

## HOW TO SET UP AN ON/OFF-ROAD SINGLE FOR THE STREET

**W**hat are you guys doing?" is a question we got asked a lot more than once during our investigation and transformation of Honda's XL350 street-legal enduro machine into a small displacement roadster. When the first XLs appeared they were readily accepted by the off-road crowd and proved trouble-free and a lot of fun. They were a little heavy and underpowered for serious riding, but the novelty of a four-stroke single offset this deficiency.

The problem was that the bike came just before the gigantic suspension revolution, and while all the two-strokes improved in that department, the XL did not. It has become just plain non-competitive in most cases. Honda's warehouses loaded up with them to the point that American Honda Motor Company just had to offer the bikes at super-reduced prices. Nobody wanted them; and that's a shame because with a little imagination these XLs make very nice street machines, easy to maintain and inexpensive to operate. That's what this story is all about. More than that, however, the conversion can be applied to just about any dual-purpose machine.

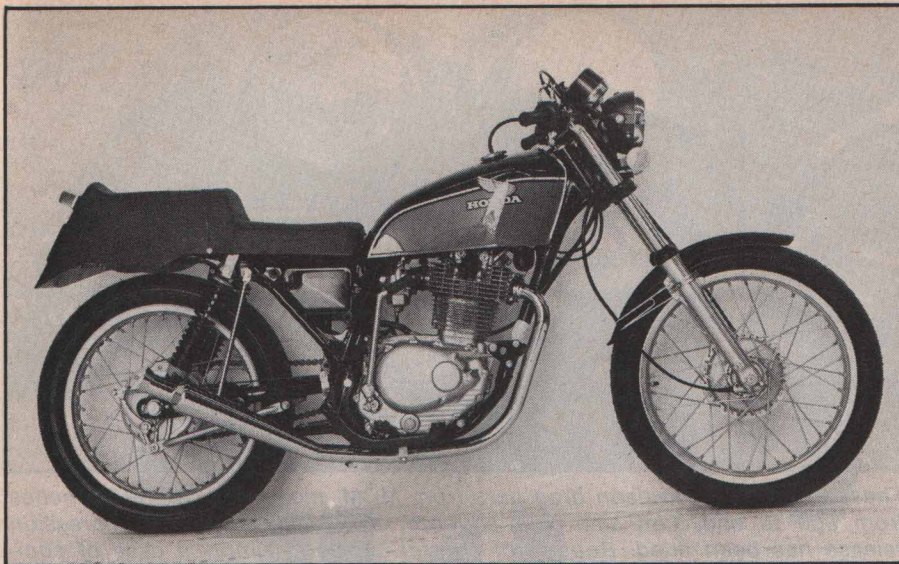
We had many objectives in mind at the outset of this project, but the most important one was to make the transformation well within the capabilities of most of our readers. The XL is a tall bike, we made it shorter. It has off-road styling, we made it a roadster. We also upped the overall gearing, downed the pipe, and improved the suspension.

We attacked seat height first. Honda placed a giant inlet silencing box under the seat that resulted in an additional two inches. So the formed plastic noise damper went, as did the seat. We searched around and found a slick road race styled unit from Dick's Cycle West that looked good and could be bolted on without too much trouble. The secret is to obtain a piece of aluminum  $\frac{1}{8}$ x1-inch in SO condition. (This is a soft condition which allows you to bend the material without fear of it cracking.) First we built up a bracket to fit under the front of the seat that would catch onto the normal seat mounting tab

# TAKING THE DUAL OUT OF DUAL-PURPOSE



PHOTOGRAPHY: DAVE EKINS



"Working model" has had white plastic fender and seat gray-primed for photographic reasons. The front wheel uses 19-inch DID alloy rim fitted with 3.25 x 19 Avon GP tire; rear is a 4.10 H x 18 Avon GP. MCM's down-pipe saves almost 15 pounds but it is not nearly as quiet as stocker. The lowered bike boasts a 28-inch seat height.

and also retain the rear of the gas tank. Then the rear bracket was bent into position utilizing the XL's upper shock mounting bolts and a pair of existing studs found in the underside of the seat base. This procedure allowed us to obtain the proper seat angle.

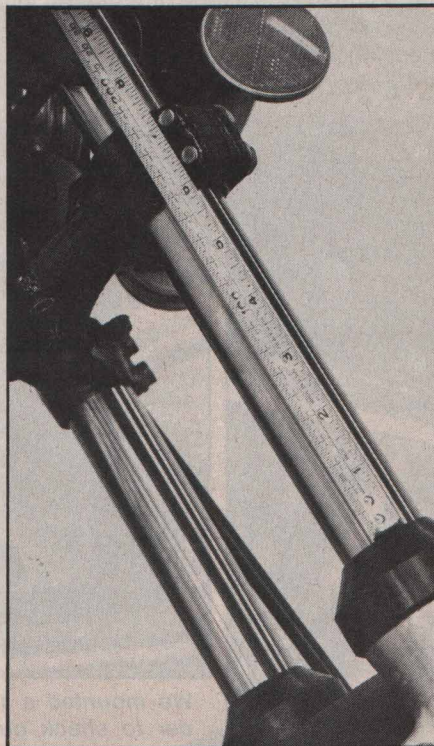
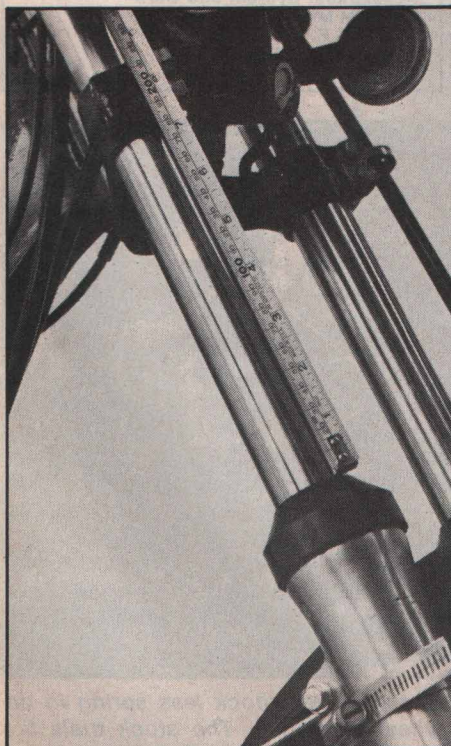
Completed, the seat height measured a fraction over 30 inches. Not enough. We went to street tires and in doing so found an additional

clearance between rear tire and frame with the shocks compressed. We determined 12½-inch shocks (extended) would work and discarded the stock 14-inch set. Now with a smaller rolling diameter, plus shorter struts at the rear, the front stuck out like a chopper's. We wanted to keep the fork head angle somewhere around the stock 30 degrees.

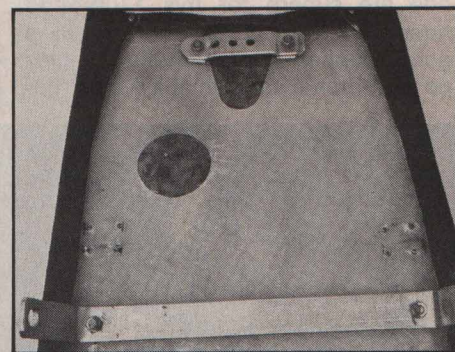
To accomplish this we had to spend about \$70 to have the front

We shortened the side stand one inch, but we should have made it 1½ inches because the bike is lower than we thought. The stock shift lever and footrests were left "as is;" this is not too low because the XL is pretty narrow, making it difficult to drag anything.

wheel re-laced as a 19-incher. Then there's the additional sum required for a new tire and tube. We were able to slide the fork stanchion tubes in their triple clamps until they touched the handlebars, about an inch. This plus the smaller diameter wheel brought the fork angle back. But not enough. The next logical thing to do was allow the fork sliders to rest further into the stanchions. After all, the XL offers more than



Extended fork measures seven inches from top of wiper to the bottom of triple clamp. Forks slide up 1½ inches with weight of bike when using S&W's SP1820-18 fork spring. (They sell for \$13.95 a pair.) A superbly smooth ride is obtainable.

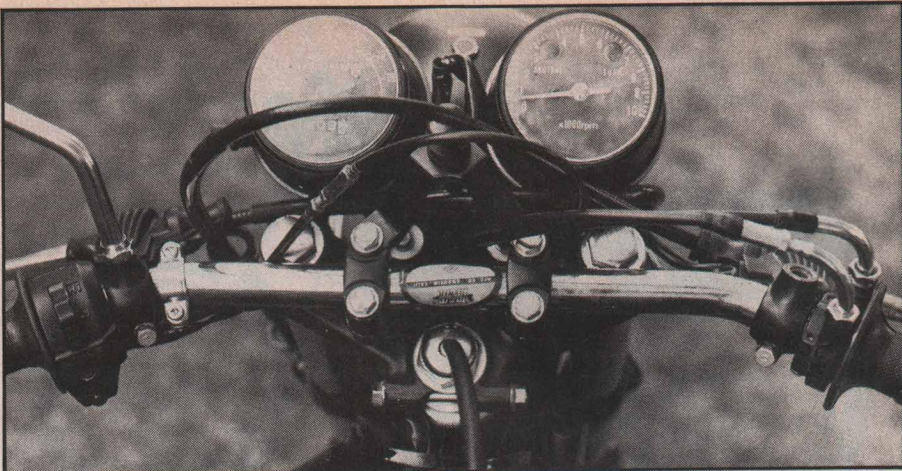


This is the underside of Dick's Cycle West Norton Racer seat. It comes with the holes. Pop rivets held mounting tabs for Norton, and were removed with a chisel. The front bracket fits tongue on frame and doubles as gas tank retainer. 6mm mounting bolts in front are backed with one-inch diameter washers for strength. Main mounting bolts near center of the seat are already there. We bent the main mounting strap to go from one upper shock mounting bolt to the other upper shock mounting bolt, picked up the existing seat base studs and went from there. An additional loop is used at the rear to dampen seat flexing. Basic solo seat is about \$65.

# TAKING THE DUAL OUT OF DUAL-PURPOSE

seven inches of travel and you really don't need that much on the street. Searching about we located a soft fork spring from S&W that would allow the forks to compress about two inches just from the weight of the bike. (BMW forks do the same thing and who faults their engineering?) This gave us an even better fork angle and brought the bike even closer to the ground. We also discarded the gorpy-looking MX fender for a Cafe job that clamps onto the sliders just over the front tire.

Short handlebars, a down-pipe, and five teeth less on the rear sprocket finished up the project to this juncture. Not a heck of a lot of money was spent and we now have a streeter that sips fuel, only has one spark plug, and goes thump-thump-thump when you ride it. There are also a few advantages that the twinskies and fours can't touch. It is light and narrow, slips through traffic like a greased snake, and you only change gears occasionally, no need to stir the shift lever. Handling and ride are superb for this 170-pound rider. The front brake is not really a good stopper, but adequate. Singles do stop better than multis simply be-



*These are Harley-Davidson drag bars from MCM, measuring about 24 inches from end to end. Left side is a squeeze, especially since a compression release has been fitted. Routing of control cables is simply a case of common sense. Bend them as few times as possible and don't kink them. Front brake cable loops very high and throttle cables go from the top. The new set-up allows a normal seating position; you don't lean on the bars.*

cause they have an effective compression stroke, i.e., you feel it! It is down on power in stock form, and you really notice this with five less teeth on the rear sprocket. But with this taller gearing it still accelerates well from a light and thumps along in fifth at highway speeds way down on the torque curve. And there is nothing that turns the head of a real motorcyclist quicker than the mellow sound of a healthy thumper that covers about 20 feet every time it fires.

There is a way to feed this 350 some vitamins. We are going to get into increasing performance in an upcoming issue of *Motorcyclist*, keeping it within a budget. So don't go away. **M**

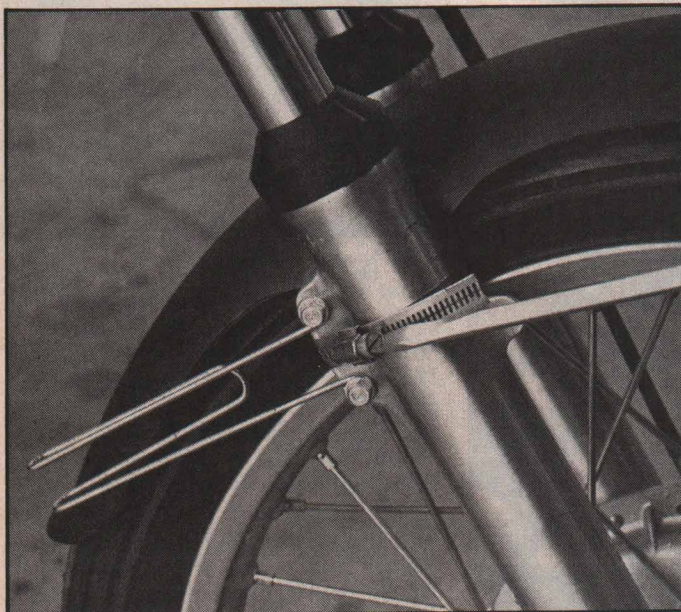
**Fender and Seat:**  
Dicks Cycle West  
304 Agostino Road  
San Gabriel, CA 91776

**Rear Sprocket:**  
Circle Industries  
17901 Arenth  
City of Industry, CA 91748

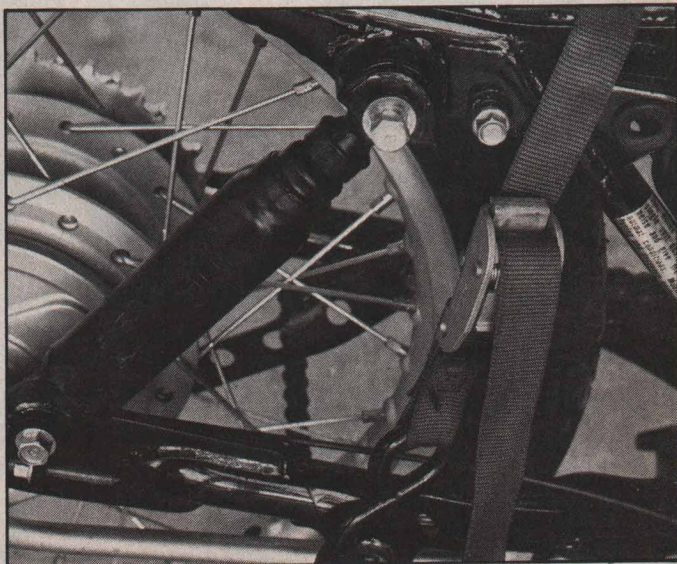
**Front Wheel:**  
The Wheel Clinic  
7561 Industrial Way  
Stanton, CA 90680

**Shocks and Fork Springs:**  
S&W Shocks  
2616 W. Woodland Drive  
Anaheim, CA 92801

**Exhaust System and Bars**  
MCM Mfg.  
601 S.E. Street  
Anaheim, CA 92805



*Funny Fender can be purchased in either white or black, for \$15. You will have to do some trimming around fork legs in order to slide the fender close to the tire. Normal hose clamps are used to hold it on and we found wrapping clamps around the fork boss works best.*



*We mounted a 1½-inch shorter shock less spring in order to check out wheel clearance. The stock trials tire rubs upper frame brace. We used the S&W H525-2 gas bag shock (\$32.95 each) and the S1270-10 spring (\$8.33 each). Note clever use of the tie-down strap, finger-tight bolts. We had to cut about 3/32 of an inch from the shock bushes and eyes.*