those foreign cars that couldn't go fast enough to catch a cold in the head. I got your mag by mistake when I told my brother to get me MECHANIX ILLUSTRATED and he bops in with SPORTS CARS ILLUSTRATED. So I figured I should read it before I throw it out so I read where you clowns think some little English shorts are the Screaming End and you don't think Detroit has done anything good since Columbus got lost. I will take a Cad or a Chrysler and out-drag any of those over-fed scooters of yours. Why don't you change your title to DETROIT CARS ILLUSTRATED and print stuff about the greatest, and I mean DETROIT!

Clinton C. Williams, Jr.  
Detroit, Michigan

You've got the address, Junior. Drag

that lump around and OUT. We're here five days a week. — Ed.

dohc crosley

Dear Sir:

Say, I would like a little help. I have a Crosley built for competition and it's just the thing for the poor man's race car — but, I just can't find the right set-up for a winner in Class H.

What I would like you to do for me is find dual overhead cam set-up. Or is there such a thing?

Thanks,  
Dan Kuist  
Los Angeles, California

Coming up very soon is a complete breakdown of Candy Poole's PBX Crosley Special — It's a winner! Then there's Harry Eyerly's Crosley out in Oregon and Dr. P. J. Young's DOHC Crosley in Los Angeles. You might check with Doc and see if he has an extra set-up. His address should be available from the California Sports Car Club, 4949 Hollywood Blvd., Los Angeles. — Ed.

hop-ups

Dear Sir:

I was wondering if you had any plans, books, etc., on hot rods. How to hop a car up, etc. If so please let me know. Thank you.

Bill Shea  
Moose Jaw, Saskatchewan, Canada

Just keep reading the magazine, Bill hop-ups coming up. — Ed.

barge or bolide?

The Editor: SCI

I have read ridiculous letters to SCI before, but the one from the driver who runs VW's off the road and the one from the gent who thinks Detroit is going to fold, take the cake. (March '56) I think it is only fair to sit on the fence and hit back at the narrow minded, prejudiced, and ego-hungry jokers on both sides. I think it is pretty well agreed that sports cars aren't very practical but loads of fun to drive, while the full sized Detroit jobs are vice-versa. It simply depends on what one wants. Both agility and practicality are equal in my book, so what's all the friction for? I drive both types and find that each one is near perfect for what it was designed for. Let's cut out these senseless letters and remarks that just create friction between U. S. and foreign car owners. They are both good automobiles.

Very truly yours,  
Douglas Gardner  
Las Vegas, Nevada

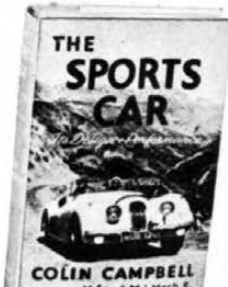
Amen. — Ed.

The only permanent reference book covering the contemporary sports car!

## THE SPORTS CAR: Its Design and Performance

by Colin  
Campbell  
\$6.50

Money Back  
Guarantee  
Order on  
coupon below  
The first thorough  
and systematic  
treatment of the  
sports car from  
a technical point  
of view, yet in  
layman's language.



You learn about the latest models, but the subject matter is treated in such a way that THE SPORTS CAR: Its Design and Performance will not be out of date when next year's models appear, or—the year after that! Discusses MG, Jaguar, Aston-Martin, Mercedes-Benz, Lagonda, Lancia, Morgan, etc. The Technical Correspondence Editor, January issue, ROAD AND TRACK, in reply to a request for a good reference book on suspension and chassis design said: "... By far the best book is THE SPORTS CAR: ITS DESIGN AND PERFORMANCE by Colin Campbell ... Check it yourself, chapter by chapter."

### Partial table of contents

Chapters

1. DEVELOPMENT OF THE SPORTS CAR . . . Definition of a Sports Car. Early Types: Continental Models. Manufacturers Turn to Sports Car Racing. Return to Larger and Decker Sports Cars.
2. ENGINE: CYLINDER HEAD DESIGN . . . Cylinder Head History. Side Valve Engine. Overhead Valve Engine. Combustion Chamber Research. Analysis of Factors Influencing Volumetric Efficiency. Detonation. Limiting Compression Ratio. Combustion Chamber Design. Criticism of Five Basic Head Designs.
3. ENGINE: INDUCTION AND EXHAUST . . . Induction System. Ramming Pipes. Ramming Pipe Theory. Experimental Measurements. Forward-Ram Intakes. Cold Air Intakes. Exhaust Pipe Design. Ramming Exhaust Pipes. Branched Exhaust Pipes.
4. ENGINE: MISCELLANEOUS COMPONENTS . . . Crankcase. Crankshaft. Journals and Crankpins. Bearings. Bearings and Bearings. Wheel-Lifting. Steering Rod. Engine Lubrication. Engine Oils. Pistons. Cooling. Radiator. Water Pump. Ignition. Spark Coils.
5. ENGINE: THE TREND OF DESIGN . . . Fallacy of Limiting Mean Piston Speed. Formula for Maximum Continuous Cruising R.P.M. Influence of Cylinder Dimensions on Brake Horsepower. Influence of Cylinder Dimensions on Maximum Torque.
6. ROAD-HOLDING . . . Cornering. Road-Holding. Action of Tires. Cornering Power. Oversteer and Understeer. Steering Layout. Cornering Behaviour in Practice. Four Wheel Drift. Front Wheel Drive. Factors Leading to Understeer. Gyroscopic Effects. Roll Centres. Roll Resistance. Wheel-Lifting.
7. SUSPENSION . . . Springs. Vertical Accelerations over Various Road Irregularities. Pitching. Independent Suspension. Shimmy. Tramp and Patter. Disadvantages of Independent Suspension. Suspension Damping. Friction Damper. Hydraulic Damper.
8. CHASSIS FRAME AND BODY . . . Torsional Stiffness. Channel Section versus Box Section. Stressed-skin Construction. Body. Form Drag and Friction Drag.
9. TRANSMISSION . . . Torque Multiplication. Gear Ratios. Synchronesh. Clutch. Rear Axle. Hypoid and Spiral Bevel Gears.
10. BRAKES . . . Grip on the Road. Braking Forces. Weight Transference under Braking. Brake Materials. Brake Cooling. Types of Brake Shoe. Operation of Hydraulic Brakes. Disc Brake.
11. TUNING . . . Maintenance. Bench Testing. Garage Tuning and Road Testing. Carburetors: S.U.; Solex; Zenith. Super-Tuning. Manufacturers' Super-Tuning. Supercharging. High Compression Ratios. Fuel Injection. Bi-fuel Injection. Gaseous Injection. Low Viscosity Lubricants. Racing Fuels. Oxygen-containing Fuels.
12. PERFORMANCE . . . Standards of Performance. Acceleration. Variation of Power and Torque with Engine Capacity. Acceleration Times for 0-50 m.p.h.: an Approximate Formula. Maximum Speed. Variation of Maximum Speed with Power and Frontal Area.
13. FUTURE DEVELOPMENT . . . Future of the Sport Car Engine. Gas Turbine. Piston Engine Developments. Torque Converters and Automatic Transmissions. Body and Chassis. Frame. Suspension. Internally sprung Wheel.

GLOSSARY OF TECHNICAL TERMS INDEX

Order on This Form

To: ROBERT BENTLEY, INC.  
8 Ellery Street, Cambridge 38, Mass.

Please send me \_\_\_\_\_ copy(ies) of THE SPORTS CAR: Its Design and Performance at \$6.50 each, postpaid. I enclose \$\_\_\_\_\_ in check or M.O. If for any reason I am not completely satisfied, I shall return my copy to you in five days and you will refund my money.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_  
(Check if you wish our free MOTOR BOOK catalog.) SCI-66