

About MAX BMW Motorcycles Machine Shop Articles: 2017 brings MAX BMW's Machine Shop to full operational status and a series of articles on our individual machines and operational practices. In this series, we highlight some of the specific equipment, tools and jigs we have developed to come to the exacting standards of ultimate quality, attention to detail, accurate measurements and swift turnaround of customer jobs.

MAX BMW

Motorcycles

ARTICLE 4
April 28, 2017

Exhaust Spigot Thread Repair and Dual Spark Plug Conversions

Every member of the MAX BMW staff loves old BMW motorcycles as much as you do and we want to keep these bikes running reliably for years to come. Our machine shop helps make that a reality.

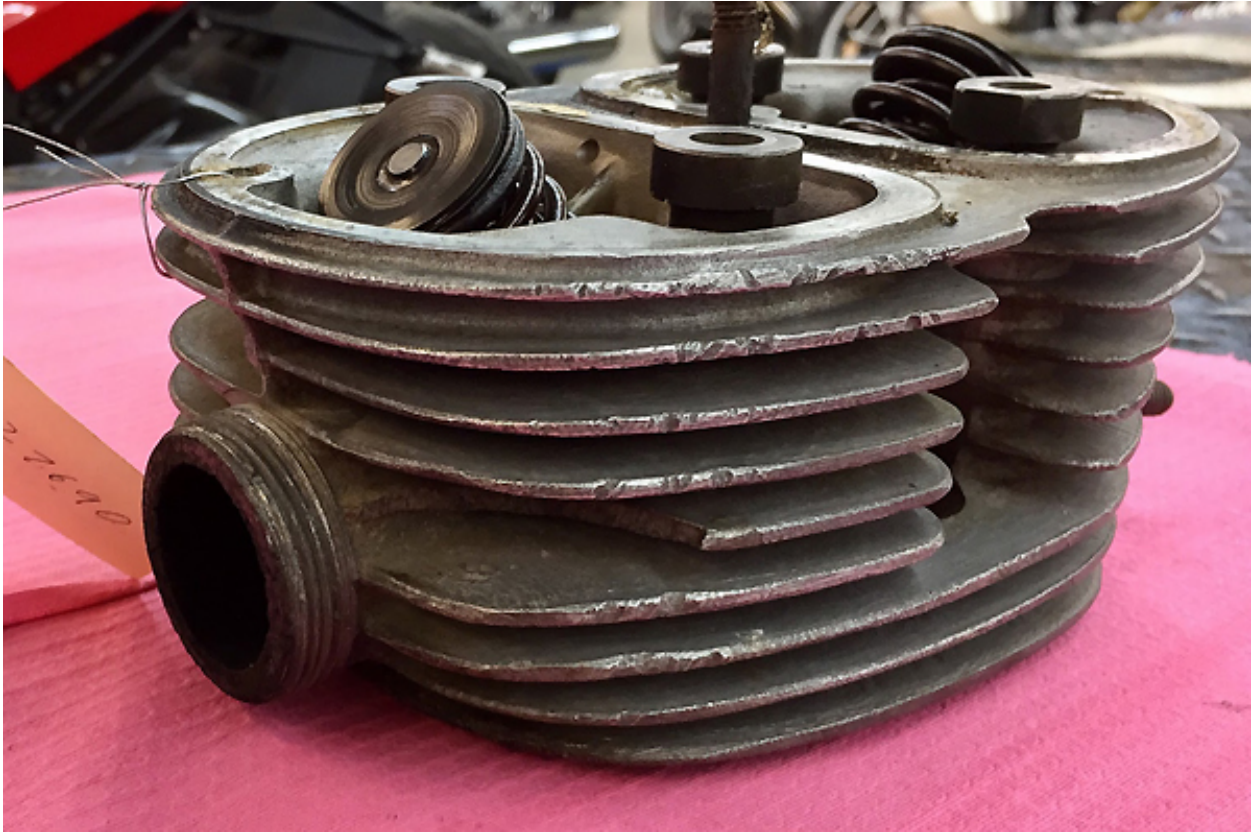
In this article, we'll look at exhaust spigot thread repair and dual spark plug conversions.

Don't assume your old cylinder head is beyond repair... have us check it out! Exhaust spigot threads can be replaced, broken fins repaired, warped and leaking valve covers fixed, broken studs replaced, worn out valve seats replaced, guides replaced and more. All with the highest quality results.

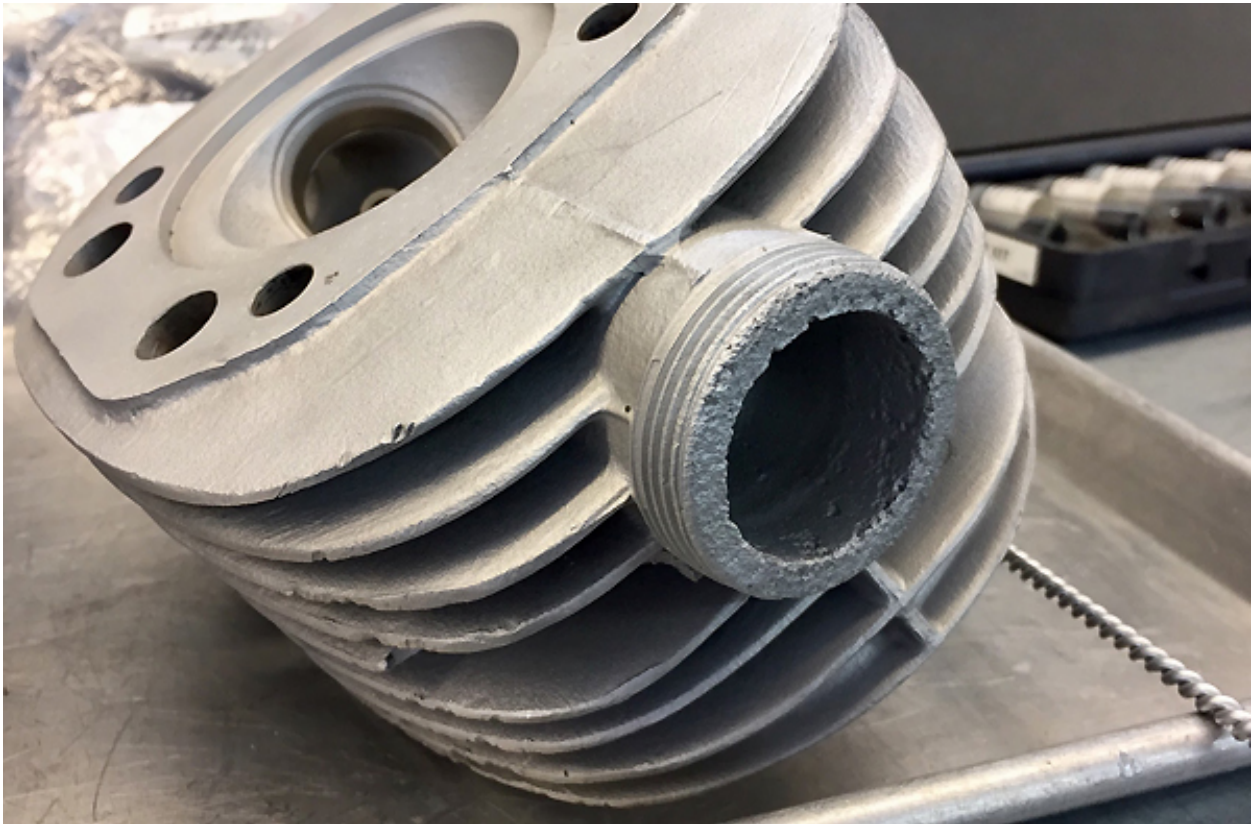
Exhaust header threads are a commonly needed repair on many airheads due to repeated heat cycles, moisture and road grit in addition to the usual aluminum oxidation that occurs over time. So often, people go to remove the exhaust pipes for maintenance or replacement only to find the finned exhaust nut fused to the cylinder head, or worse yet, spinning off with most of the threads coming along with it. Having a machine shop in-house makes replacing those threads with brand new ones a quick and simple repair.

As in everything we do, accurate measurements and setup yield perfect, repeatable results. Aligning the replacement to the existing spigot is important so that the exhaust will connect properly to the frame and remaining exhaust system once the work has been completed. By doing this we make sure that the threads are in the same relation and angle as they were from BMW.

Take a look at the before and after photos of this exhaust thread repair:



Cleaning and blasting reveals how bad they are.

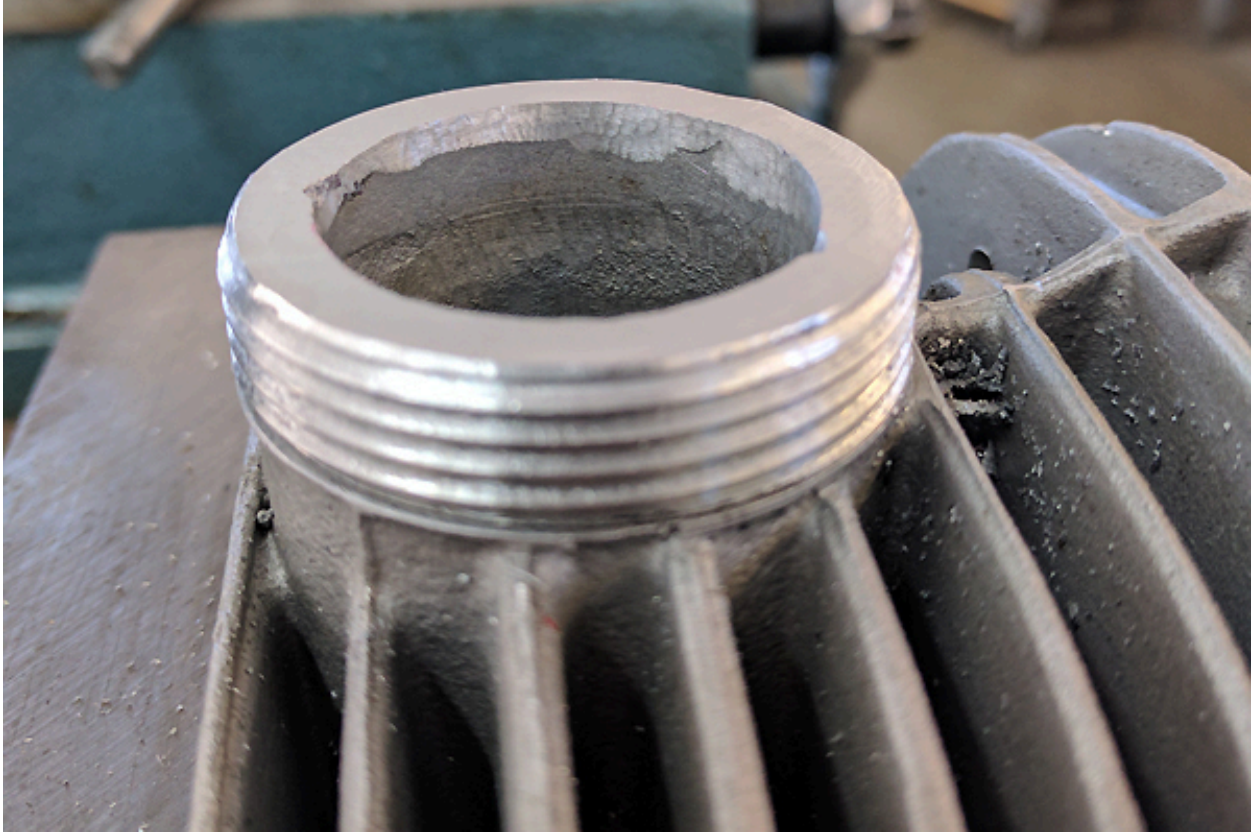


We then turn the outside diameter of the spigot down to fit our new threads.



Then the two are welded and flycut so the sealing surface is exactly perpendicular to the new threads.

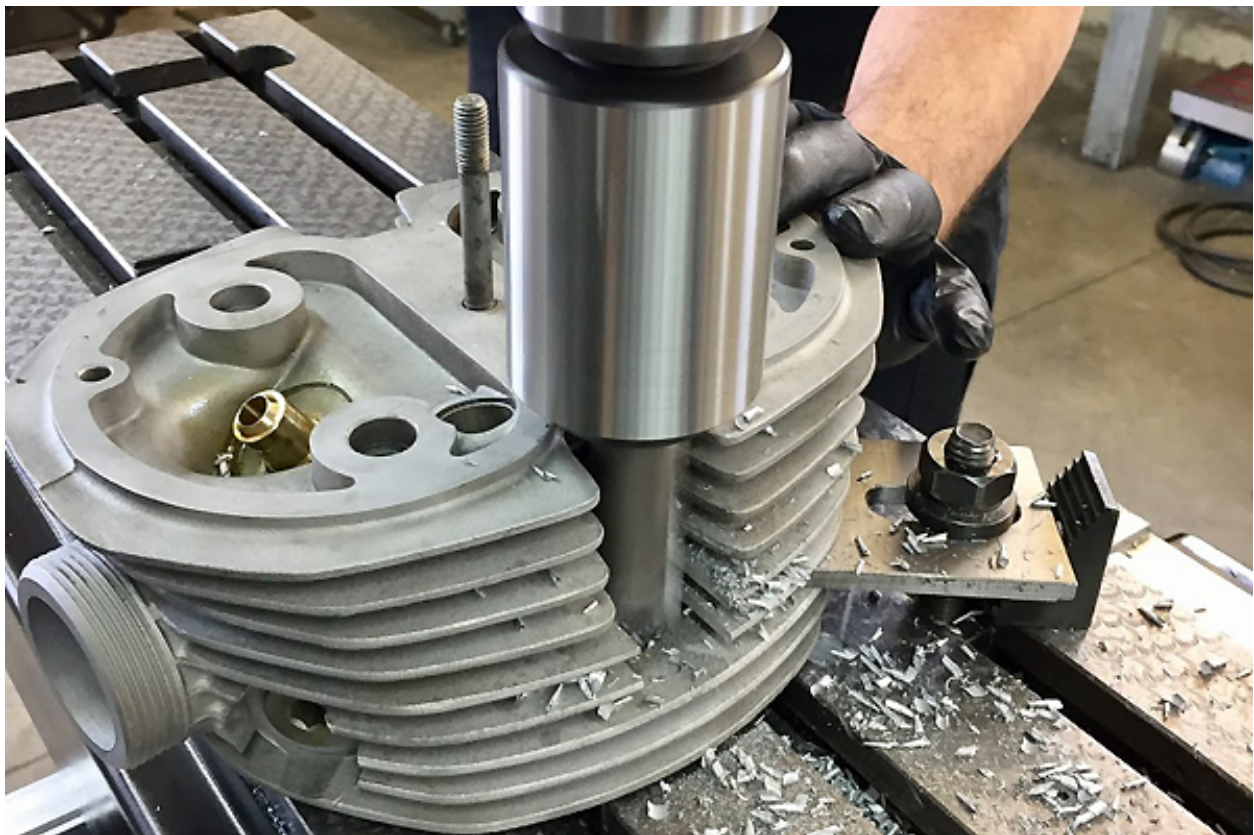


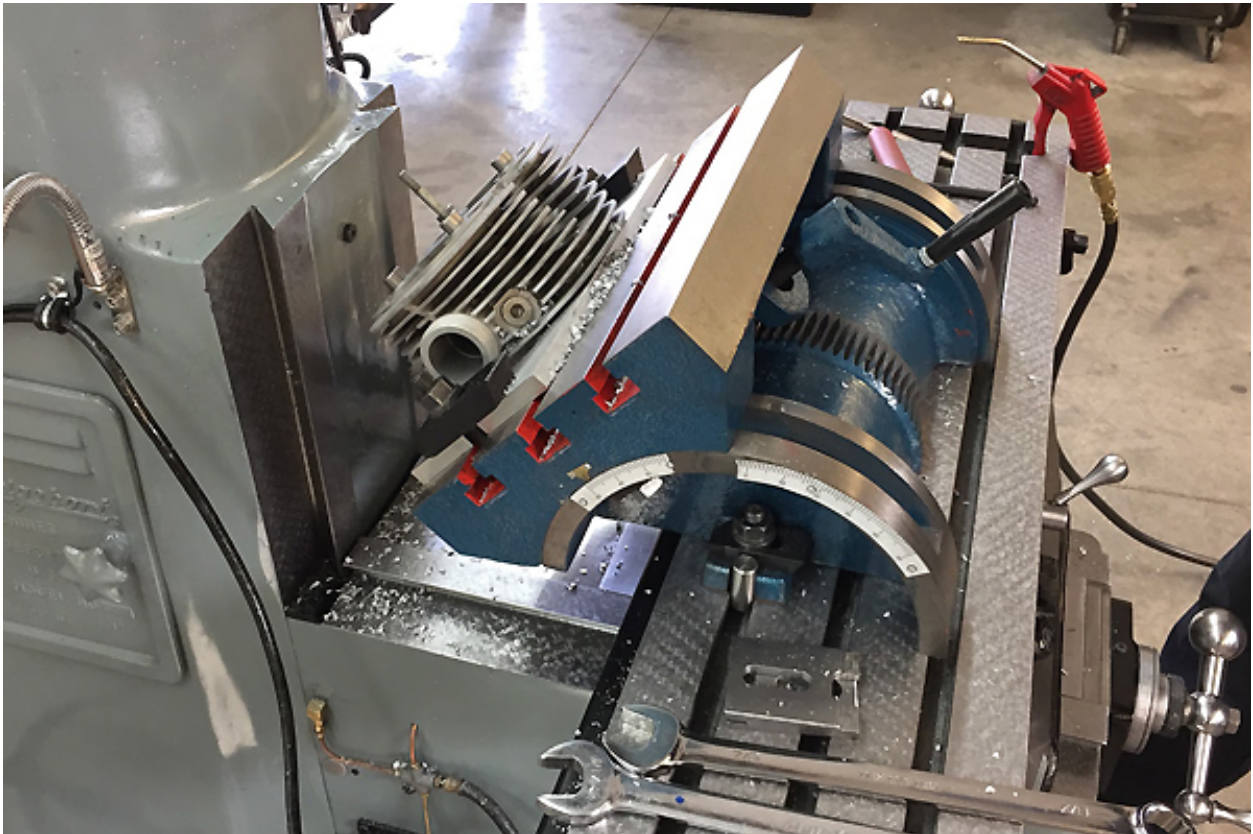


A dual sparkplug conversion can provide a significant performance enhancement, especially when combined with other power adding upgrades such as a big bore displacement increase, cylinder head modifications and higher compression ratios.

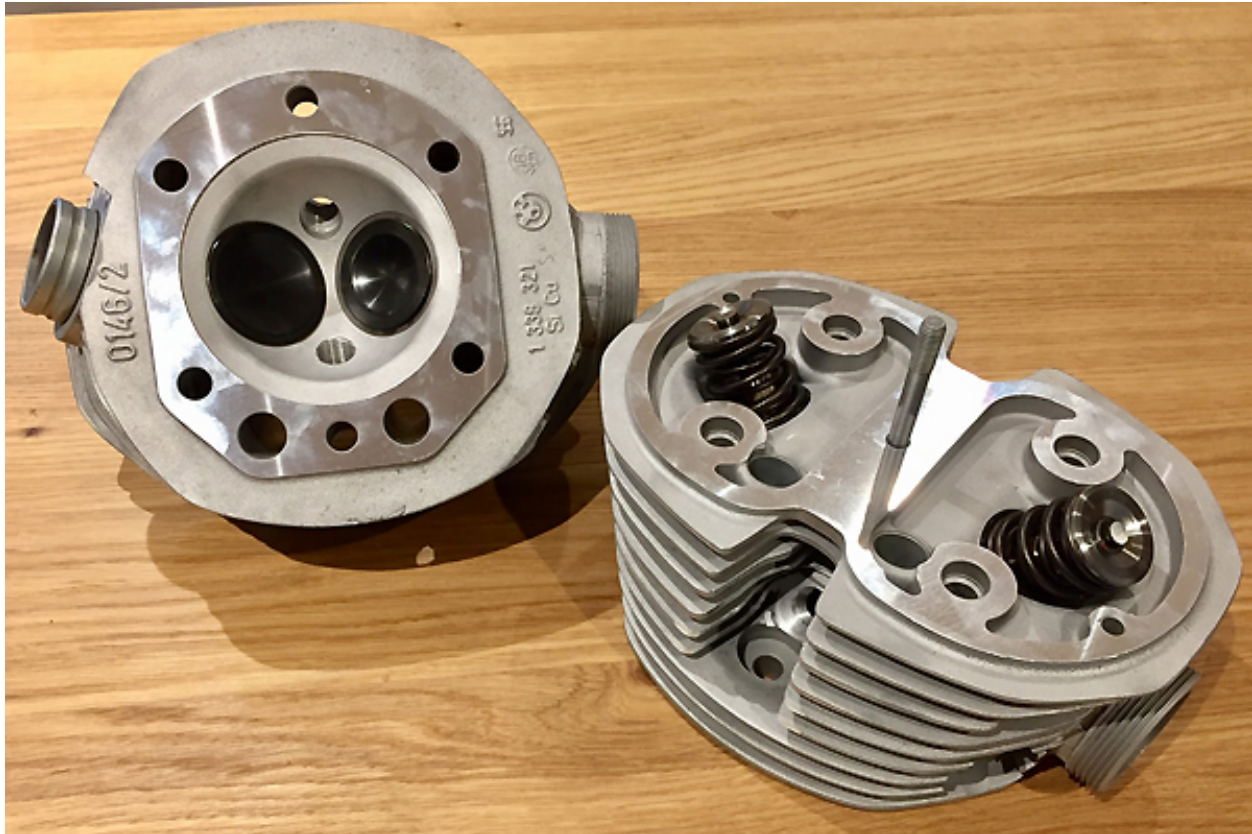
With the large cylinder bores and hemispherical chambers these engines have, the dual plug set up can help with proper flame propagation and flame front travel in the combustion chamber resulting in a crisper throttle response, and better burn which also aids in the reduction of "pinging". Horsepower and efficiency gains can be optimized when the combustion process is improved from the twin sparkplugs. Topped off with an electronic ignition upgrade (such as EnDuraSpark crank fired systems), you can say goodbye to points and fire those plugs with ultimate accuracy and reliability.

Timing is often retarded with dual plugs as well since the twin flame fronts from the spark plugs result in a quicker burn.





Results! This customer also chose to have our oversized intake valves installed along with his dual plug conversion:



The MAX BMW Machine Shop is always working on many other reliability, drive-ability and performance upgrades that we can't wait to share. Stay tuned!

Our machinist, Nathan, cut his teeth in the machining industry starting with a degree in Automotive Restoration and in High Performance Engine Machining. He worked in Tennessee and North Carolina building 900+ hp dirt race engines as well as working a stint in the world of NASCAR. Coming to MAX BMW has allowed him to further focus his skills by taking advantage of specialized BMW training. Pursuing his love of these bikes inspires Nate in developing custom adapters and fixtures, unique to MAX BMW, aiding in broad restoration abilities and enhancing the high-performance side of BMW Motorcycles.

See our Machine Shop page at: <https://www.maxbmwmotorcycles.com/max-bmw-machine-services.html>