

AVC, INC.
GNX INSTRUMENT CLUSTER
INSTALLATION INSTRUCTIONS

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE YOU BEGIN
MATERIALS REQUIRED FOR INSTALLATION
7 MM SOCKET * 7/32 MM SOCKET * 1 1/16 HOLE SAW
SUPER GLUE * ALLEN WRENCH * ELECTRICAL TAPE

- 1.) DISCONNECT BATTERY.
- 2.) REMOVE BOTTOM TRIM PANEL UNDER STEERING COLUMN (WITH AIR CONDITIONING DUCT).
- 3.) REMOVE REAR BOTTOM TRIM PANEL (BLACK).
- 4.) REMOVE 2 15 MM NUTS HOLDING STEERING COLUMN AND DROP COLUMN DOWN.
- 5.) REMOVE INSTRUMENT CLUSTER TRIM PANEL BY GRASPING AND PULLING OUT. THERE ARE SEVERAL CLIPS AROUND BACK OF PANEL HOLDING IT IN PLACE (PHOTOGRAPH 1).
- 6.) REMOVE 6 SCREWS HOLDING UPHOLSTERY PAD AROUND DASH AND SET PANEL ASIDE. (PHOTOGRAPH 1).
- 7.) REMOVE FOUR OUTER MOUNTING SCREWS, 2 TOP AND 2 BOTTOM, HOLDING INSTRUMENT CLUSTER INTO DASH. (SCREWS GO THROUGH LIGHT BLUE PLASTIC).
- 8.) GO UNDER HOOD AND DISCONNECT UPPER SPEEDOMETER CABLE FROM LOWER CABLE. COUPLER IS LOCATED NEAR BRAKE BOOSTER. PULL OUT ON CLUSTER WHILE PUSHING SPEEDO CABLE THROUGH DASH. WHEN CLUSTER IS OUT FAR ENOUGH, REACH BEHIND AND UNCLIP SPEEDO CABLE BY DEPRESSING METAL TAB AT CLUSTER.
- 9.) LOCATE SPEED SENSOR NEXT TO SPEEDO (BLACK PLASTIC WITH RED, GREEN, AND BLACK WIRES HOOKED TO IT) AND REMOVE SCREW. USE 7/32 SOCKET. (PHOTOGRAPH 2).
- 10.) UNPLUG "IDIOT LIGHTS WITH WIRES" PLUGGED INTO RIGHT REAR OF CLUSTER. THERE WILL BE 1 OR 2 DEPENDING ON OPTIONS. REMOVE 7 SCREWS FROM AROUND BLACK PLASTIC DASH SUPPORT AND PULL DOWN SLIGHTLY. THEN REMOVE 4 SCREWS HOLDING FLAT WIRE HOUSING TO BACK OF DASH SUPPORT. (PHOTOGRAPH 3)

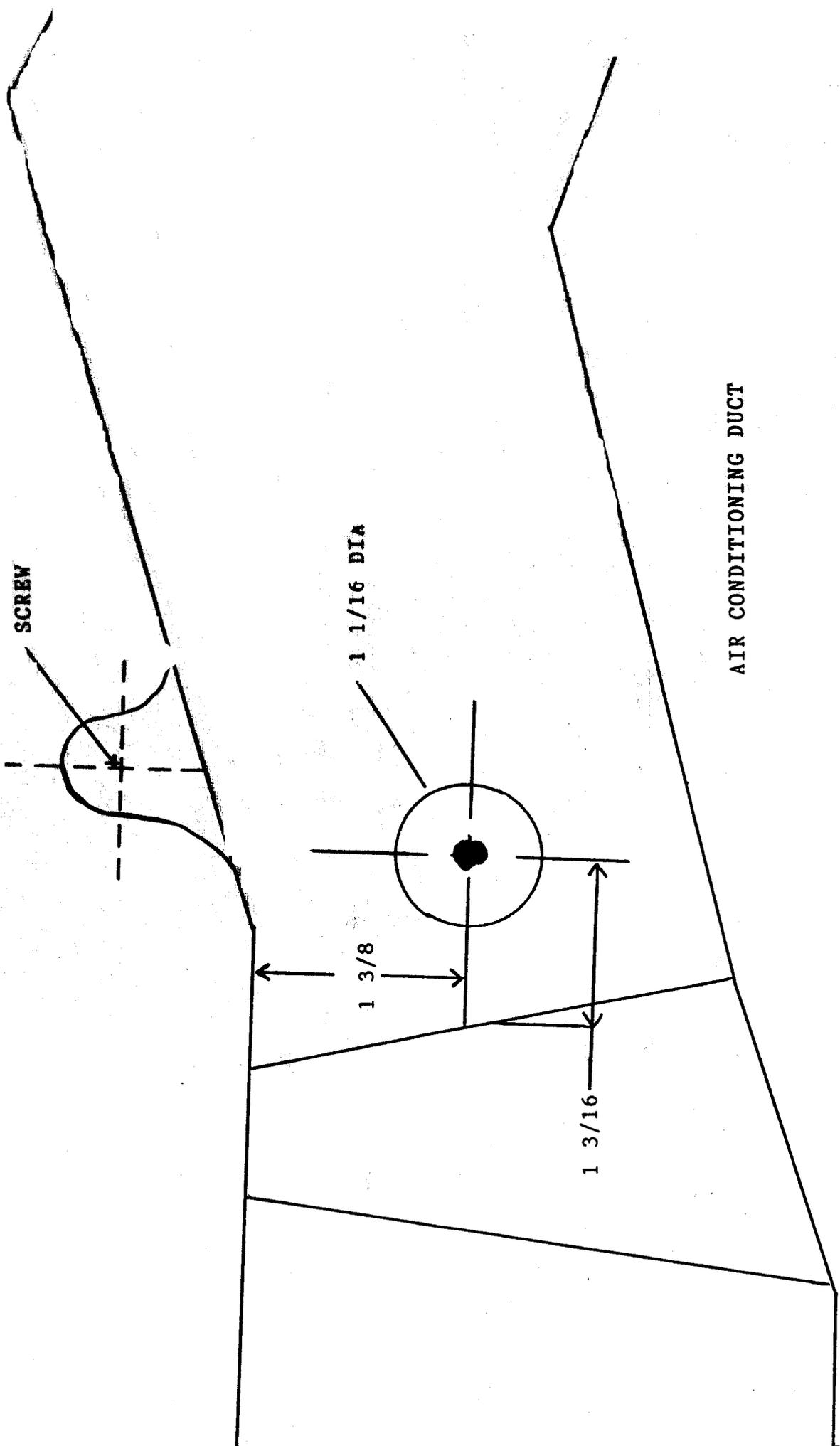
- 11.) ON LOWER RIGHT OF STANDARD CLUSTER A SMALL GROUP OF WIRES COMES OUT. PULL OUT ON THESE WIRES TO GET A PLUG-IN CONNECTOR ON OTHER END OF WIRES. UNPLUG AND PULL THROUGH DASH SUPPORT. ON DIGITAL DASHES, UNPLUG AUXILIARY CONNECTOR FROM BACK OF CLUSTER ASSEMBLY.
- 12.) REFER TO (PHOTOGRAPH 4). DEPRESS LOCKING TABS ON TOP AND BOTTOM OF DASH CONNECTOR AND PULL OUT. TURN CONNECTOR SIDEWAYS AND PUSH BACK THROUGH HOLE IN DASH SUPPORT.
- 13.) REMOVE SCREWS HOLDING ALL SWITCH ASSEMBLIES IN, AND PULL OUT EACH ASSEMBLY. AFTER REMOVING SWITCH ASSEMBLIES, REMOVE CONNECTOR THE SAME WAY YOU REMOVED THE CONNECTOR IN STEP 12. ALSO, REMOVE REMOTE MIRROR CABLE IF EQUIPPED BY REMOVING 2 SCREWS, PULLING OUT SLIGHTLY, AND LOOSENING SET SCREW ON BOTTOM.
- 14.) REMOVE DASH SUPPORT AND SET ON BENCH. REFER TO PHOTOGRAPH AND CUT OPENING IN BACK OF PANEL. WE SUGGEST USING A HOT KNIFE OR SIMILAR TOOL TO CUT PLASTIC. NOTE: OPENING IS NOT CRITICAL AS LONG AS NEW AVC CLUSTER FITS WITH NO INTERFERENCE. (BEFORE PHOTOGRAPH 5, AFTER PHOTOGRAPH 6).
- 15.) PUSH WIRE HOUSING BACK AND TWIST BOTTOM UP SLIGHTLY TO GAIN ACCESS TO RELEASE BARBS. SQUEEZE 4 RELEASE BARBS WITH NEEDLE NOSE PLIERS TO RELEASE AND REMOVE HOUSING FROM HARNESS, AFTER CUTTING TAPE AT EACH END. (PHOTOGRAPH 7).
- 16.) INSTALL TIE WRAPS INCLUDED IN KIT AROUND HARNESS IN AREA UNCOVERED BY HOUSING. (PHOTOGRAPH 4).
- 17.) PULL SPEEDO CABLE OUT FROM UNDER HOOD SIDE OF FIREWALL. SAVE RUBBER FIREWALL GROMMET FROM AROUND CABLE.
- 18.) AT THIS TIME, YOU NEED TO DRILL A 1 1/16 INCH HOLE THROUGH THE AIR CONDITIONING DUCT. THIS IS WHERE THE SPEEDO CABLE COMES THROUGH. WE SUGGEST THAT YOU USE A HOLE SAW AND A VARIABLE SPEED DRILL. LOCATION OF 1 1/16 INCH HOLE AT A SLIGHT DOWN ANGLE. (REFER TO DRAWING AT THE END OF INSTRUCTIONS).
- 19.) INSERT PLASTIC TUBING INTO HOLE AND SEAL WITH PLASTIC EPOXY OR SOMETHING SIMILAR.

- 20.) INSTALL SPEED SENSOR IN ENGINE COMPARTMENT BETWEEN CABLE FROM TRANS AND NEW CABLE THAT CAME WITH KIT. ROUTE SPEED SENSOR WIRES AND SPEEDO CABLE THROUGH FIREWALL. ROUTE SPEEDO CABLE FROM HOLE IN FIREWALL TO THE PLASTIC TUBING IN AIR CONDITIONING DUCT. (NOTE: FOR CONVENIENCE, TAPE SPEEDO CABLE NUT TO END OF CABLE TO KEEP IT FROM SLIDING DOWN) WHEN ROUTING SPEEDO CABLE BE CAREFUL OF THE BRAKE PEDAL HARDWARE AND MAKE SURE ALL BENDS ARE GENTLE. IF YOU HAVE A DIFFICULT TIME GETTING CABLE THROUGH TUBING, REMOVE SCREW FROM TOP OF AIR CONDITIONING DUCT. THE SPEED SENSOR WIRES DO NOT FOLLOW THE SPEEDO CABLE, BUT SHOULD BE ROUTED TO THE RIGHT.
- 21.) TUCK HARNESS BACK UNDER AIR CONDITIONER DUCT AND ON TOP OF COLUMN SUPPORT. (PHOTOGRAPH 8).
- 22.) INSTALL 2 CRIMP-LOCK CONNECTORS ON GREEN AND BLACK WIRE FROM SPEED SENSOR EYE HARNESS REMOVED IN STEP 9. TAPE BACK RED WIRE THAT IS NOT USED.
- 23.) SLIT RUBBER GROMMET REMOVED BEFORE AND SLIP AROUND CABLE AND INSTALL.
- 24.) RE-INSTALL PLASTIC DASH SUPPORT BACK INTO DASH WITH 7 SCREWS. RE-INSTALL SWITCH CONNECTORS, MIRROR CONTROL (IF ANY) AND SWITCH ASSEMBLIES. AT THIS POINT, TAKE THE AVC CLUSTER AND TRIAL FIT INTO PIECES IN DASH SUPPORT, USING FOUR ORIGINAL CLUSTER MOUNTS AND SCREW.
- 25.) REMOVE BULBS FROM ALL IDIOT LIGHTS REMOVED ON RIGHT SIDE OF DASH OPENING.
- 26.) INSTALL 2 RED CRIMP-LOK CONNECTOR ON PINK WIRE AND BROWN/WHITE STRING WIRE OF "SERVICE ENGINE" IDIOT LIGHT BY SQUEEZING WITH PLIERS, LIGHT CAN BE IDENTIFIED BY CLEAR COLORED LIGHT SOCKET.
- 27.) IF EQUIPPED WITH DIGITAL DASH INSTALL CRIMP-LOK CONNECTOR TO PURPLE OR PINK WIRE IN SMALL AUXILIARY HARNESS REMOVED FROM CLUSTER IN STEP 11.
- 28.) INSERT BLUE TACH WIRE SUPPLIED THROUGH FIREWALL GROMMET ALONG WITH SPEEDO CABLE, BLACK END UNDER DASH, PLUG INTO GREEN CONNECTOR WITH 2 WHITE WIRES LOCATED NEAR ALTERNATOR, ROUTING WIRES AWAY FROM PLUG WIRES AND EXHAUST.

- 29.) FEED BLACK BOOST TUBING FROM KIT THROUGH FIREWALL GROMMET ALONG WITH SPEEDO CABLE AND TACH WIRE. LOCATE 1/8" DIAMETER BLACK PLASTIC TUBING COMING FROM PASSENGER FRONT FENDER. IT WILL GO INTO A RUBBER TUBING ADAPTOR PLUGGED INTO A STEEL TUBE LOCATED AT THE REAR OF THE INTAKE MANIFOLD ON PASSENGER SIDE. REMOVE BLACK PLASTIC TUBING FROM RUBBER ADAPTOR AND INSERT BOOST TUBING IN ITS PLACE. BLACK TUBING CAN BE COILED OUT OF THE WAY AND TIED UP OR COMPLETELY REMOVED FROM THE VEHICLE.
- 30.) REMOVE STOCK WATER TEMPERATURE IDIOT LIGHT SENDER LOCATED AT THE FRONT OF THE INTAKE MANIFOLD NEXT TO RADIATOR HOSE (PHOTOGRAPH 9). REPLACE WITH NEW SENDING UNIT SUPPLIED AND PLUG WIRE BACK ON.
- 31.) LOCATE STOCK OIL PRESSURE IDIOT LIGHT SENDER UNDER TURBO AND SLIGHTLY ABOVE OIL FILTER HOUSING. (PHOTOGRAPH 10). UN-SNAP LOCKING COLLAR ON CONNECTOR AND UNPLUG CONNECTOR FROM SENDING UNIT. REMOVE SENDER AND REPLACE WITH NEW SENDING UNIT SUPPLIED. INSTALL CRIMP-LOK CONNECTOR ON THE CENTER LIGHT BROWN COLORED WIRE OF ORIGINAL CONNECTOR. PLUG SHORT JUMPER WIRE INCLUDED IN KIT INTO A CRIMP-LOK AND FASTEN OTHER END TO TERMINAL ON NEW OIL PRESSURE SENDING UNIT. (PHOTOGRAPH 10).
- 32.) TAKE STOCK CLUSTER AND LAY IT ON BENCH IN FRONT OF YOU, GAUGES FACING UP. REMOVE 2 SCREWS HOLDING LEFT HAND IDIOT LIGHT HOUSING IN PLACE AND REMOVE WHITE PLASTIC HOUSING. (PHOTOGRAPH 11).
- 33.) PLACE AVC CLUSTER ON BENCH, GAUGES UP. INSTALL PLASTIC HOUSING ON LEFT SIDE OF NEW CLUSTER AND FASTEN WITH 2 10-24 ALLENS AND NUTS, WITH NUTS ON BACK OF PANEL. (PHOTOGRAPH 12)
- 34.) INSTALL NEW IDIOT LIGHT FILTER SUPPLIED IN KIT ON FILTER HOUSING, RE-INSTALL FRAME AROUND FILTER, AND RETAIN WITH 2 8-32 ALLENS AND NUTS SUPPLIED IN KIT. (PICTURE 13)
- 35.) REMOVE TRIP ODOMETER RESET KNOB FROM SPEEDO AND INSTALL NEW LONGER ONE WITH SET SCREW FROM KIT.
- 36.) YOU ARE NOW READY TO INSTALL CLUSTER. TAKE A DEEP BREATH OF RELIEF, GO GET A CUP OF COFFEE OR A BEER, RELAX A FEW MINUTES, THEN PROCEED, KNOWING THE WORST IS BEHIND YOU.

- 37.) FAMILIARIZE YOURSELF WITH THE REAR OF THE AVC CLUSTER, SUCH AS THE REAR MAIN HARNESS CONNECTOR, IDIOT LIGHT, AND FUEL AND TACH LEADS.
- 38.) LAY A PROTECTIVE CLOTH OVER STEERING COLUMN TO KEEP FROM SCRATCHING IT. SET AVC CLUSTER ON TOP OF COLUMN TO MAKE CONNECTIONS ON REAR.
- 39.) PLUG NEW SPEED SENSOR LEADS INTO GREEN AND BLACK WIRES OF OLD SPEED SENSOR. COLOR CODING IS NOT IMPORTANT.
- 40.) PLUG "SECURITY" LEADS INTO "SECURITY" IDIOT LIGHT WIRES. AGAIN COLOR CODING IS NOT IMPORTANT.
- 41.) PLUG "SERVICE ENGINE" LEADS INTO "SERVICE ENGINE" IDIOT LIGHT WIRES. COLOR CODING IS NOT IMPORTANT.
- 42.) PLUG WHITE TACH LEAD FROM CLUSTER FROM BLUE TACH WIRE FEED THROUGH FIREWALL.
- 43.) IF VEHICLE WAS ORIGINALLY EQUIPPED WITH A DIGITAL INSTRUMENT CLUSTER, CONNECT BROWN FUEL WIRE FROM CLUSTER HARNESS TO PURPLE OR SOLID PINK WIRE IN AUXILIARY HARNESS CONNECTOR FROM ORIGINAL CLUSTER.
- 44.) SCREW SPEEDO CABLE INTO SPEEDO.
- 45.) PLUG MAIN HARNESS CONNECTOR FROM CAR (LARGE BLACK ONE ON LEFT SIDE) INTO AVC HARNESS. NOTICE THAT CONNECTORS HAVE UNEQUAL NUMBER OF PINS ON EITHER SIDE. TO PLUG IN CORRECTLY, MATCH UP PINS ON EACH SIDE. WHEN PLUGGING CONNECTORS TOGETHER, MAKE SURE PINS FROM GAUGE CONNECTOR GO UNDER PINS ON CAR CONNECTOR. (PHOTOGRAPH 16)
- 46.) BEFORE WRAPPING CONNECTOR, DOUBLE CHECK ALL CONNECTIONS, AND HOOK UP BATTERY. START ENGINE, MAKE SURE GAUGES AND ALL LIGHTS WORK. NOTE: IF TACH READS INCORRECTLY, LOCATE "4-6-8" CYLINDER SELECT SWITCH ON BACK OF TACH AND MAKE SURE IT IS SET TO "6" CYLINDER POSITION. DISCONNECT BATTERY AGAIN.
- 47.) TAKE TWO TIE WRAPS SUPPLIED AND PUT AROUND CONNECTOR TO KEEP FROM PULLING APART. (PHOTOGRAPH 16).
- 48.) TAKE BLACK ELECTRICAL TAPE AND STRETCH AROUND THE CONNECTOR TO COVER PINS, KEEPING TENSION ON THE TAPE.

- 49.) PLACE DASH ASSEMBLY INTO POSITION IN PLASTIC DASH SUPPORT, LINING UP GUIDE PINS ON BOTTOM TABS, AND RE-INSTALL 4 SCREWS REMOVED FROM ORIGINAL CLUSTER. IT MAY REQUIRE SOME CAREFUL JUGGLING OF CABLES AND WIRES TO GET CLUSTER INTO POSITION. MAIN CONNECTOR SHOULD BE TUCKED BACK BEHIND AIR CONDITIONER OUTLET ON LEFT. MAKE SURE SPEEDO CABLE IS NOT KINKED AND HAD LONG SMOOTH BENDS WHERE ROUTED, OTHERWISE SPEEDOMETER NEEDLE MAY BE JUNKIE OR JERKY. (PHOTOGRAPH 17)
- 50.) RE-INSTALL UPHOLSTERY PAD WITH 6 ORIGINAL SCREWS.
- 51.) CAREFULLY REMOVE THIN PLASTIC TRIM PLATE FROM AROUND GAUGE OPENING ON GAUGE BEZEL. PLATE IS GLUED ON WITH A RUBBER LIKE GLUE FROM G.M.. SOME CAREFUL PRYING WITH A SMALL SCREW DRIVER OR PULL KNIFE WILL DO. (PHOTOGRAPH 16).
- 52.) LAY NEW AVC LENS PANEL IN GAUGE OPENING AND MARK ALL CLEAR AREAS ON TRIM PANEL FOR CUTTING. AFTER MARKING CUT OUT CAREFULLY USING WHAT EVER YOU USED TO CUT DASH BOARD SUPPORT IN STEP 14. AFTER CUTTING, RE-CHECK CUTS BY PLACING LENS BACK IN POSITION AND MAKING SURE NO BLACK PLASTIC PROTRUDES INTO CLEAR OPENINGS.
- 53.) AFTER TRIMMING IS COMPLETE, REMOVE PAPER BACKING FROM REAR OF LENS AND INSERT INTO GAUGE BEZEL, PRESSING FIRMLY FROM BOTH SIDES TO MAKE SURE CONTACT WITH GLUE. (PHOTOGRAPH 20).
- 54.) CAREFULLY LINE UP BEZEL IN DASH ASSEMBLY AND PUSH INTO PLACE, MAKING SURE ALL CLIPS ARE SNAPPED IN.
- 55.) RE-INSTALL STEERING COLUMN NUTS, MAKING SURE NO WIRES ARE TRAPPED BETWEEN COLUMN AND SUPPORT. RE-INSTALL BOTTOM TRIM PANELS. RE-CONNECT BATTERY.
- 56.) CONGRATULATIONS ! YOU HAVE JUST COMPLETED INSTALLATION OF THE MOST ADVANCED INSTRUMENT CLUSTER AVAILABLE FOR GRAND NATIONAL T-TYPE REGALS. ENJOY YOUR PURCHASE AND IF YOU HAVE ANY QUESTIONS PLEASE CALL FOR ASSISTANCE, 1-810-695-6699.



SCREW

$1 \frac{1}{16}$ DIA

$1 \frac{3}{8}$

$1 \frac{3}{16}$

AIR CONDITIONING DUCT