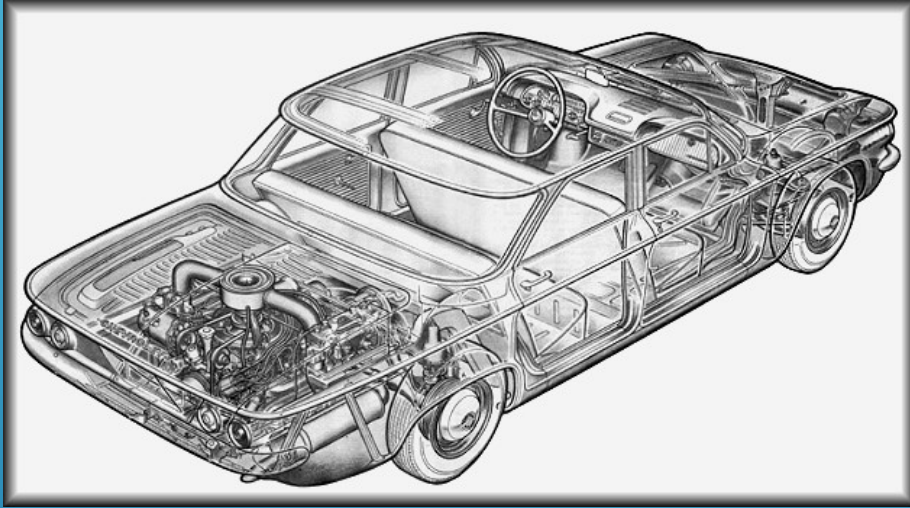


CORVAIR ENGINE COOLING

Presented by Mike Dawson

2019 CORSA International Convention

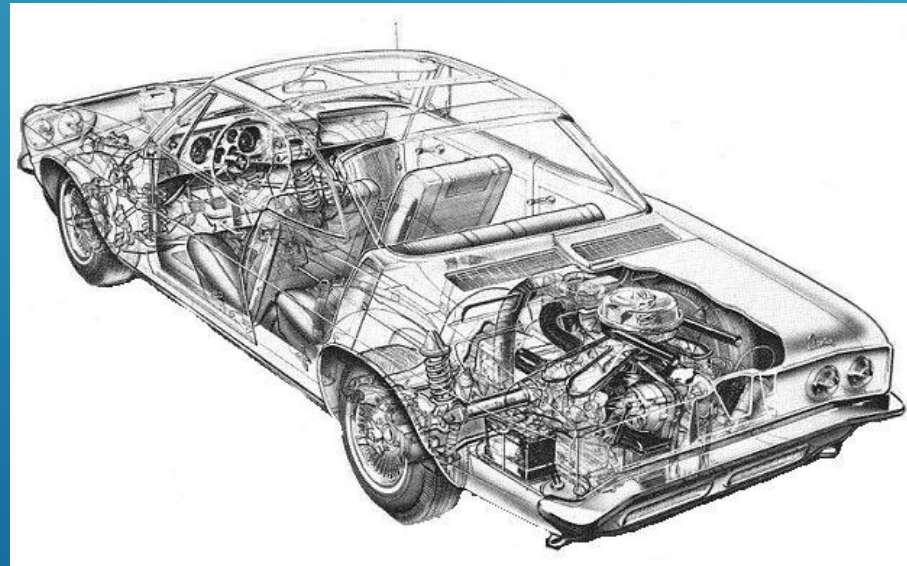




Original design for 1960,
some design features
carried through 1964



Later design, without
emissions pump, for
1965 onward





Vacation Home



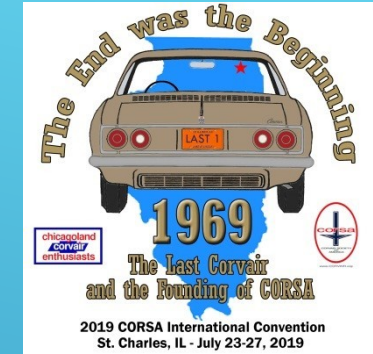
Primary Residence



It might look like
it's ready to start

Photos by
Chad Bailey
Salina, KS





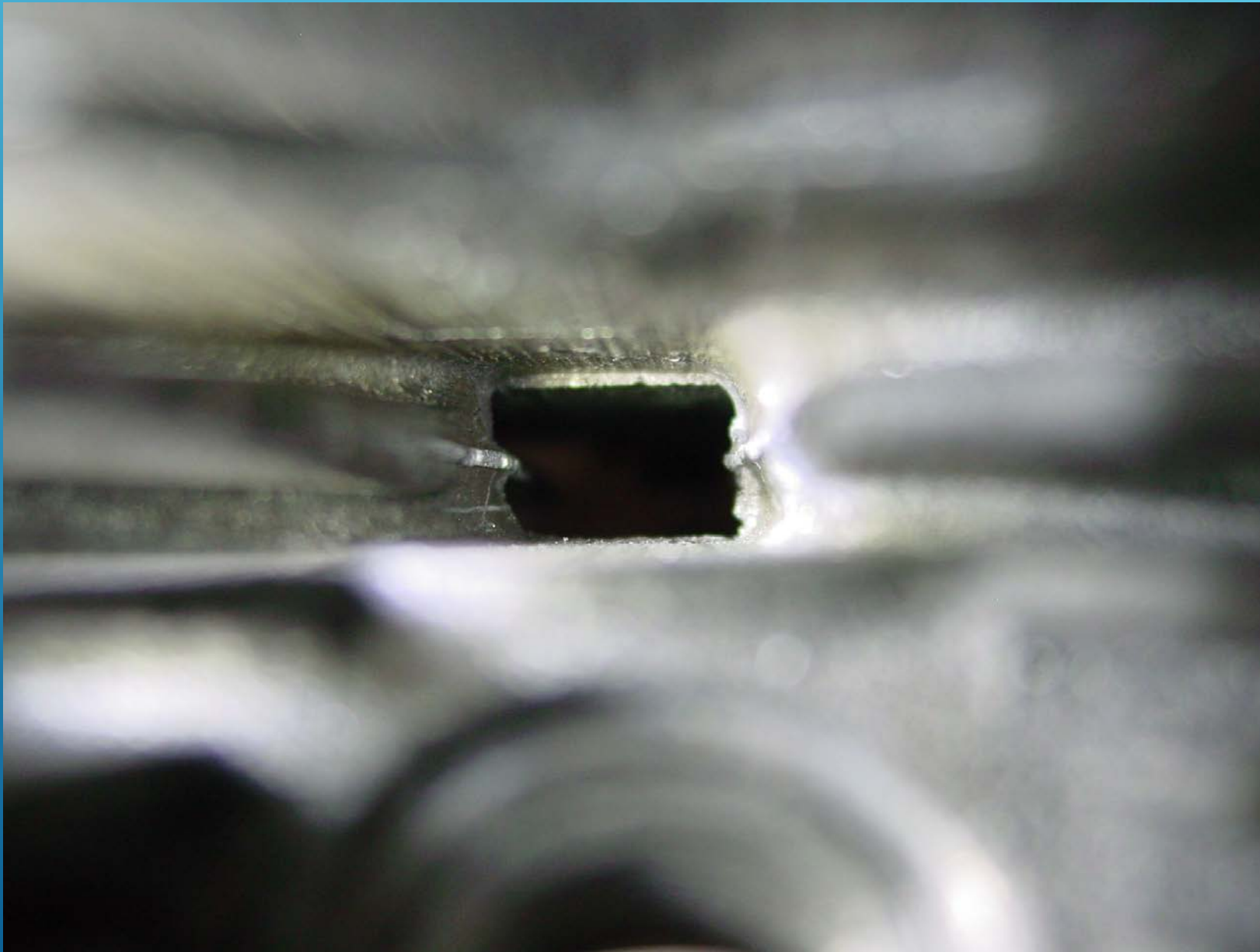
Outhouse



Plugged Folded Fin
Oil Cooler

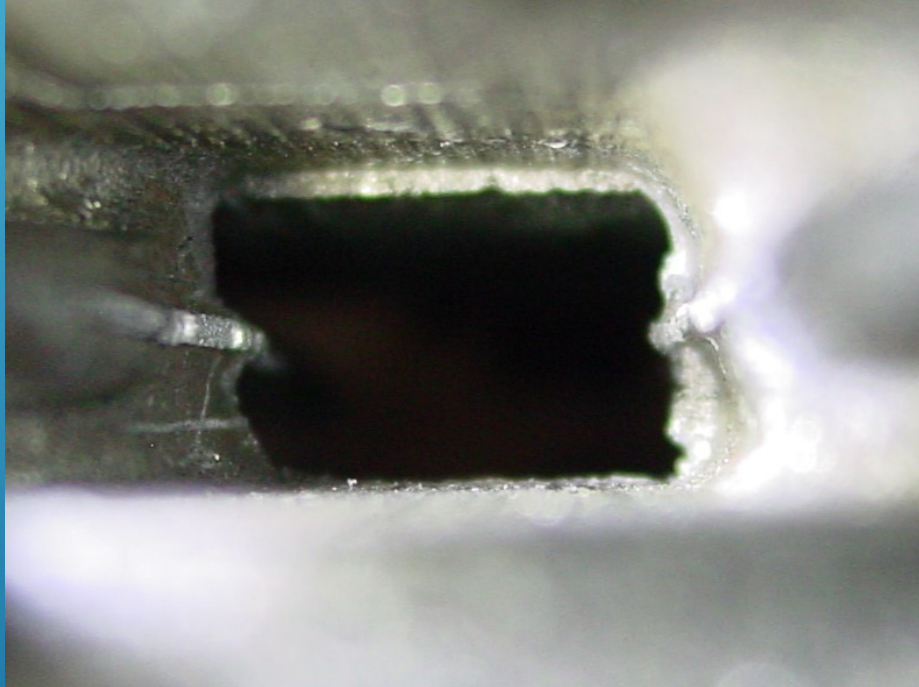
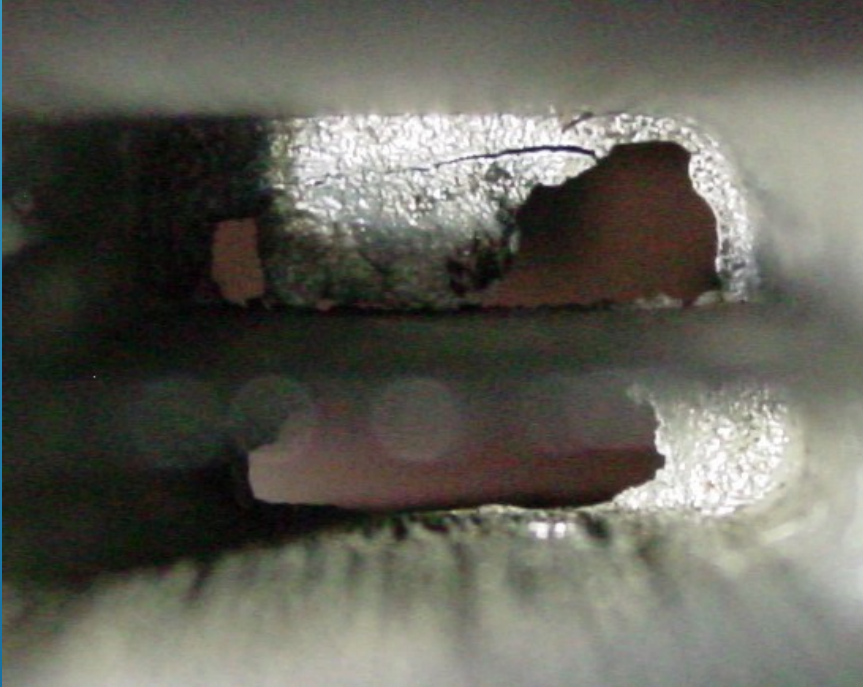


110 HP Head Before
Flashing Removed



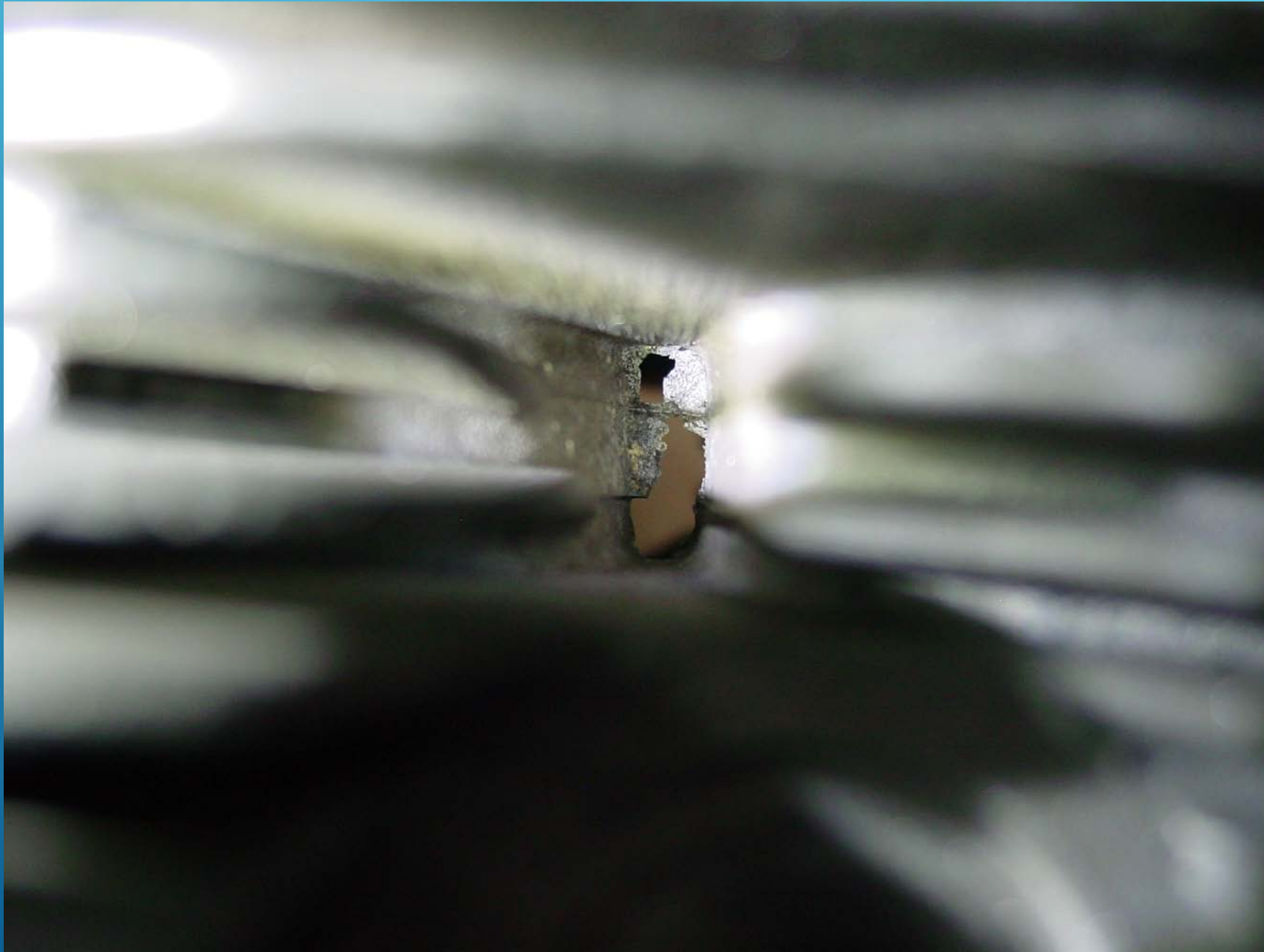
110 HP Head After
Flashing Removed



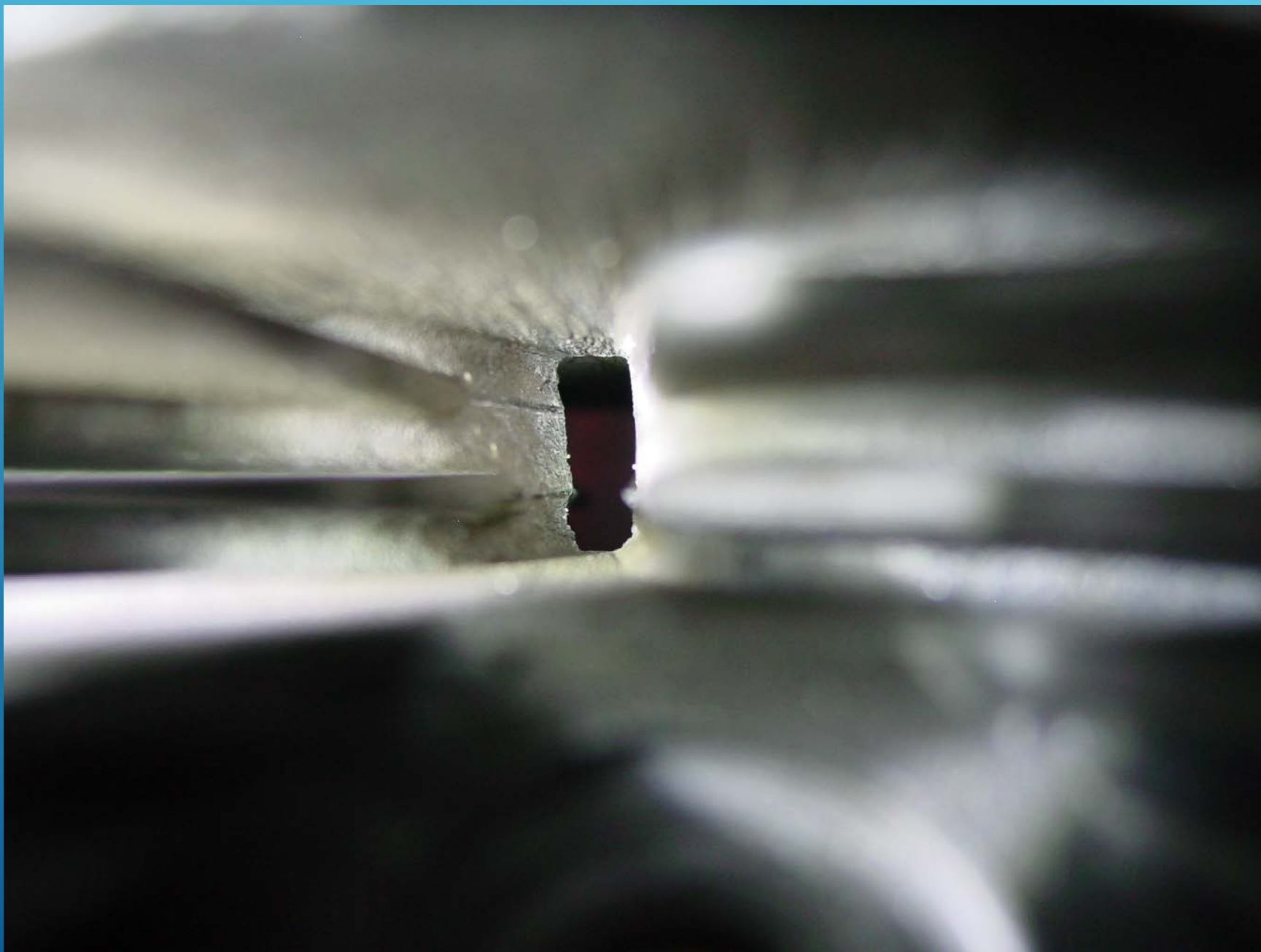


Side-by-Side
Before And After
110 HP Head





140 HP Head Before
Flashing Removed

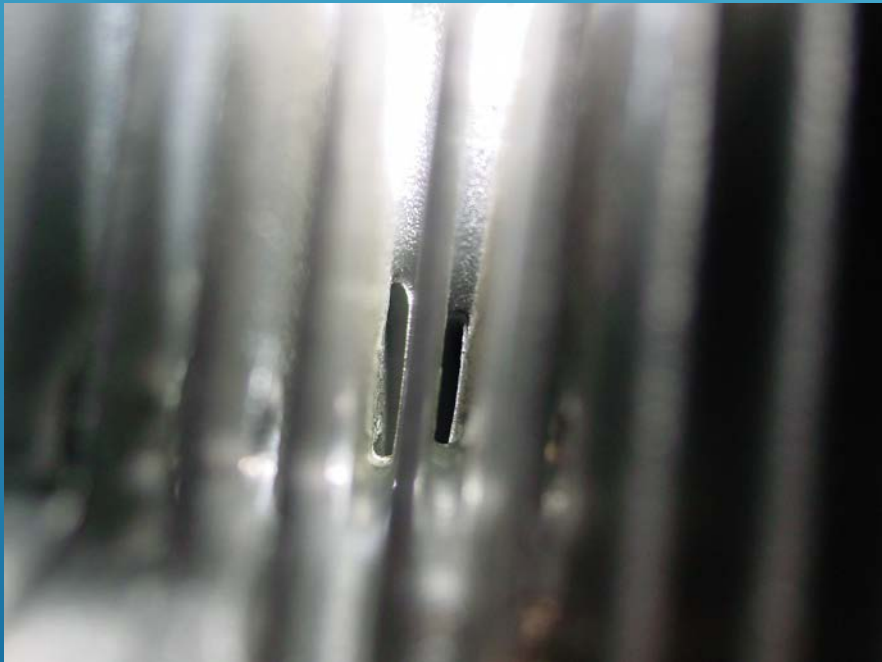


140 HP Head After
Flashing Removed

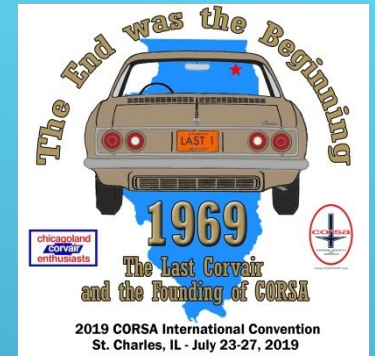


Side-by-Side
Before And After
140 HP Head





Side-by-Side
Before And After
Head Slots

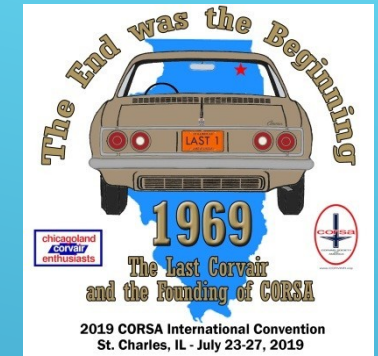




Air baffles must
be in place under
the cylinders



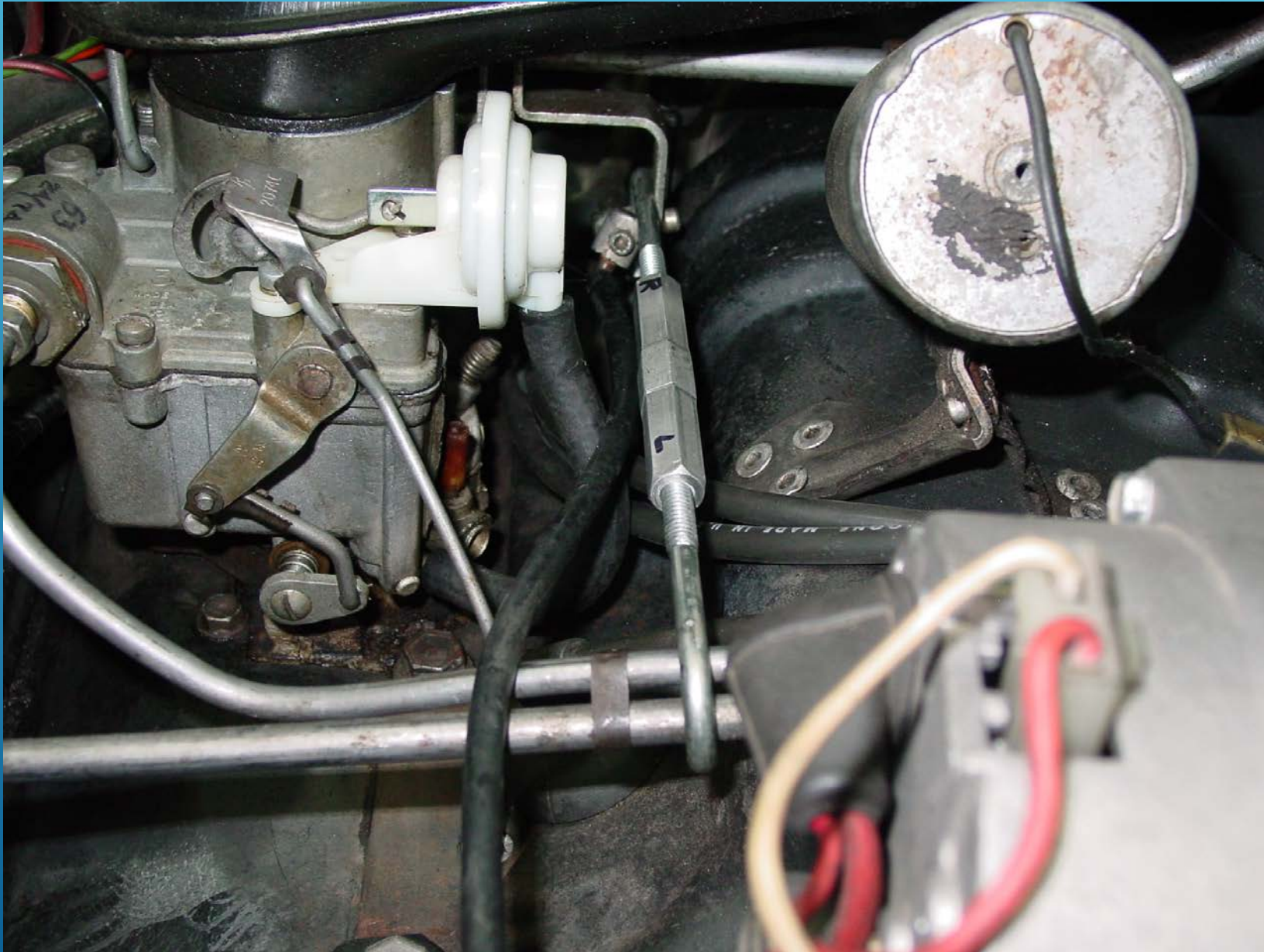
12-Plate and
8-Plate
Oil Cooler
Side Plates



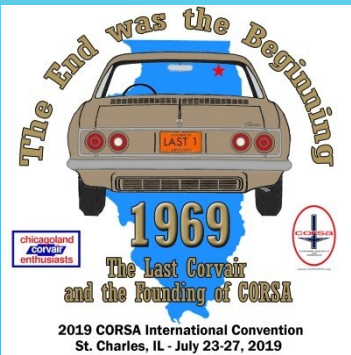
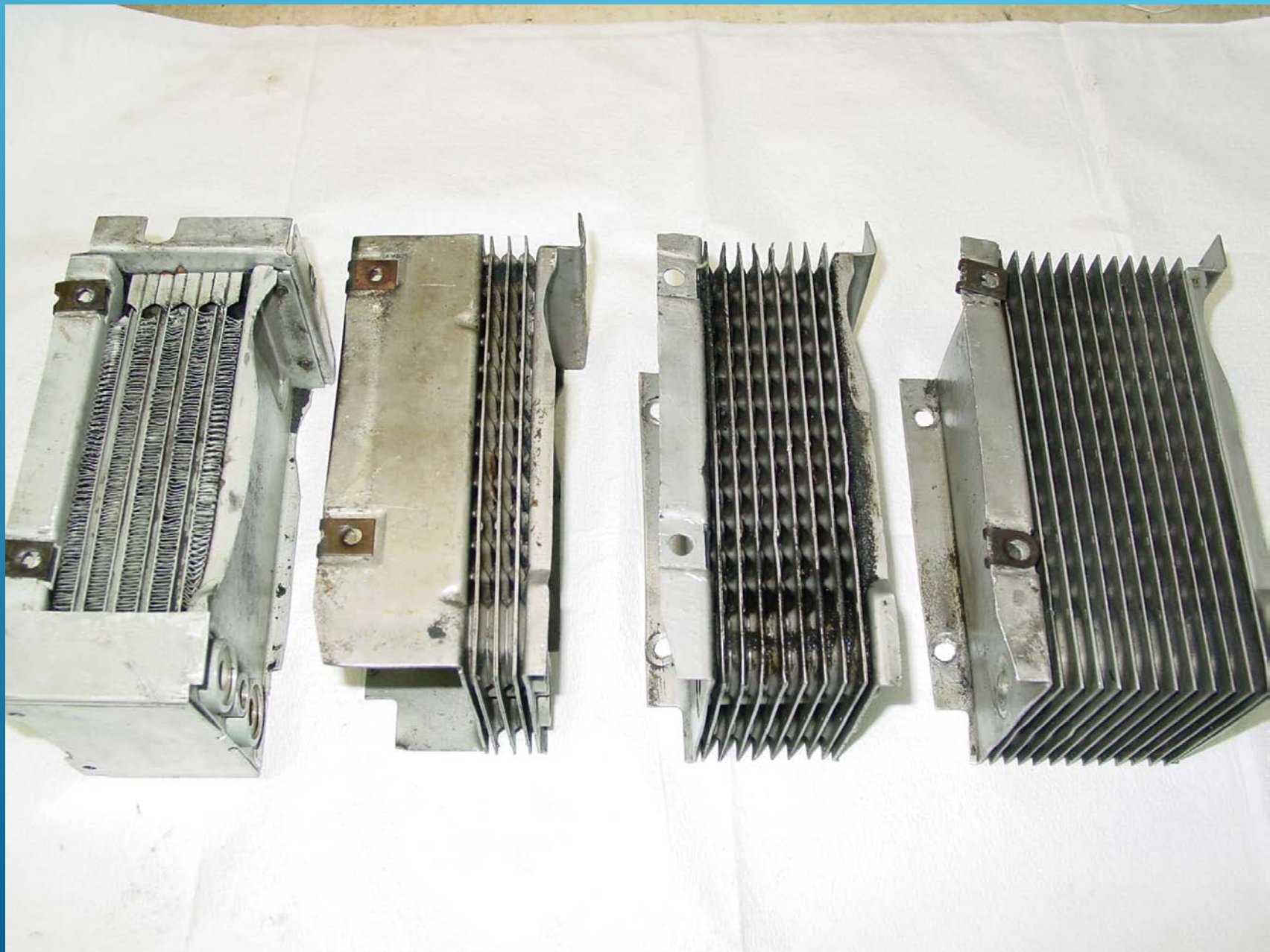
Oil Cooler Side
Plates Installed



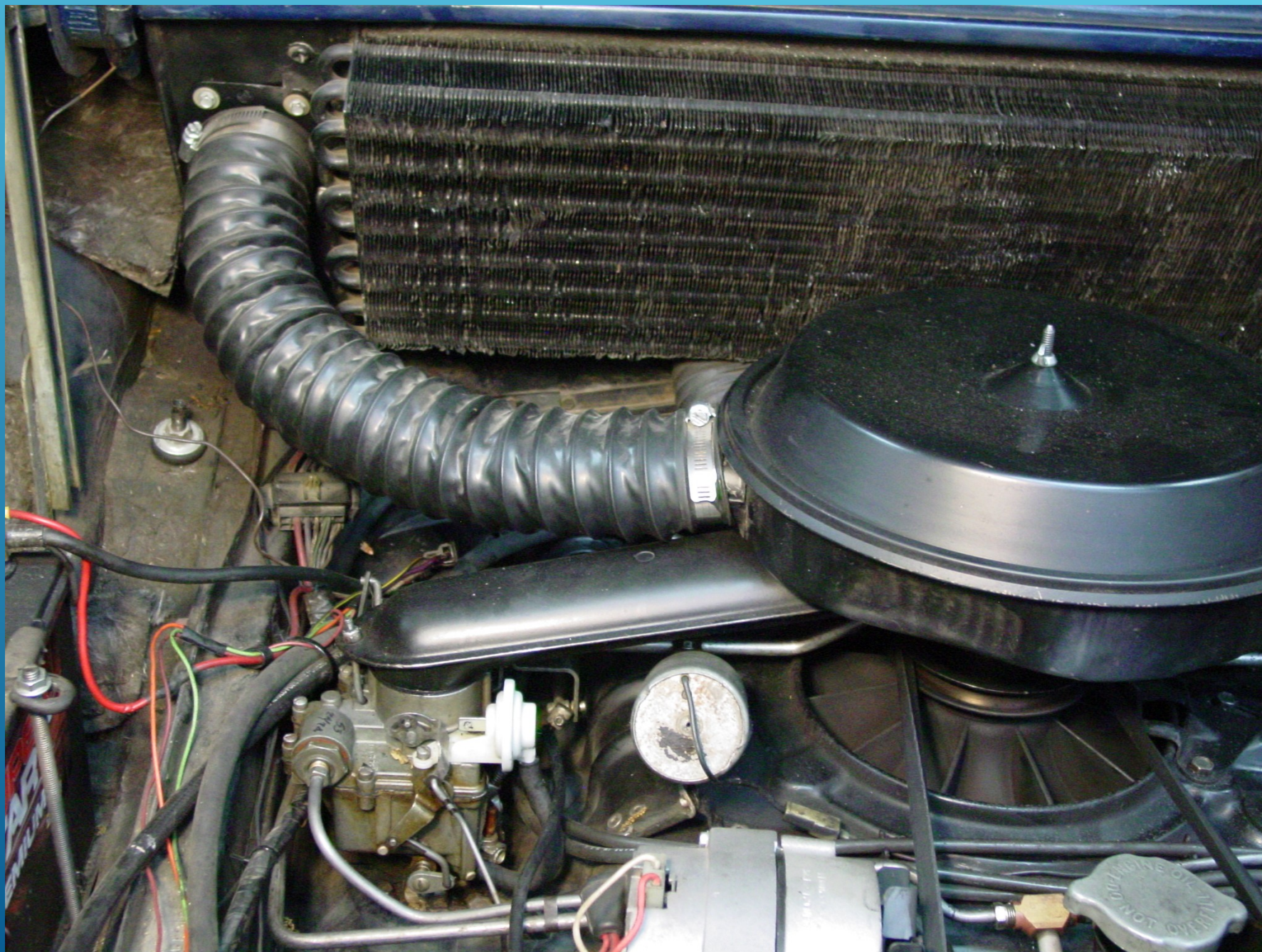
Carburetor Balancing Tools



Carburetor Balancing Process Example



Various Styles of
Oil Coolers



Modified
Cool Air Intake



Temperature Sending Options & Anatomy of a Snap Switch

The following information is extracted from the CORSA Technical Guide

140 Engines: The change to the larger valves necessitated fewer and smaller air slots. Add this to the increase in performance and it is easy to see why a 140 will run hotter than the 80-110 engines.

Milton Binon submitted an article for the Tech Guide in which he took the time to count and measure the air cooling slots and compare the difference between the 140 and 95 heads.

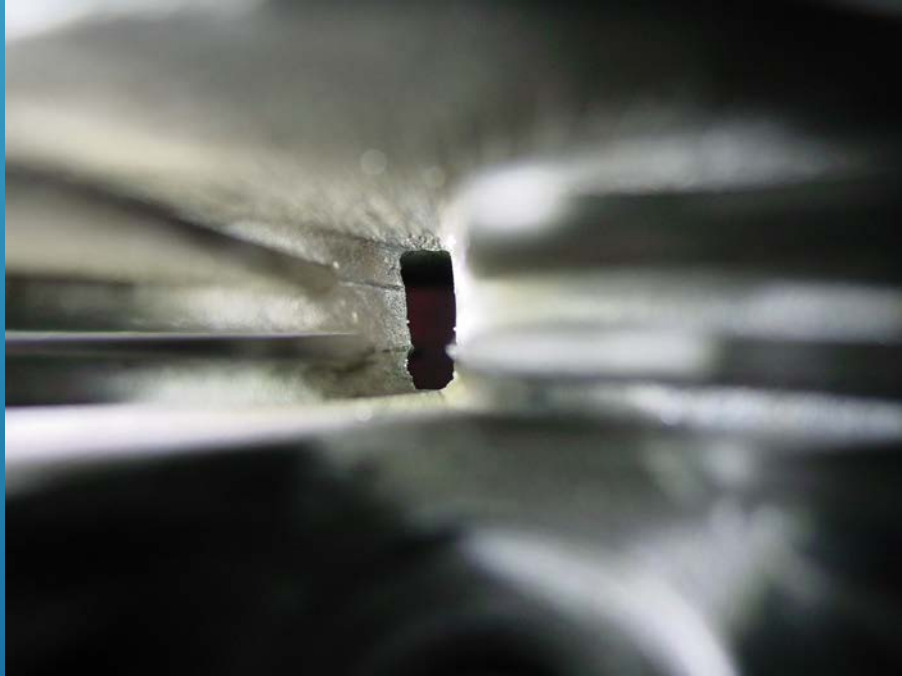
This is what he documented:

| <u>Number of air slots</u> | | <u>Length of air slots</u> | |
|----------------------------|----|----------------------------|-----------|
| 95: | 62 | 95: | 39 inches |
| 140: | 58 | 140: | 29 inches |

“There is a large air hole in the fins that cools the back side of the combustion chamber. On a 95 this hole is almost square and is big. On a 140 there is only a narrow slot. Measured in square inches, the air hole is 40% smaller on a 140.”



140 air hole by the spark plug

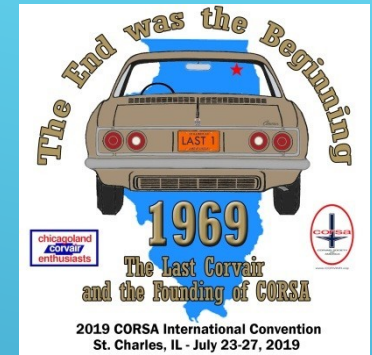


110 air hole by the spark plug



Side-by-Side

Based on the above information, it is obvious that you would need to be especially diligent with cleaning and de-flashing a 140. I currently have two 140 engines with Powerglide transmissions that are driven regularly and they work just fine after completing all of the above. Below is a chart that was submitted by the late Bob Helt, taken from original GM testing.



| EFFECT ON OPERATING TEMPERATURE | | | |
|---|--------------|------------------------------|-------------------------------|
| Change | speed in mph | Change in oil temperature °F | Change in head temperature °F |
| A.I.R. option | 80 | +22 | +22 |
| Air conditioning in 100°F ambient with 1966 style condenser | 60 | +30 | +36 |
| | 80 | +23 | +30 |
| | W.O.T. | +28 | +35 |
| Early model 1850 cfm fan | 60 | -9 | -15 |
| | 80 | -11 | -13 |
| | W.O.T. | -4 | -5 |
| 12 plate oil cooler instead of 8 plate | 80 | -16 | - |
| Oil cooler side shields | 80 | -7 | -10 |
| Louvers in lower shrouds | 60 | -7 | -14 |
| | 80 | -9 | -13 |
| Remove lower shrouds | 60 | -14 | -24 |
| | 80 | -18 | -28 |
| | W.O.T. | -18 | -24 |

Thank you for keeping your Corvair Cool!



Copies of this presentation and handout are available electronically by contacting Mike Dawson via mdawson1961@sbcglobal.net

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