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Mechanics and Handicraft  
REG. U. S. PAT. OFF.

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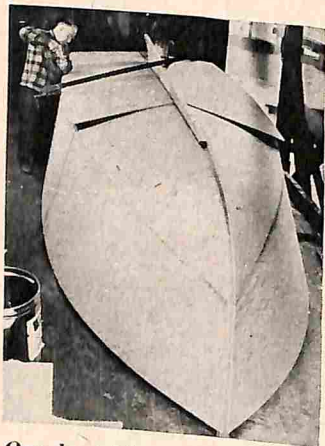
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MARCH, 1953

## Everybody's Building Kit Boats



One boat kit and a few simple tools, plus a little patience and a few weekends of work—and you can be the proud skipper of your own boat. For short cuts in assembling these kits, the tools you'll need and some of the kits available, see page 183.

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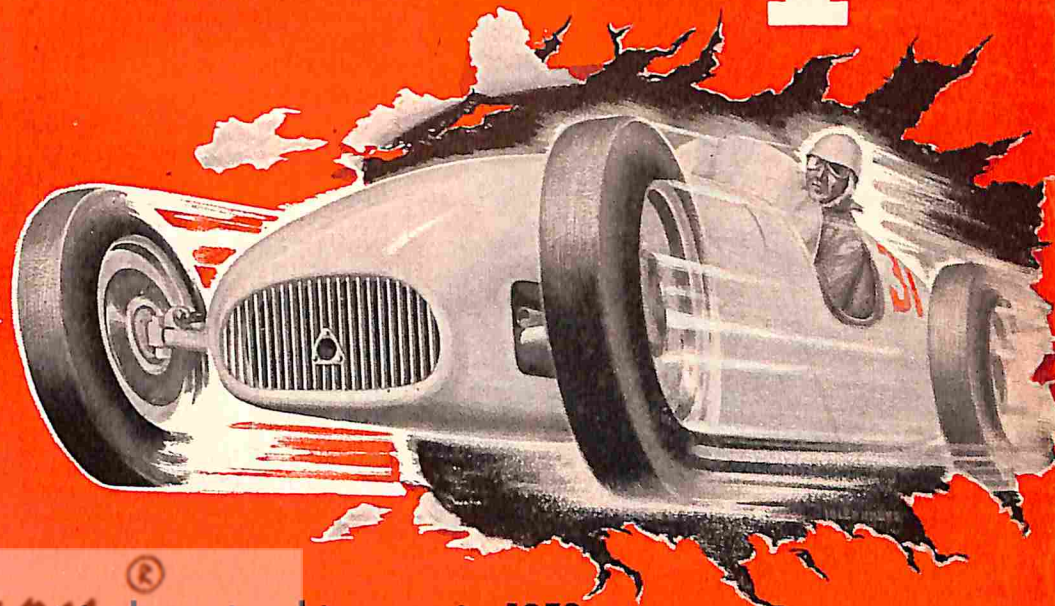
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2 POPULAR SCIENCE

# clean sweep!



Every AAA championship race in 1952 was won by a car equipped with

These were the winning drivers  
... the winning rings were  
Perfect Circles!

May 30 Indianapolis, Ind.	500 Miles	Troy Ruttman
June 8 Milwaukee, Wis.	100 Miles	Mike Nazaruk
July 4 Raleigh, N. C.	200 Miles	Troy Ruttman
Aug. 16 Springfield, Ill.	100 Miles	Bill Schindler
Aug. 24 Milwaukee, Wis.	200 Miles	Chuck Stevenson
Aug. 30 Detroit, Mich.	100 Miles	Bill Vukovich
Sept. 1 DuQuoin, Ill.	100 Miles	Chuck Stevenson
Sept. 1 Pikes Peak, Colo.		George Hammond
Sept. 6 Syracuse, N. Y.	100 Miles	Jack McGrath
Sept. 8 Denver, Colo.	100 Miles	Bill Vukovich
Nov. 2 San Jose, Calif.	100 Miles	Bobby Ball
Nov. 11 Phoenix, Ariz.	100 Miles	Johnny Parsons

## Perfect Circle PISTON RINGS

What does this mean to you? Just this—if your engine is tired, sluggish, oil thirsty, you'll get championship performance with Perfect Circle piston rings!

Perfect Circle's 2-in-1 Chrome Set seals compression, seals oil, for over twice as long as ordinary rings. And only 2-in-1 offers a choice of expander springs with each oil ring, to assure positive oil control.

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## the Aid of FOR CAR OWNERS"

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Car owner making one-minute adjustment of carburetor idling screw for more gas mileage. He will also clean spark plugs and set points to prescribed clearance. Then by following simple gas-saving driving rules and other common sense ways to save on gas, he'll save up to \$50.00 a year on gasoline alone!

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**SAVE on Repair Bills!** Book's basic know-how helps you service and repair every popular make car — as far back as 1935 models.

**SAVE — Even if You Make No Repairs Yourself!** Book lists fair price mechanic should charge for over 100 repair and service jobs. Protects you from bill padding and overcharging!

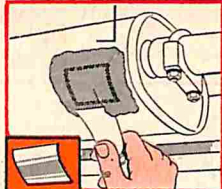
**SAVE When Buying Used Car!** CHECK LIST shows you, point by point, how to tell good sound car from "lemon." Takes the gamble out of used car buying.

SEE Contents Below for More Ways book shows how to SAVE MONEY!

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But first, week's FREE Trial must convince you book will help you save at least \$100.00 a year — EVERY year — or return it and owe nothing! Send NO money. Mail FREE-Trial Coupon NOW!



Even an amateur can patch muffler with aid of book's "1-2-3" directions. Clean area, place steel patch over hole and seal.



Save on Auto Insurance! Best type to carry; recommended amount; how to collect damages without red tape; much more!

**SAVE \$10.00 to \$25.00 towing fees!** TROUBLE SHOOTER Section helps you trace trouble fast — fix it right and quick. Make many on-the-road emergency repairs in minutes. Avoid time-wasting layovers at unknown garages along the road.



Beautifully inside to look like new! Book shows how to re-upholster, refinish, remove stains, make seat covers, etc. Enjoy that feeling of satisfaction in knowing your car looks as spic and span inside and out as a shiny new showroom model. With book's how-to guidance, you can make your car look better, run better, last longer! Mail FREE-Trial Coupon Now!



### Money-Saving Contents Crammed into Book!

#### Engine Tune-Up

Testing; Adjusting; Cleaning; Using Solvent; Battery; Wiring; Vacuum Advance; Firing Order; Spark Plugs; Points; Carburetion; Automatic Choke; Generator  
And Lots MORE!

#### Cooling System

How to Repair Clogged Radiator; Leaky Water Pump; Broken Thermostat  
Installing Fan Belt  
How to Winterize, Summerize  
Anti-Freeze Tips  
And So Much MORE!

#### Auto Wiring

Battery Care  
How to Repair Shorts and Breaks  
How to Repair or Replace Heaters  
Directional Signals, Headlights, Inside Lights  
And Lots MORE!

#### Front End Repair

Disassembly, Adjustment and Assembly of: King Pins, Pitman Arm, Front Wheels, Shock Absorbers, Transmission, Etc.  
And Lots MORE!

#### Major Engine Repair

Disassembly, Adjustment and Assembly of: Connecting Rod Bearings and Main Bearings  
How to Remove and Replace: Piston Rings, Cylinder Head, Crankcase, Hoses and Gaskets, Removing Carbon Valves  
And Much MORE!

#### Valves

Disassembly, Adjustment and Assembly of: Valve Plates, Valves (in Block), Overhead Valves, Valve Springs, Valve Timing, Valve Grinding, Tappet Clearance, Sticking or Leaky Valves  
And Lots MORE!

#### Other Engine Repair

How to Repair Leak in Head Gasket  
Replace Fuel Pump  
Adjust, Repair, Replace Carburetor  
Spark Plugs: How to Test, Clean, Replace and Get Correct Clearance  
How to Test Piston Rings, Ignition  
And Much MORE!

#### TROUBLE-SHOOTER SECTION Shows You How to Correct All 64 Most Common Car Troubles Fast and Easy!

How many of these troubles are robbing you of top performance and enjoyment from your car? Engine Won't Start — Misses — Knocks — Overheats — Backfires — Stalls Frequently — Gears Grind — Car Pulls to One Side — Annoying Squeaks — Strange Noises — Sluggish Pick-Up — Horn Keeps Blowing — Defroster Doesn't Clear Windshield — Etc., Etc.

Big, handy TROUBLE-SHOOTER SECTION shows you how to quickly locate and correct these and all 64 most common car troubles — without paying high labor costs. Especially valuable when making on-the-road repairs. Save high towing charges and repair bills from strange garages.

#### Steer Clear of Trouble

How Much Play Is Too Much?  
How to Tighten Loose Steering; Adjust Wheel Alignment  
And Much MORE!

#### Rear End Repairs

Disassembly, Adjustment and Assembly of: Rear Wheels, Drums, Axle, Bearing, Universals, Etc.  
And Much MORE!



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