Before attempting to install K&N clamp-on open-side universal filters, the foregoing information should be read. These types of air filters are designed for off-road and hi-performance racing only, when used on bikes MFG. for sale on and after January 1, 1978 (U.S.A. only)

K&N Air Filters are designed with many unique features, the most of which are not available in other air filter designs. K&N Air Filters have very low restriction. The secret of this unique Hi-Flow design is the use of multi-grid surface. Incoming air turbulence is broken up by the grids and the air is straightened out for direct approach to the carburetor mouth. These filters feature maximum air flow for long periods of use, even under heavy dust conditions. The filter media is a washable, reusable cotton fabric that must be serviced with K&N Air Filter oil before use and after cleaning.

For your engine to run properly and gain the benefits of the Hi-Flow, freer breathing characteristics of K&N Air Filters, some carburetor re-metering (jetting and other mixture adjustments) will be required. Also, symptoms of other tuning or engine problems hidden by a former, more restrictive, filtering system may now become evident. The following carburetor adjustments are given as a guide only. No specific recommendations can be given to cover all applications, as too many variables exists.

3/4 TO FULL THROTTLE OPENING

MAIN JET: An increase to the main jet size will usually be necessary to compensate for increase in air flow. For example: On a typical four cylinder bike with stock exhaust system, an average increase of approximately 15% may be required (A change from #110 to #125, or #107.5 to #122.5, etc.). However, one should not try to cure "throttle response" of steady speed mixture problems (below 3/4 throttle opening) with the main jet alone (see below).

1/4 TO 3/4 THROTTLE OPENING

JET NEEDLE: All carburetors, except "CV" (Constant Velocity type). For good throttle response and cruising in the 1/4 to 3/4 throttle range, the jet needle position is critical. One (1) notch richer (clip moves down to lift needle higher) is normally required. On 1978-79 carburetors using needles without clip grooves, one can usually use a previous year model needle (with grooves) from the same model carburetor.

On late model "CV" (Constant Velocity) carburetors: DO NOT raise the needle; the primary (smaller of the two) main jet functions the same as the needle in a conventional carburetor. On this type of carburetor, the primary jet size should be increased. A typical change might be from a #68 to #88 jet size.

IDLE & TRANSITION TO 1/4 THROTTLE

IDLE MIXTURE & PILOT JET: Removable "Pilot Jet" Type Carburetor (mixture screw on air filter side of carburetor). Adjust for highest idle speed . If less than 3/4 turn out is required, change to a richer (larger) pilot jet. If two (2) turns out or more are required, go leaner (smaller) in jet size.
Fixed "Pilot Jet" Type Carburetor (mixture screw on engine side of carburetor). Simply adjust for highest idle speed. Don't drill the jet; (it should not be necessary)!

AIR JET, NEEDLE JET, SLIDE CUTAWAY: Changes to these "fine tune" systems are very rarely required, and often not possible anyway.

GENERAL NOTES:

1. Each system overlaps the previous one. Thus you can sometimes "correct" a problem with the wrong system. A very large change in the main jet size but none to the needle position (or primary main) is usually a mistake. This is equally true of the reverse.

2. An engine has to be in good condition before attempting to re-meter the carburetors, check cranking pressure (compression). No more than 15-20% difference between cylinders is acceptable. Valve clearances, ignition timing, carburetor synchronization and other mechanical factors must be correct before time is spent on carburetor re-adjustments. Use fresh spark plugs of the correct heat range.

3. Carburetor function is most dependent on throttle opening and manifold vacuum. Try to think and adjust how far (1/4, 1/3 etc.) the throttle was open and wether you were starting to accelerate (response) or holding a steady condition. RPM, of itself, does not determine which system within the carburetor is most effective at any specific time.
   NOTE: THE ABOVE WORDING IS STATED AS GENERAL INFORMATION ONLY, AND NOT INTENDED AS RECOMMENDATIONS FROM K&N ENGINEERING, INC. BIKE MODELS AND MODIFICATION VARY. WITH THESE VARIABLES, NO SET RULES CAN BE SUGGESTED TO HANDLE ALL SITUATIONS. IN SOME CASES, NO CARBURETION CHANGES MAY BE NEEDED.

USA ONLY: CAUTION, local, state and federal "EPA" emission control law may have a bearing on the use of certain aftermarket type (not O.E.M.) "open side" and custom air filters.

Motorcycles operate on public highways manufactured after January 1, 1978 are required by the EPA to maintain factory airbox set-ups, and utilize an original type replacement element, such as K&N replacement air filter element. Motorcycles manufactured before January 1, 1978 are exempt from this law.

K&N "open-side" and custom air filters are designed and intended for **racing and off-road use only**, when used on motorcycles manufactured after January 1, 1978 (USA Only).