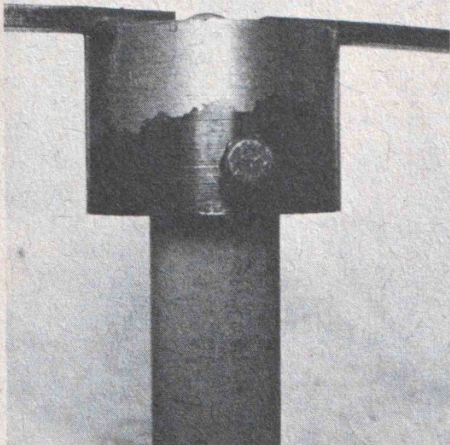
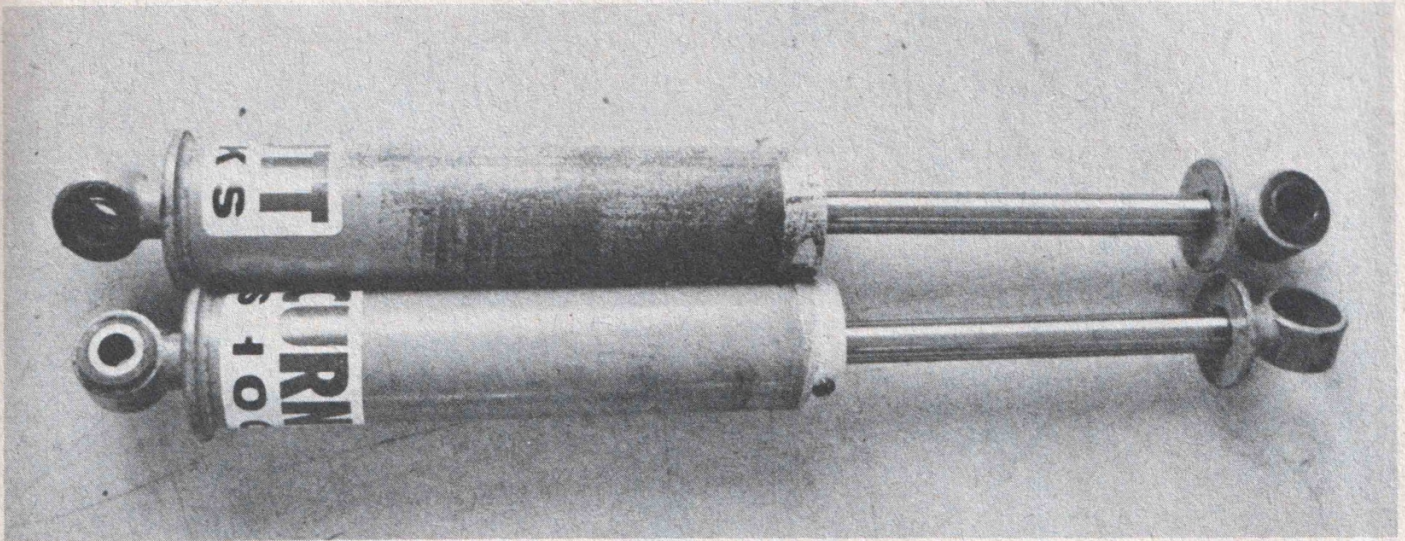
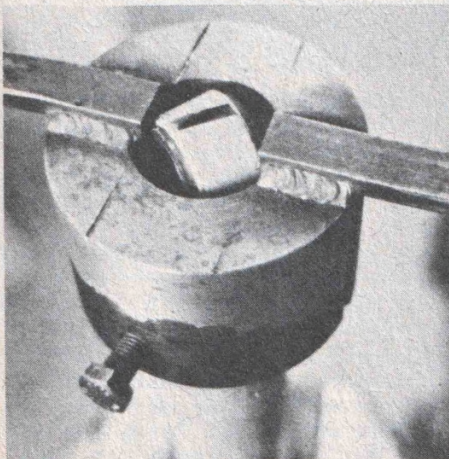


# CURNUTT



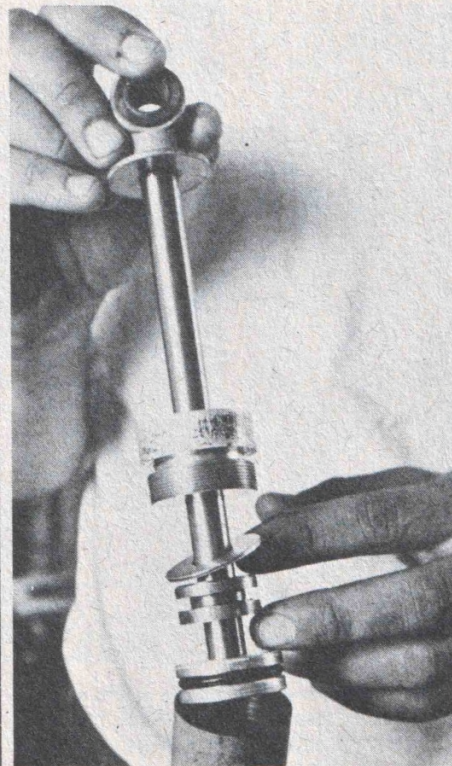
Remove spring from shock. Care should be taken in removing springs to not scratch the rod. If a screwdriver or any sharp object is used, keep it away from rod.

Remove grommets from shock. The metal insert will press out of the plastic grommet material.



Place the eye of the shock body in a vise making sure that it is held firmly in the jaws with the lower flange of the

body resting on the top of the vise jaws. (This is to avoid leverage on the eye). With pin spanner or strap wrench, remove aluminum seal unit. (Right hand threads used throughout the shock.)



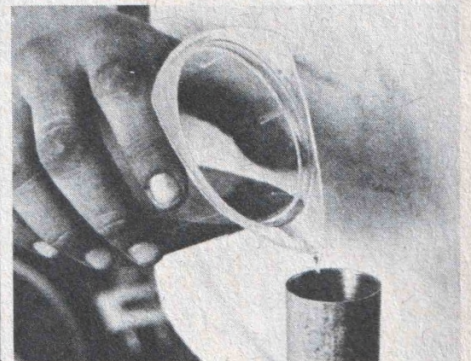
Withdraw rod, piston and seal retainer/bearing, as a unit, from shock body. Care must be taken not to mar top surface of shock body, as this is a critical sealing surface.

Place upper eye in vise and remove piston with a strap wrench or other suitable tool, taking care not to damage piston. The upper eye may unscrew from the rod instead of the piston, but this does not matter as far as rebuilding goes.

When rod is free from eye or piston, remove seal unit from shaft.

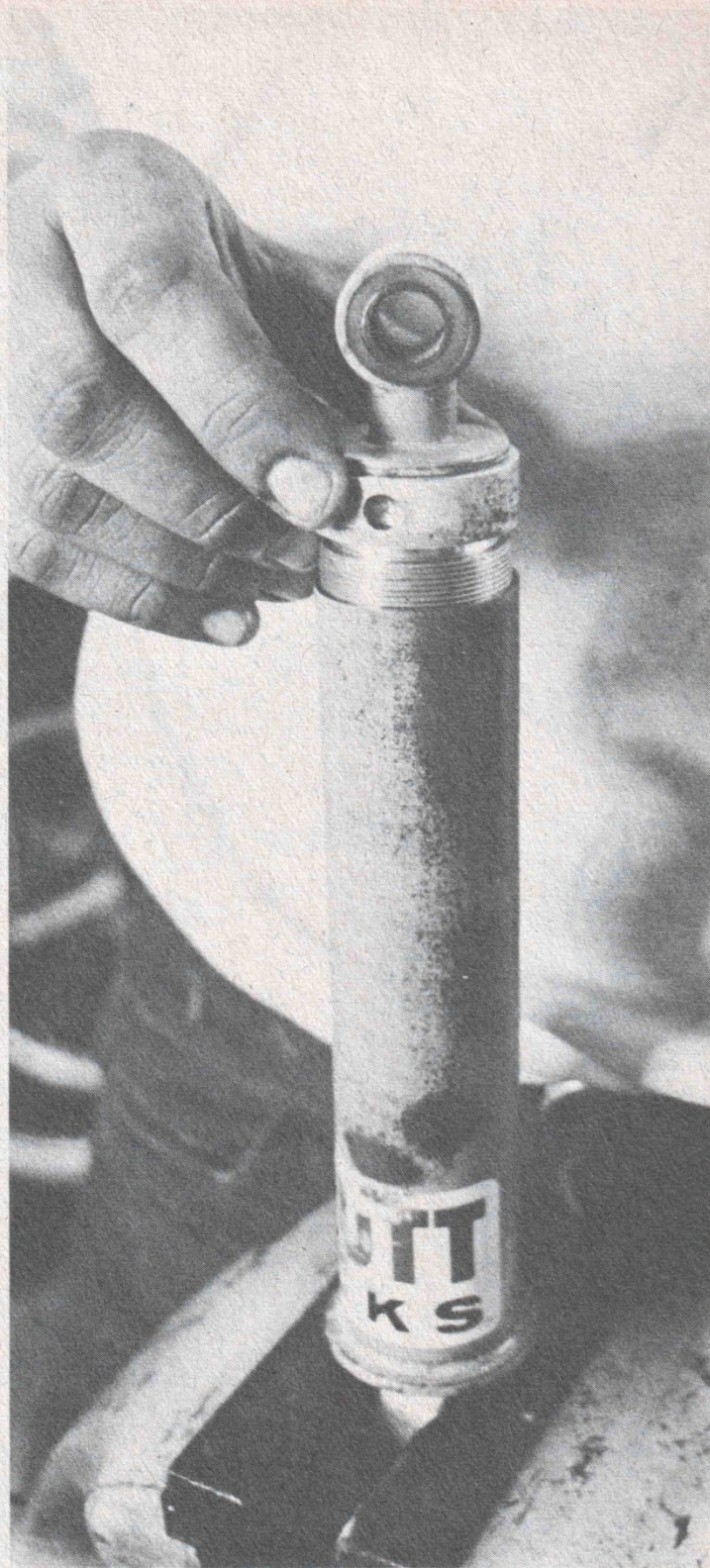
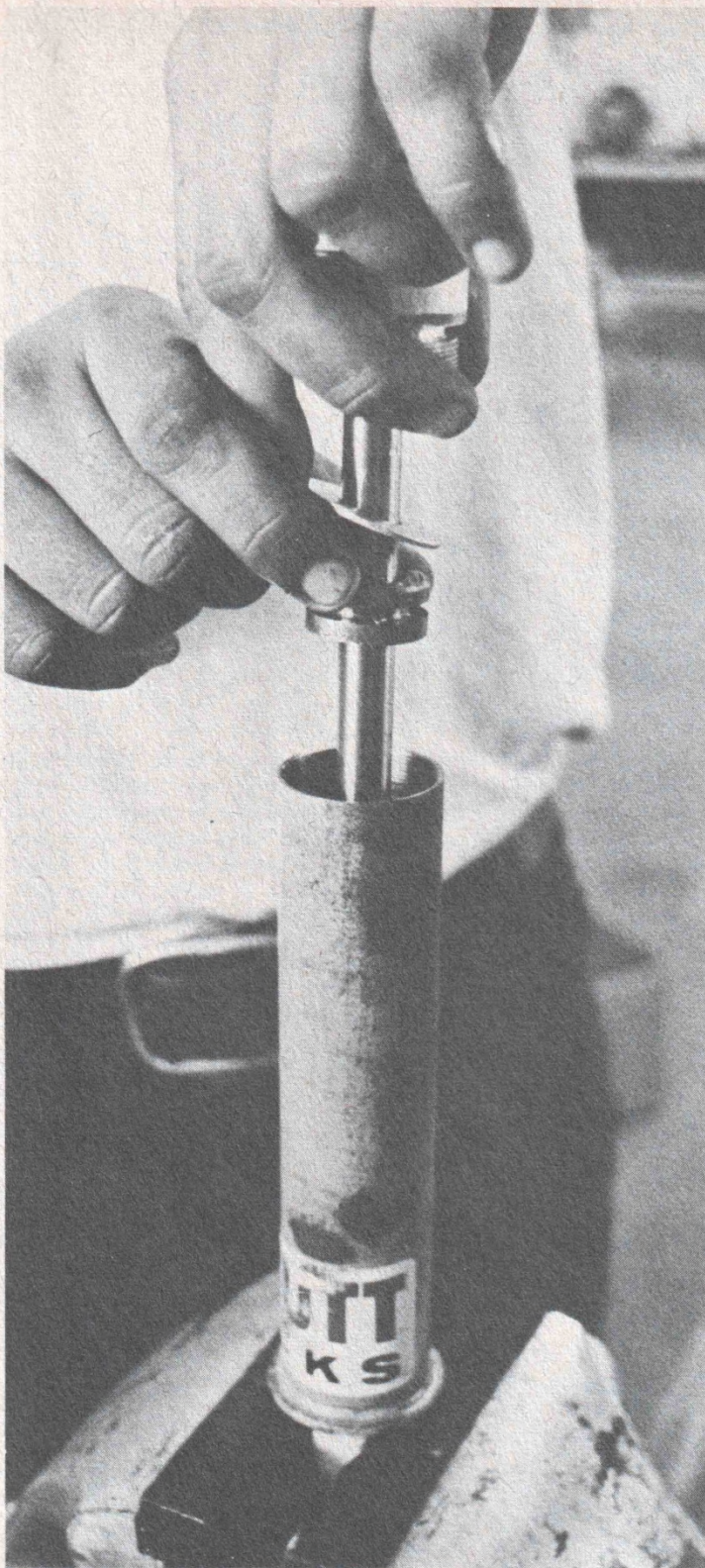
To remove seal, place body of shock in vise as before. Screw seal unit into body 3 or 4 turns. (This is a convenient way to hold seal unit while seal is removed.) Press flat of a sturdy screwdriver under lip of seal. Press in as far as possible. Pry against top of seal unit and seal will pop out. Next remove "O" ring by using a straight pin (scraper, etc.). Push point into "O" ring taking care not to damage sides of "O" ring grooves. Clean "O" ring groove carefully. Check for excessive play of bearing unit on shaft and replace if necessary.

Place new "O" ring into seal unit. Install new seal.



Check rods for wear. If shocks have been leaking for any period of time rod should be checked for wear. Rod lower tolerance is .498. Any rod measuring under this figure will in most cases cause trouble. Rod finish is very important to the life of the seal. If scratches, holes or irregularities occur, seal life will be impaired. Rod polishing is an effective means of returning a good rod finish. This can be done by carefully placing rod threads in the jaw of a drill press. With drill press running polish up and down rod with 400 to 600 grit sandpaper until rod is once again smooth and shiny. When polish is complete, rod size should then be checked. Any rod bent or scratched noticeably should be replaced.





When reassembling, damper unit assembly should consist of top extension-eye, seal retainer/bearing, flat washer, valve (groove facing flat washer) and piston, with groove upward. "O" ring on piston should be replaced. Hold eye in vise and using strap wrench as before, tighten to at least 45 ft. lbs. Before rod is put through seal retainer/bearing, a small amount of shock fluid should be wiped or poured into seal to provide lubrication and prevent seal from sticking initially.

Body of shock should be cleaned thoroughly with soap and water before assembly. Small amount of Permatex should be put on sealing surface of body. Now put body in a vise as before by

holding lower eye. Fill to within 1" of top with Curnutt Shock Fluid. Replace damper unit. As seal retainer/bearing is tightened down push rod to the down position to displace excess fluid. Tighten down lightly. Remove shock from vise and place in boiling water and allow to heat for at least 10 minutes. This will cause oil to expand. Replace shock in vise holding as before and loosen seal retainer/bearing  $\frac{1}{4}$  turn, again press rod to fully compressed position. This will cause excess oil, which was expanded by heating, to bleed out. Replace grommets, inserts and spring. The shock is now ready for use.

NOTE: The "down damping" of the Curnutt Shock varies according to the make

and model of the machine they were intended to be used on. They cannot be used on other machines unless the damping is correct. The damping is controlled by orifices in the piston of the shock. By placing the correct piston (or damping orifices) the shock can be used on any machine. On heavier or lighter machines, the pre-load of the spring will have to be re-adjusted. The length of the unit can be changed by replacing the top extensions on the rod, with extensions of desired length. These extensions are threaded onto the rod. Piston, extension, etc., can be purchased separately. Charles Curnutt, 75992 Baseline, Twenty-nine Palms, California 92277. Telephone (714) 367-9179.



## PERFORMANCE TIPS

1. Shocks should compress 3/4" to 1" from full extension when rider is sitting on machine in normal riding position. Settling should be checked after shocks have had time to loosen up, say two hours riding time. Should shock compress more than one inch, bottoming may occur. If they settle less than 3/4", topping out might occur. One inch is preferable for desert where 3/4" is better for moto-cross.
2. Shocks should not bottom or top excessively.
3. To test shock, spray light film of WD-40 or anything that will collect dust, on shock rod. This is to leave a record of how far the shock is traveling. Now ride across rough terrain as hard and fast as you would under racing conditions. Avoid any large dips or anything that may cause "G" load bottoming. Shocks should then be examined. Dust mark on the rod should indicate that shocks have been using their full travel, wiping clean to within 1/8" from top of rod. No bottoming should have been noticed by the rider. If they meet these requirements, shocks are adjusted perfectly for the particular machine and rider combination. If shocks had been obviously bottoming, and settling was within the advisable range, this would indicate heavier down damping is necessary. Should they show that they have not used all of their travel by possibly 1/2" to 1", they are too heavily down damped and should be lightened up for maximum performance. This can be done by the individual or by us. There are orifices inside that must be changed a certain amount. If this is attempted by the individual, special instructions should be obtained from us.

### A FEW FACTS ABOUT CURNUTT SHOCKS

1. Install shocks with rods "up".
2. When the rider sits on the machine the 3.7" travel units should compress, from a fully extended position, 3/4" to 1". Under the same circumstances the 4.7" units should compress 1-3/4" to 2". To accomplish this specific settling figure three different length springs are supplied for each travel shock. For the standard travel unit the short spring measures 10-3/4" the medium 11-1/4" and the long 11-3/4". For the long travel units the long 3.7 travel spring is used as the short, the medium measures 12-1/2" and the long 13". On both models "bottoming" will occur if the spring pre-load is too light (settling too far) and "topping out" will occur if the pre-load is too much (not settling far enough). To fine tune the springs for the specific settling required spacer rings placed beneath the spring may be necessary. Spacers are available from us, but another convenient source is a 1-1/2" harness ring which may be purchased at most hardware stores. It may sometimes be referred to as a 1-1/2" Japanned ring. Both will work effectively. One 1/4" ring adjusts for about 25 lbs. The 3/4" - 1" or 1-3/4" to 2" adjustments should be made after a few hours of riding. When shocks are new they may possibly feel tight and tend to stick slightly. This is completely normal and is caused by tight seals and "O" rings. This condition should only last a few hours and diminish as the shocks are broken in.
3. Riding the bike with the shocks installed is the only way to test the shocks. "Push down" and "Sit down" tests will be confusing. The Curnutt shock tested in this manner will exhibit the characteristics of a conventional shock that is worn out. If the bike is pushed down abruptly, it will rebound seemingly as if there was no damping. This is normal. Ride them to try them.

### WARRANTY

THE CURNUTT SHOCK IS GUARANTEED AGAINST LEAKAGE FOR A PERIOD OF SIX MONTHS ANY SEAL LEAKING WITHIN THIS PERIOD IS CONSIDERED DEFECTIVE AND WILL BE REPAIRED BY US AT NO CHARGE. SHOCKS SHOULD BE SENT BACK TO MANUFACTURER FOR REPAIR. ANY SHOCK THAT HAS BEEN DISASSEMBLED OR REPAIR HAS BEEN ATTEMPTED WILL NO LONGER BE UNDER WARRANTY.

### PARTS PRICES FOR CURNUTT SHOCKS

Rebuild cost	\$5.50 pair, plus parts, if needed
Extension eyes	\$2.95 each
Shafts—3.7"	\$4.25 each
4.7"	\$4.50 each
5.7"	\$4.95 approx. each
Seal guide	\$3.50
Seal guide with seal and O-ring	\$5.00
Seal	\$1.00
Small O-ring	\$.20
Large O-ring	\$.30
Rebuild kit	\$1.50
Piston	\$2.50
Valve/floater	\$1.25

Washer	.....	\$ .35
Body—3.7"	.....	\$7.50
4.7"	.....	\$8.00
5.7"	.....	\$9.00 approx.
Springs—3.7"	.....	\$4.50
4.7"	.....	\$5.00
5.7"	.....	\$5.50 approx.
Retainers	.....	\$1.25
Spacers	.....	\$.35
Alloy bushings	.....	\$3.00, set of 4
Complete Units—3.7" Standard	.....	\$49.95
3.7" Forward	.....	\$59.95
4.7" Standard	.....	\$54.95
4.7" Forward	.....	\$64.95
5.7" Standard	.....	\$79.50 approx.

## PREVENTATIVE MAINTENANCE

1. Keep clean around seal.
2. If riding under muddy conditions is done, care would be advisable to keep the shock relatively clean. Should it be a hot day and time between races is sufficient for mud to harden, extreme care should be exercised to clean mud from around top of rod. Mud may collect and possibly harden in this area causing possible damage to seal the next time the shock uses its travel.
3. If springs are taken off, avoid scratching the rod. Any scratches of the rod will cause leakage.
4. If leakage occurs for any reason, shocks should be rebuilt immediately. Shocks leaking within six months from date of purchase are considered defective and will be repaired at no charge. This excludes damage from crashes or tampering with unit. If they are not rebuilt immediately, unnecessary wear to the internals of the shock will occur making what could have been an inexpensive repair considerably more costly.
5. If shocks are used constantly for racing, re-building every 4 to 6 months would be advisable even though leakage may not occur. Shock fluid breaks down and the "O" rings may wear making a periodic rebuild to your advantage. If this is done, it is very possible that one set of shocks could last indefinitely for only a few dollars per year.
6. Grommets in shock should be checked regularly. If they are in bad shape, type tubing used is 5/8" x 7/8" vinyl tubing which can be inexpensively purchased at most hardwares.
7. To prevent squeaking of shock and improve shock and spring life, WD-40, silicone sprays, colloidal graphite, or any good lubricant can be put on the body of the shock. Care should be taken not to get lubricant on top of seal causing attraction of dust and dirt to seal area.
8. Exhaust pipes should not be mounted as to direct exhaust gases onto the shock.
9. Items that may cause leakage include: defective or worn seals, small "O" ring defective or worn, worn or scratched rod, excessively worn top seal assembly (bearing on rod).
10. Seals in the unit are Chicago Rawhide No. CR 4985, small "O" ring is a standard commercial type 3/32" x 1/2" x 11/16", large "O" ring is standard commercial type 1/8" x 1-1/8" x 1-3/8".