THIS PAST YEAR I HAVE BEEN RESTORING SOLEX 40-PI CARBS FOR PIM VAN DE RIET (35G CLASSICS B.V.). OUR GOAL WAS TO RESTORE THESE CARBS TO MAKE THEM LOOK JUST AS THEY WOULD HAVE LEFT THE FACTORY OF THE DEUTSCHE VERGASER GESELLSCHAFT.

THIS RESTO STRIP IS THE FIRST OF THREE PARTS. THIS FIRST RELEASE WILL FOCUS ON THE RESTORATION OF THE CARBS THEMSELVES. IN THE NEXT PARTS THE REBUILDING AND ADJUSTMENT WILL BE DISCUSSED.

## 911 Resto Strip...









BEFORE RESTORATION STARTS ALL DETAILS PERTAINING TO ORIGINALITY ARE DOCUMENTED. IN TOTAL THIRTY OF THESE CARBS WILL BE RESTORED (FOR FIVE CARS). A LOT OF THESE SETS ARE ORIGINAL AND DATE FROM 'G4-'GG. IT'S LIKE HAVING A MUSEUM OF SOLEX CARBS ON THE WORKBENCH :). MOST OF THE ORIGINALITY DETAILS WILL LATER BE PRESENTED IN THE REBUILDING AND ASJUSTING STAGE OF THE RESTORATION PROCESS.



WHILE STRIPPING THESE CARBS MOST OF THEM HAD ALREADY BEEN REPAIRED WITH TEFLON BUSHINGS. ORIGINALLY THE THROTTLE SHAFTS USED THE ALUMINUM OF THE HOUSING ITSELF AS THE BEARING SURFACE. THIS WOULD WEAR SO FAST THAT A LOT OF REPAIRS HAD TO HAPPEN AFTER ONLY 10.000KM. THE THROTTLE SHAFT IS A WEAK POINT OF THESE CARBS. THE HOUSINGS WILL ALL RECEIVE BRONZE BUSHINGS AND THE BUTTERFLY BORES WILL BE MILLED TO A SLIGHT OVERSIZE. LASTLY MATCHING BUTTERFLIES WILL BE TURNED ON THE LATHE.





AFTER A COUPLE OF CLEANING EXPERIMENTS FOR THE VARIOUS CARB PARTS WE HAVE CHOSEN TO CLEAN THE ALUMINUM CARB BODIES AND TOPS BY SODA BLASTING THEM. OTHER CARB PARTS THAT ARE MADE OF ZAMAK ARE TUMBLED IN CERAMIC MEDIA AND ARE ULTRASONICALLY CLEANED.

ADJUSTMENT FOR FUEL MIXTURE, BUTTERFLY ANGLE AND INJECTION QUANTITY. THESE CARBS ALSO HAD A DRY SUMP SYSTEM FOR THE FUEL DELIVERY- A FLOAT BOWL ON EACH INTAKE MANIFOLD IS SUPPLIED WITH FUEL BY AN ELECTRICAL PUMP A MECHANICAL PUMP WOULD THEN PUMP THE FUEL FROM THE FLOAT BOWLS TO THE CARBS. ANY EXCESSIVE FUEL SUPPLIED TO THE CARBS WOULD FLOW BACK TO THE FLOAT BOWLS. IN THEORY THIS ALL SOUNDS LIKE A GREAT CONCEPT. IN REALITY THEY WERE FINNICKY TO ADJUST DUE TO PREMATURE WEAR. IT WAS A COMPLICATED DESIGN WITH MANY MOVING PARTS. EVENTUALLY PORSCHE SWITCHED WEBER CARBS FOR THE 911 ENGINES.

THE SOLEX 40-PI

WAS CHOSEN BY PORSCHE BECAUSE

THEY CAN BE ADJUSTED WITH

GREAT PRECISION.

THE SIX INDIVIDUAL

CARBS EACH HAVE



SODA BLASTING CLEANS THE ALUMINUM WHILE KEEPING ITS MATT APPEARANCE. IT CLEANS THE MATERIAL WITHOUT DAMAGING THE SURFACE. SODA IS ALSO SOLUBLE IN WATER WHICH MEANS THAT AFTER CLEANING YOU WON'T BE LEFT WITH BLASTING MEDIA IN YOUR CARBS.

THE VERY FIRST SOLEX CARBS DID

NOT HAVE A PRODUCTION NUMBER STAMPED ON THE SIDE OF THE HOUSING. AS THE PRODUCTION WENT ON 4,5 AND EVENTUALLY G

DIGIT NUMBERS WERE STAMPED.



THE THROTTLE SHAFTS HAVE A WASHER ON THE END THAT IS PEENED ON THE SHAFT. THE REPRODUCTION SHAFTS ARE PEENED BY WHAT LOOKS LIKE A HAMMER AND CHISEL. THE WASHERS ARE ALSO LARGER THAN THE ORIGINAL ONES. TO GET THE ORIGINAL LOOK SHAFTS WERE SOURCED WHICH HAD NO WASHERS. NEW WASHERS WERE LASERCUT TO THE ORIGINAL DIMENSIONS. IT TOOK A COUPLE OF TRIES TO GET THE PEENING TO LOOK RIGHT.

FIRST TEST: LEFT IS A REPRO SHAFT, THE MIDDLE IS A SHAFT WITH A LASERCUT WASHER AND TO THE RIGHT IS AN ORIGINAL SHAFT. I THINK WE ARE ON TO SOMETHING.

TO KEEP THE SHAFT FROM DEFORMING WHILE PEENING I MADE AN ALUMINUM TOOL. WITH A COUPLE OF WELL PLACED HITS OF A BALL-PEEN HAMMER THE PRESSING OF THE ORIGINAL SHAFT WAS REPLICATED.







THE THROTTLE SHAFT BORE IS PREPARED TO RECEIVE THE BRONZE BUSHINGS. THE CARBS THAT HAVE NOT RECEIVED THIS TREATMENT BEFORE WILL BE ALIGN-BORED TO AN OVERSIZE FROM 8MM TO 10MM. THE SHAFT IS 8MM IN DIAMETER THEREFORE BUSHINGS WITH A DIAMETER OF 2MM CAN BE TURNED. A PRECISION SHAFT OF 8MM IS USED TO CHECK IF THE BORE IS PERFECTLY ALIGNED BEFORE DRILLING.









SHAFT BORE WITH A TIGHT TOLERANCE FIT. THE INSIDE DIAMETER OF THE BUSHINGS IS THEN REAMED TO THE CORRECT SIZE FOR THE THROTTLE SHAFTS. THE BUTTERFLY BORES IN THE CARB HOUSING ARE MILLED TO 40,4MM IN ORDER TO REMOVE WEAR THAT HAPPENS WHEN THE BUTTERFLY RIDES AGAINST THE SIDE OF THE BORE. MILLING IS ALSO DONE SO THAT THE BUSHINGS MATCH THE RADIUS OF THE BORE. JUST A MOMENT I WILL BE RIGHT BACK....JUST HAVE TO DO THIS 30 TIMES... OKAY I'M DONE LET'S MOVE ON :).











OVERSIZED BUTTERFLIES ARE TURNED OF BRASS THAT IS 1,5MM THICK- AFTER DRILLING THE SCREW HOLES THE BUTTERLY IS TURNED 0,02MM SMALLER THAN THE BORE- BY USING A LAMP YOU CAN SEE IF THERE IS ANY LEAKAGE COMING FROM THE CIRCUMFERENCE WHERE THE BUTTERFLY MEETS THE BORE-



30 PROCESSED CARBS READY TO BE REBUILT!

OH WAIT, NOT YET ... TO BE CONTINUED! tor 26 5 J. Lo

A BIG THANK YOU TO PIM VAN DE RIET AT 356 CLASSICS B.V. FOR LETTING ME DO THE RESTORATION WORK ON THESE SOLEX 40 PI CARBS.

JORIS SCHWEITZER © DEC <sup>7</sup>24 RESTO STRIPS<sup>TM</sup> IS A PART OF RESTO LAB<sup>TM</sup> FOR MORE RESTORATION CONTENT PLEASE VISIT WWW-RESTOLAB-NL