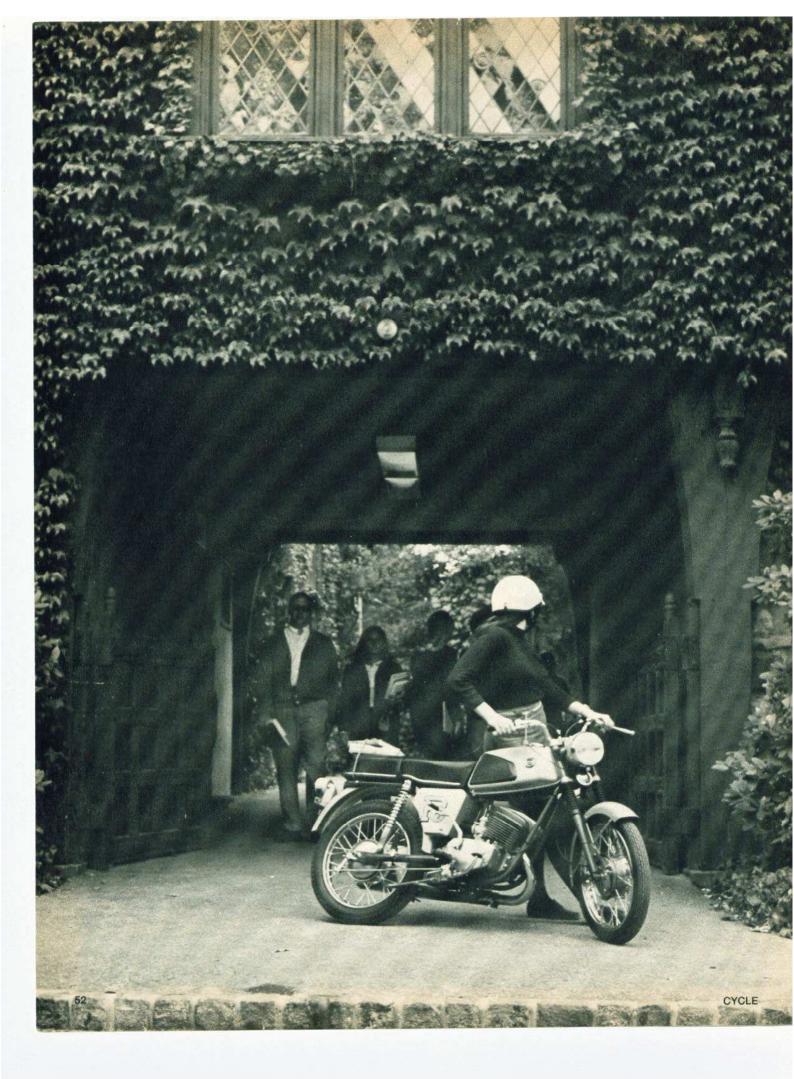
SEARS 125

It ain't a racer, that's for sure. But it offers terrific transportation around the old campus, and there's nothing wrong with that.



JANUARY 1969



PUCH 125 Continued

everybody in this country may not shop at Sears, Roebuck & Co., the granddaddy of all the last, great mailorder houses, now moved also to shopping malls from sea to sea, but nearly everybody uses Sears. If you don't buy that replacement battery for your car at Sears, you will certainly have checked their price to get a feel for the market. For all kinds of usual and unusual items, Sears offers a better-than-average price break on middle-middle and uppermiddle quality. And nearly every motorcyclist knows Sears' premium grade hand tools are truly premium grade. What most people don't know is that Sears is in the motorcycle business, has been for many years, and annually walks away with a consistent and comfortable chunk of the nation's market.

For most of those years, the ride that did it was Sear's "twingle", formerly branded Allstate, and manufactured by Steyr-Daimler-Puch of Austria. The twingle, so called because of its curious split-piston combustion principle, was one of the firstever production two-strokes to come with automatic oil mixing. It was heavy, homely and underpowered, but earned an unparalled reputation for durability. (You can still buy a dressed-up version of this quixotic device.) Not long ago, however, Sears turned to Puch, asking for something, lighter, less expensive and more modern in concept. They probably added that they weren't after a radically-tuned sports bike, but a pratical utility mount that could be maintained by a neophyte. Puch was delighted, for they already had in limited production a 125cc trials bike that was winning prizes all over Europe, including gold medals at the ISDT.

A little detuning and some minor redesigning produced the new Sears 125, which we, even before receiving it, affectionately called "the puke". (Actually, "Puch" is pronounced in Austria more like "Pook".) In true mailorder fashion, the new bike arrived by truck, all boxed up with a

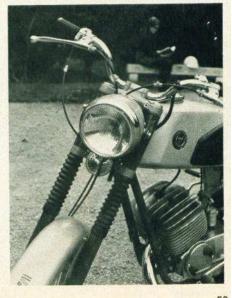
handy list of how-to-put-together instructions. The tools were your usual crumby little-bike assortment and we quickly resorted to our shop tools. Unpacking and assembly were easy, taking less than an hour. If you had never seen a motorcycle in your life, the job might be confusing. Instructions like "Fix clutch control cable to the clutch lever". are followed by comments like, "Adjusting the clutch see page 3-6." A newcomer would have to painfully wade back and forth through the combined owner's manual, shop manual and parts list several times before he was done. A good way to get familiar with your new bike we suppose.

The completed machine is very light, with a simple design and clean lines. It has a comfortable seat, well placed controls and a "sunburst" cylinderhead that looks more appropriate to a 250. The frame is gardenhoe red and the paneling a metallic-gray enamel. We were pleasantly surprised to find a bright, sealed-beam headlight up front and a big tail-light behind. Part of that redesigning involved converting the trials winner to pure steret trim, a choice that we feel was unfortunate. The trials bike is quite happy on pavement, yet has the off-road capability that so many American buyers want in a lightweight. Sears tells us it may soon introduce a trail kit including larger sprockets, upswept exhaust, and a bash plate. In any case, the street set-up is ideal for the short-run utility, commuter, and about-town (or campus) riding that most owners will undoubtedly give this bike.

The core of the little Sears 125 is its engine gearbox-unit, a simple yet robust package. Nothing unusual in concept: piston-port aspiration; needle-bearing small end; roller and ball bearings at the big end, the mains and the transmission shafts; geared primary; and four speeds in the box. All have been carefully thought out and well executed. We liked, for example, the design by which the main bearings turn in (Continued on page 73)







SEARS 125

SEARS 125			
Price About \$350 Tire, front 2.50 in. x 17 in. rear 3.00 in. x 17 in. Brakes, front 6.3 in. x 1.4 in. rear 6.3 in. x 1.4 in. Brake swept area 55.4 sq. in. Specific brake loading 6.73 lb/sq. in. Engine type Piston-port two-stroke	Air filtration		
single Bore and stroke 2.16 in. x 2.05 in., 55mm x 52mm	(3) 9.42 (4) 7.55 Wheelbase		
Piston displacement 7.53 cu. in., 123.5cc Compression ratio 10.5:1 Carburetion 26mm, Bing	Ground clearance		

JANUARY 1969

SUBSCRIBER SERVICE

Please include an address label when writing about your subscription to help us serve you promptly. Write to: Portland Place, Boulder, Colo. 80302

CHANGE OF ADDRESS:

Please let us know you are moving at least four to six weeks in advance. Affix magazine address label in space to the right and print new address below. If you have a question about your subscription, attach address label to your letter

TO SUBSCRIBE.

Check boxes below. ☐ New ☐ Renewal

3 years \$15 2 years \$11 ☐ 1 year \$6

SPECIFY:

state

Payment enclosed-You get 1 extra issue L

per year as a BONUS! Bill me later.



zip-code

name	please print	-0091
address		
ity		

ABOUT YOUR SUBSCRIPTION

Your subscription to CYCLE is maintained on one of the world's most modern, efficient computer systems, and if you're like 99% of our subscribers, you'll never have any reason to complain about your subscription service.

We have found that when complaints do arise, the majority of them occur because people have written their names or addresses differently at different times. For example, if your subscription were listed under "William Jones, Cedar Lane, Middletown, Arizona," and you were to renew it as "Bill Jones, Cedar Lane, Mid-dletown, Arizona," our computer would think that two separate subscriptions were involved, and it would start sending you two copies of CYCLE each month. Other examples of combinations of names that would confuse the computer would include: John Henry Smith and Henry Smith; and Mrs. Joseph Jones and Mary Jones, Minor differences in addresses can also lead to difficulties. For example, to the computer, 100 Second St. is not the same as 100 2nd St.

So, please, when you write us about your subscription, be sure to enclose the mailing label from the cover of the magazine-or else copy your name and address exactly as they appear on the mailing label. This will greatly reduce any chance of error, and we will be able to service your request much more quickly.

PUCH 125 Continued from page 53 transmission oil with the crankcase seals on

the inboard side. Seal replacement becomes more difficult but those bearings should never fail.

For some reason the clutch is mounted on the crank instead of the gearbox input shaft. On large engines, or very high reving engines, this can cause vibration, bearing and seal problems because of the difficulty in dynamically balancing a multiplate clutch. But the Sears 125 peaks out at seven thou, the clutch radius has been kept small and we could not fault its operation. Putting the clutch up front means narrower cases at the rear, where your feet go, and thus an aerodynamically cleaner package.

A less obvious but very important element in making an engine is good metallurgy and sound thermodynamic design. That means more than just tough gears and durable bearings. For a two-stroke it means precise matching of cylinder and piston materials to prevent piston sticking under load. Combustion heat created by the engine must transfer to the environment at a rate that will keep the engine within functional temperature range: not so hot that excessive distortion or part failure occurs, not so cold that combustion is inefficient. The effects of thermal expansion in both piston and cylinder must correspond sufficiently that they operate effectively together throughout the rpm range. This matching is mostly a laboratory job and Puch's engineers have done it right. The sunburst cylinder head and massively finned cylinder keep temperatures in a highly efficient range, and we could not stick the piston no matter how hard we wrung that brand new engine. The bore, incidentally, is hard chromed without the usual iron liner. Fine for cooling and with all that finning very unlikely to distort.

Little change has been made in the original trials tune of this engine, which means that it is mild and flexible rather than strong and peaky. You get a comfortable, steady throttle response, with enough torque and power spread to obviate a lot of shifting. The four-speed box offers all choices necessary. Obviously this is not a competition tune, but a flexible, unstickable engine is ideal for all the uses to which a street lightweight is usually put. There are 125s around that will out perform the Sears substantially, but most of them outweigh it. and none of them should out last it.

Frame and suspension on the Sears 125 also look conventional, the forks even a bit fragile. When we first bounced them up and down they seemed ridiculously easy to bottom, but we had forgotten that we were dealing with a 200-lb. motorcycle. Stiff spring and damping rates on such a light machine would make every pavement crack feel like an eight-inch curb. The forks are of narrow diameter but they are made well with a true metering-rod valve mechanism rather than one of the cheaper, less effective arrangements. For solo riding both front



T-Shirts & Sweatshirts



High quality, colorful designs. HONDA, YAMAHA, SUZUKI, KAWASAKI, BULTACO, TRIUMPH, BSA, NORTON, HARLEY-DAYIDSON, BRIDGESTONE MATCHLESS. \$3 each or SWEATSHIRTS, Long Sleeve \$5 ea. Short Sleeve \$4.50.

Jacket Emblems





Use them on tanks, windshields, cars, toolbox, HONDA, YAMAHA, TRIUMPH, SUZUKI, HARLEY, BRIDGESTONE, BMW, KAWASAKI, DUCATI, HODAKA, BSA, NORTON, BULTACO. LARGE (9") 75c each or 3 for \$2. Small (4") 50c each or 5 for \$2.

NEW! SAFETY REFLECTIVE DECALS

Colorful oval design. 4" wide. Exceeds state requirements. Can also be used on any metal, plastic or glass surface. HONDA, YAMAHA, TRIUMPH, HARLEY, BMW, RACING FLAGS. 3 for \$2.





KEY FOBS Rich English leather with colorful enameled insignia. Carries six keys. Honda, Yamaha, Suzuki, Triumph, BSA, BMW, Nor, H-D. \$2.

ORDER BY MAIL

- · Speed Equipment · Custom Accessories
- · Replacement Parts · Tools · Clothing

3 BIG CATALOGS

- WEBCO ACCESSORIES 88 Pages \$1 HAP JONES 100 pages \$1 RACECRAFTERS 50c (FREE with any order)
 - FREE DECAL WITH ANY CATALOG

RACECRAFTERS INTERNATIONAL BOX 347, L.A., CALIF. 90028

PERFORMANCE

is the name of the game

Performance is a way of life at Webco. We're here to help you get the most from your favorite sport motorcycling. Whether it's for your own riding comfort, to lower your e.t. or to help you over the jump . WEBCO is the name to remember for the ultimate in quality motorcycling accessories. Take a sightseeing trip through the big Webco catalog ... you'll find the most comprehensive selection of performance components obtainable anywhere. Your authorized Webco dealer will assist you in the selection of the best accessories for your specific performance requirements. You'll experience the excitement that goes with knowing you have the finest possible equipment for your motorcycle. YOU'RE SURE TO GO ... WITH WEBCO.



MOTORCYCLE, SCOOTER & ALLIED TRADES ASSN. INC.

WEBCO INC. is the leader in the field of fine motorcycle accessories...specializing in high performance components for both competition and sports enthusiasts.

SOLD AT BETTER MOTORCYCLE

88 PAGES-1968 CATALOG



The all new 1968 Webco catalog is the most comprehensive in the motorcycle accessories industry. 88 pages, hundreds of illustrations, of the most wanted motorcycle accessories and high performance components. Also includes information of interest to all motorcycle enthusiasts:

Price \$1.00 . . . includes Webco racing flag decal.

WEBCO INC.

218 MAIN STREET ■ VENICE, CALIF. 90291

Distributed in the Midwest by K. K. Motorcycle Supply, Dayton, Ohio

PUCH 125 Continued

and rear suspension felt fine, with enough travel at each end. With two up, however, the rear suspension is overloaded and it can not be adjusted. We did like the fact that these rear suspension units are rebuildable and should last forever with only an occasional change of seals.

Brakes front and rear appear to be identical single-cam units. We are so used to twin-cam brakes at the front on high performance middleweights that we were sure these would prove inadequate. We were wrong. The brake shoes are quite wide, the hubs of 6.3-in diameter and there is plenty of stopping power. You can make the front wheel howl and you can lock up the rear with little difficulty. Together the brakes proved well proportioned to the size, weight and performance of the machine.

We did find fault with the electrics, however, not because they didn't work and work well but because we don't like direct lighting, batteryless systems. A compact little flywheel magneto-alternator made by Bosch provides the impulse for an energytransfer (external step-up coil) spark. It also provides direct a-c current to the headlight, tail-light and stoplight. There is actually a small third coil to feed the stoplight so that braking won't cut down headlight and taillight intensity. It is a very efficient system and at any crank speed above 2000 there is plenty of light. But at idle the lights sort of peter out and when the engine stops they go out altogether. Kind of dangerous, we feel. and possibly illegal in a few states before long. If you're sitting at a stoplight at night, your lights hardly show and the consequences of engine stalling are worse. No fun to get scooped up from behind by some light-watching truck-driver.

Riding the little Sears provided us all with some good times and it surprised us all. With a short wheelbase, small (17-inch) wheels and its low weight, the bike was incredibly nimble and maneuverable. You get a very airy feeling as you scream down hills at 60 with such a little bike under you. Yet when you haul on the anchors, it stops. Clutch action is very smooth, shifting positive. You find yourself looking for the twistiest, most articulated roads possible. just to see how hard you can push the little devil. In a straight line you change up at 20 mph, 35 mph and 50 mph. Actually you just rev it until the power sort of drops, then change up. It never really sounds unhappy and we doubt if you'd break the engine from over reving. Top speed sitting up was in the upper fifties and you could get 65 or so on the tank

Obviously the Sears 125 is not a highway cruiser. It is what it was meant to be: practical and fun, durable and easy to maintain. You have to mix your own fuel and oil for the tank on this one, but starting is easy, mileage good, and the initial cost of \$350 a real bargain. Just about the time you get that engine bedded in, Sears may bring out the trail kit. Then you'd really be in business.

