AIR CUT-OFF VALVE

THE AIR CUT-OFF VALVE IS AN EXTREMELY IMPORTANT PART OF THE FUEL/AIR INTAKE SYSTEM THAT IS FREQUENTLY MISSED EVEN BY COMPETENT MECHANICS, MOST OF WHOM ARE NOT EVEN AWARE OF ITS EXISTENCE OR HOW IT FUNCTIONS.

EVERY GL1000 HAS ONE, LOCATED IN THE AIR INTAKE TUBE BETWEEN THE AIR CLEANER BOX AND THE MANIFOLD. EVERY GL1100 HAS FOUR, LOCATED IN THE TOP AIR INTAKE PASSAGE OF EACH CARBURETOR, AND EVERY GL1200 HAS ONE LOCATED IN THE PLENUM BOX BELOW THE AIR CLEANER BOX SIMILAR TO THE GL1000.

THESE VALVES ARE "AIR BLOCKERS", ALONG WITH THE CARBURETOR O-RINGS, SERVING TO RESTRICT AIR FLOW AND INCREASE THE FUEL/AIR MIXTURE RATIO WHEN THE CARB SLIDES ARE IN THE LOWER RPM RANGE, UP TO CLOSED SO THAT THE MACHINE WILL START AND IDLE SMOOTHLY WITH VIRTUALLY NO CHOKING AND ACCELERATE RAPIDLY, WITH NO STUMBLE OR HESITATION.

WHEN TYPICAL STARTING REQUIRES HEAVY AND PROLONGED CHOKING TO KEEP THE BIKE RUNNING, WHEN STALLING AND HESITATION OCCURS EVEN WHILE "WARMED UP" AND WHEN BACKFIRING POPS WHILE THE THROTTLE IS SHUT OFF WHILE CRUISING, MOST PEOPLE WILL START FOOLING WITH THE AIR SCREWS TO TRY TO OVERCOME THE PROBLEM, ONLY MAKING IT WORSE ALONG WITH REDUCING THEIR GAS MILEAGE.

RUNNING WITH DYSFUNCTIONAL AIR CUT-OFF VALVES CAN CAUSE SEVERE ENGINE DAMAGE OR FAILURE. WHEN THE VALVES ARE DYSFUNCTIONAL, THE ENGINE PULLS NEARLY TOTAL AIR IN THE LOW RPM RANGE THROUGH THE CARBS AND ON TO THE COMBUSTION CHAMBER. THE FUEL/AIR RATIO IS EXTREMELY POOR WITH PRE-IGNITION LONG BEFORE THE NORMAL 38 TO 40 DEGREE FIRING POINT, GENERATING AN ENORMOUS AMOUNT OF HEAT, WITH NO POWER, WHICH IS TRAPPED A LONGER PERIOD OF TIME IN THE CYLINDER BEFORE THE EXHAUST VALVE OPENS.

THIS HEAT GOES MOSTLY UP THROUGH THE CYLINDER HEAD, GRADUALLY INCINERATING THE HEAD GASKETS AND ALLOWING ENGINE COOLANT (ANTI-FREEZE) TO SEEP INTO THE ENGINE. YOU CAN EASILY SPOT WHEN YOU ARE IN TROUBLE BY A PUFF OF BLUISH-WHITE OR WHITE SMOKE ON FIRST STARTING THE ENGINE. DON'T LEAVE IT ALONE. CHANGE HEAD GASKETS IMMEDIATELY OR YOU COULD TAKE OUT YOUR BOTTOM END BEARINGS, RUINING THE ENGINE.

FOR THOSE OF YOU INSTALLING NEW EXHAUST SYSTEMS, YOU WILL DISCOLOR YOUR HEADPIPES, EITHER BLUE (LEAN STATE), OR GOLD (RICH STATE). YOU CAN DESTAIN YOUR PIPES USING "BLUEAWAY" OR "BLUE-OFF" BUT BE CAREFUL NOT TO RUB THE CHROME, JUST DAB GENTLY. THESE COMPOUNDS ARE USUALLY PURCHASED AT A HARLEY DEALER OR HARLEY ORIENTED AFTERMARKET SHOP.

HONDA GENUINE PIPES, LIKE MANY YAMAHA PIPES, HAVE A DOUBLE WALL FOR A PORTION OF THE HEADPIPE WHICH MASKS THIS DISCOLORATION - BUT ALSO MASKS A BAD STATE OF TUNE. EVEN IF YOUR PIPES ARE ORIGINAL AND STILL IN GOOD SHAPE, DON'T THINK THAT YOU ARE OK IF THE BIKE HAS ANY OR ALL OF THE DYSFUNCTIONAL AIR CUT-OFF VALVE RUNNING AND PERFORMANCE CHARACTERISTICS.

IF YOUR 1975 TO 1987 GOLD WING IS NOT GETTING 50 TO- 58 MILES PER GALLON (20 - 23KM/LITER), YOU HAVE ONE OF THE MOST OBVIOUS SIGNS OF TROUBLE. IT IS LIKELY YOUR AIR SCREWS HAVE BEEN BACKED OUT TO TRY OVERCOME THE EFFECTS OF THE POOR RUNNING, STUMBLING, STARTING AND STALLING AND QUITTING.

RESYNCHRONIZE ALL FOUR CARBS TO THE #3 CARB VACUUM LEVEL USING MERCURY CARB STICKS OR VACUUM DIAL GAUGES. STAY WITH STRICT USE OF THE SETTING LEVELS IN EITHER THE HONDA, CLYMER OR HAYNES MANUALS. DO NOT ATTEMPT TO TUNE ANY OTHER WAY! GUESSING WILL NOT WORK AND CAN CAUSE CONSIDERABLE ENGINE DAMAGE!!!