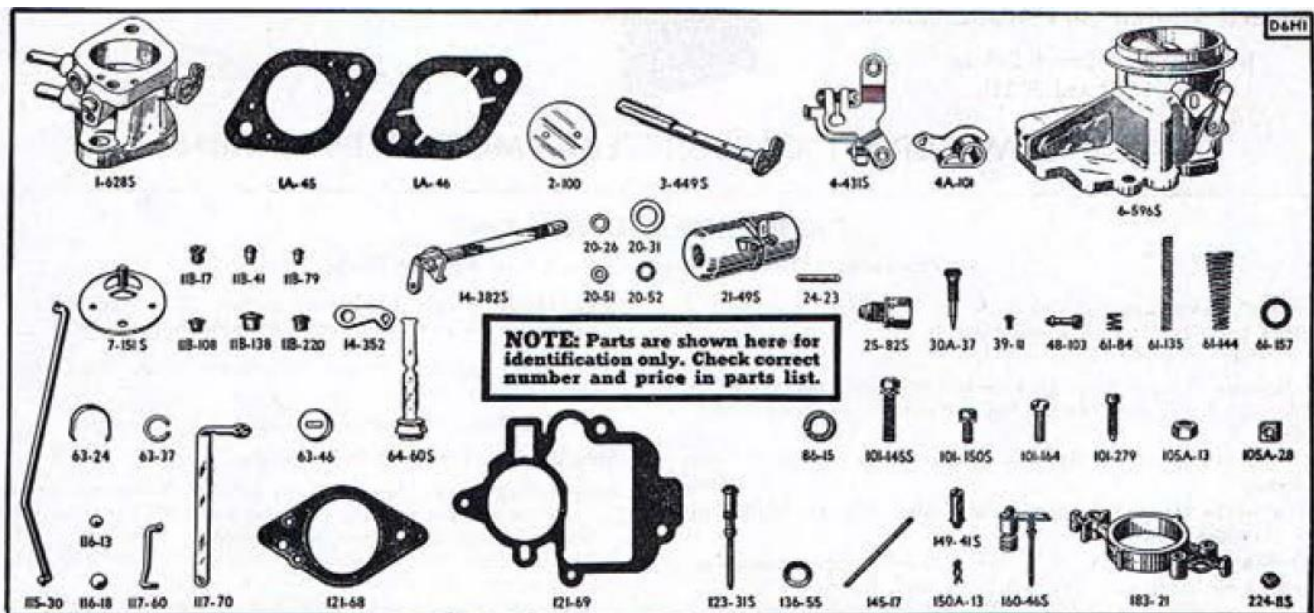


## Improve Carter BB 1 barrel idle and low speed operation

This information is similar to the Carter BBD 2 barrel idle information previously furnished:

<http://www.plymouthcarclub.com/2015/07/carter-bbd-2-barrel/>

The attached images are for a Carter BB D6G1 (as used on 1942-48 Plymouth six) however most Carter BB are similar for this area of the carb as covered in this 49-54 Plymouth Carb parts diagram:



### Plymouth Carburetors Nos. D6H1-D6H2—1949-1954

WHEN SERVICING, USE GASKET ASSORTMENT No. 136 (D6H1), No. 203 (D6H2); RE-CARBURETION KIT No. 1513N; ZIP KIT No. 900-2

PART NAMES IN CAPITAL LETTERS, LISTED BELOW, INDICATE CONTENTS OF RE-CARBURETION KIT

Part No.	PART NAME	Part No.	PART NAME
1-628S	Body flange assembly (Use 1-641S).....	63-46	Pump spring retainer.....
1-641S	Body flange assembly.....	64-60S	PLUNGER AND ROD ASSEMBLY (Identify by shaft No. 49-120).....
1A-45	Flange gasket—for use with governor.....	86-15	Flange stud lock washer..... (2)
1A-46	FLANGE GASKET—FOR USE WITHOUT GOVERNOR .....	101-145S	Body flange attaching screw and washer assy..... (2)
2-100	Throttle valve .....	101-150S	Air horn attaching screw and washer assy..... (4)
3-449S	Throttle shaft and arm assembly.....	101-163	Throttle adjusting screw (Use 101-279).....
4-431S	Throttle lever assembly.....	101-164	Clamp screw .....
4A-101	Fast idle cam.....	101-279	Throttle lever adjusting screw.....
6-596S	Air horn assembly.....	105A-13	Flange nut .....
7-151S	Choke valve assembly.....	105A-28	Clamp nut .....
11B-17	Pump check plug.....	115-30	Fast idle rod.....
11B-41	Rivet plug .....	116-13	Pump intake check ball.....
11B-79	Rivet plug .....	116-18	Pump discharge check ball.....
11B-108	Idle port rivet plug..... (2)	117-60	Pump link .....
11B-138	Pump jet rivet plug.....	117-70	Pump lifter .....

The parts discussed are the Body Flange Assembly 1-628S including the 2-100 Throttle Valve and 3-449S Throttle Shaft and Arm Assembly.

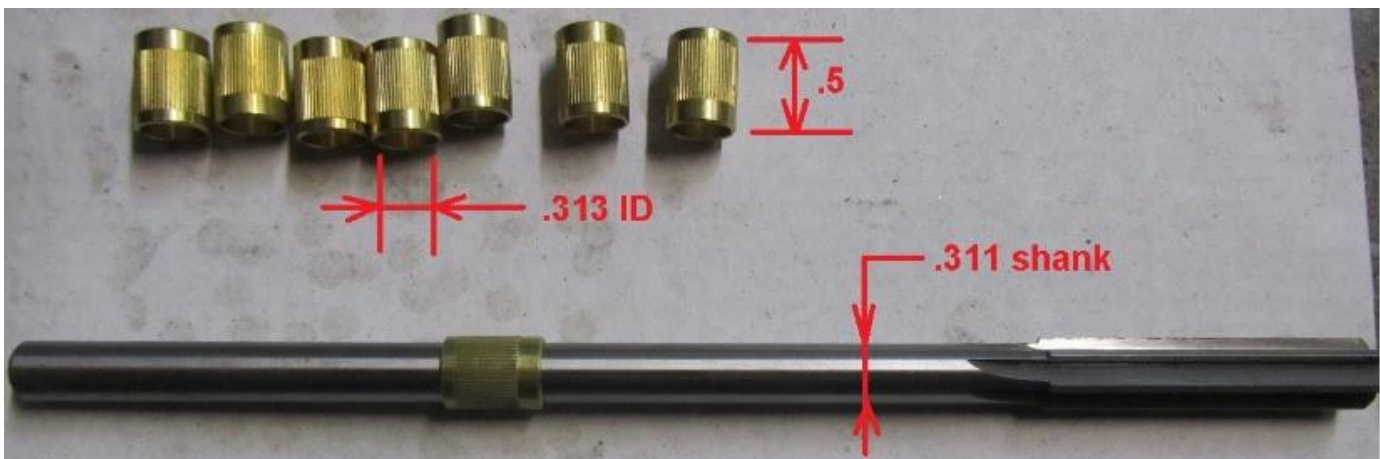
Idle and low speed operation can be noticeably altered when the bushing areas of the Throttle Shaft & mating Body Flange Assembly become excessively worn and/or elongated. Air leaks past the worn areas (which is bypassing the Carb control areas). When substantial, it equates to a vacuum leak and the engine performs erratically.

If you have a lot of Throttle Shaft shaking going on, your carb (whether remanufactured or not) will need attention to this condition. This video describes excess clearances:



## 1 Sloopy Throttle Shaft Worn Bores.MP4

A reamer & bushing kit is available to repair the Body Flange worn areas. It is not marketed as a Carter BBS repair kit but it does the job with no problems. Carb Junky and Quadrajet sell such a kit marketed for Quadrajet & Holley 5/16" diameter Throttle Shaft repairs carbs. Kit looks similar to this:



The ½” long solid brass bushings fit one side of the Carter Throttle Body Flange perfectly and the remaining side (or end of the Throttle Shaft) needs the bushing filed off about 1/8” after installation.

The kit screws furnished are the incorrect size; 4-40 x 3/16” brass screws can be supplied from your local hardware store. At the same time you may want to pick up a #43 drill and 4-40 HS Tap so you can clean up the threads and/or repair any old screws that snap off when you are removing them from the Throttle Valve. Filing off any protruding Throttle Valve Retaining Screw ends before attempting to remove them might save you this time consuming step.

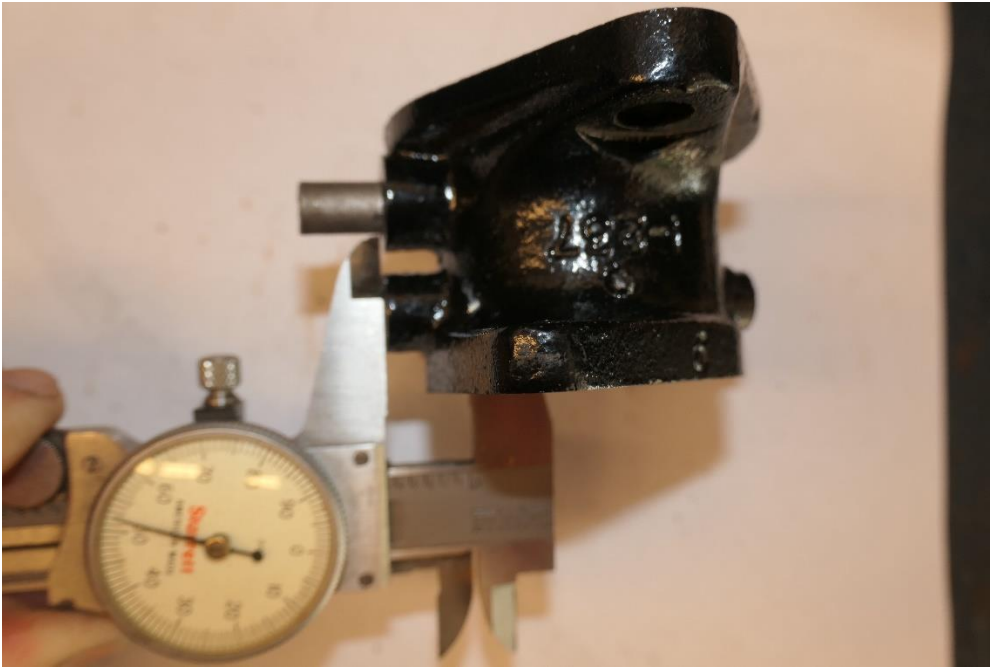
After removing the Throttle Body Flange from the carb mark the Throttle Valve with the “up” position and the direction facing the needle valve:



Remove the Throttle Valve Retaining Screws using a back and forth (counterclockwise to clockwise) method to try and avoid breaking off the low strength brass screws. Celebrate if you get out both screws without breakage otherwise you get the opportunity of drilling out the screw portion left in the bore and tapping with the 4-40 tap.

Remove Throttle Valve and Throttle Shaft and clean any corrosion off the flange wall. Good time to check the looseness of the shaft again so you have that reference to compare with the final end product of your efforts.

Measure each Throttle Body Bearing Area length:

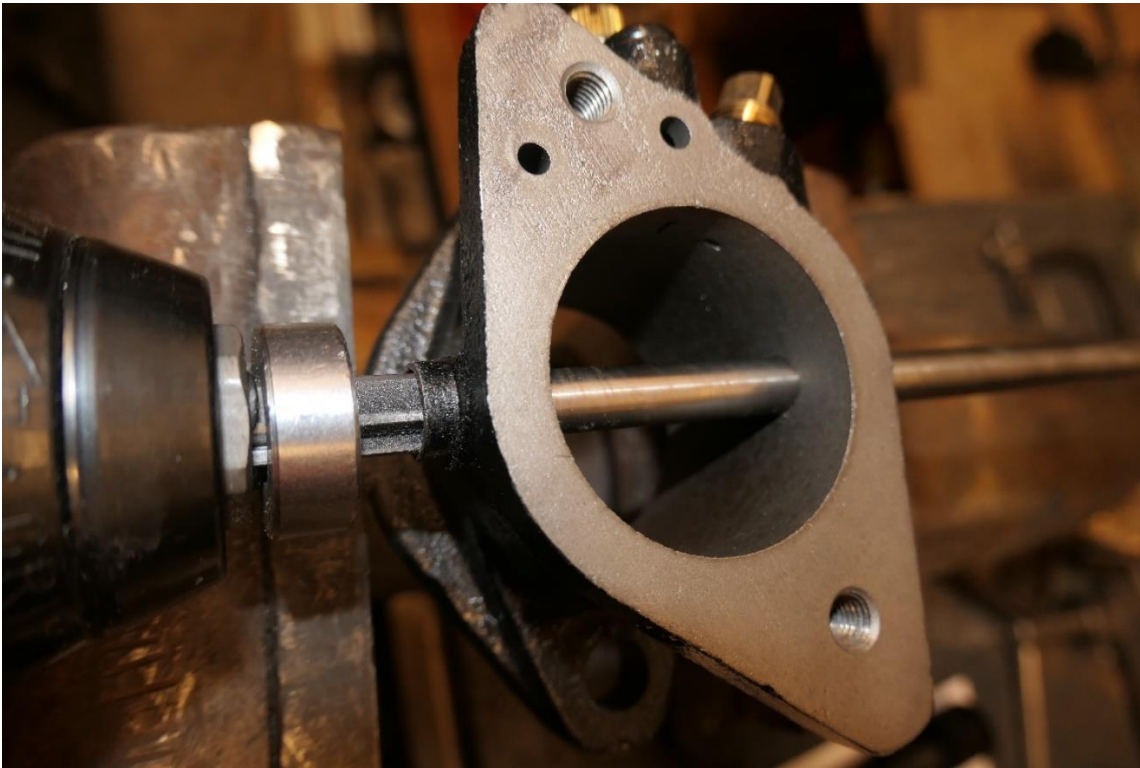


These dimensions are used to determine where the reamer stop will be positioned to insure the brass bushing DOES NOT PENETRATE INTO THE THROTTLE VALVE AREA. Your goal is to insure the installed brass bushing goes in against a ledge. The ledge is the un-reamed portion of the bore left to act as a stop for the bushing.

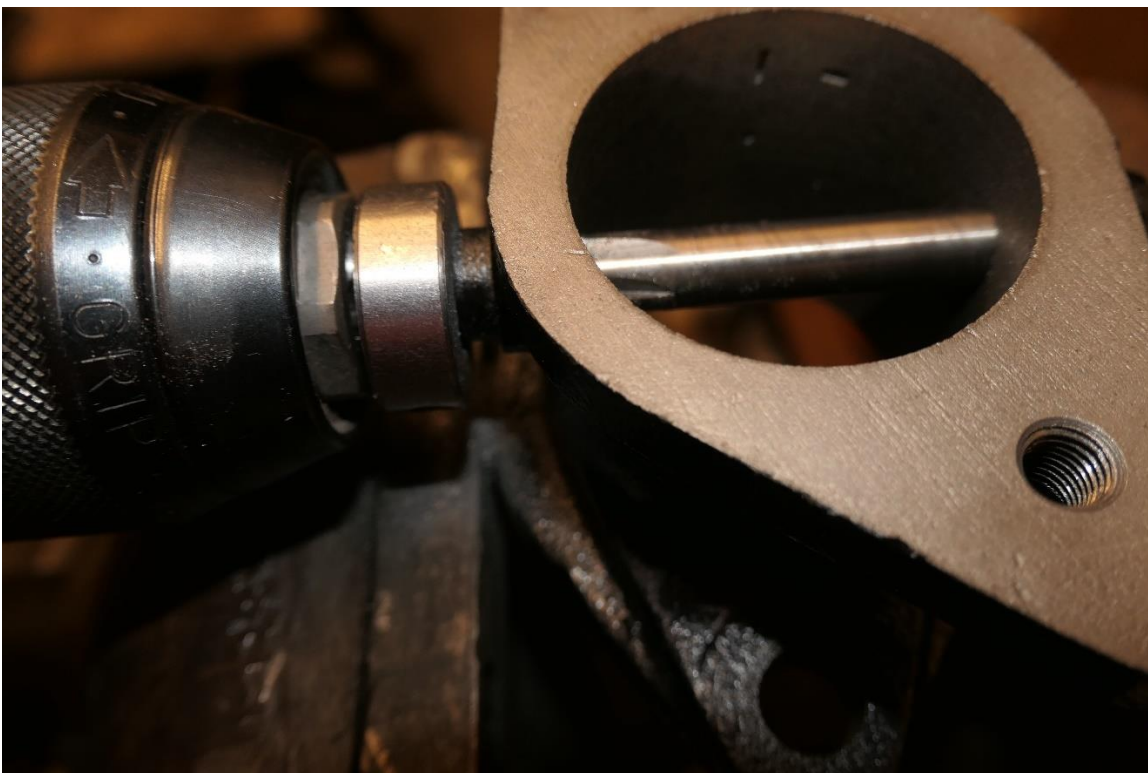
Set the stop (about 1/16" less than dimension) in position on the reamer:



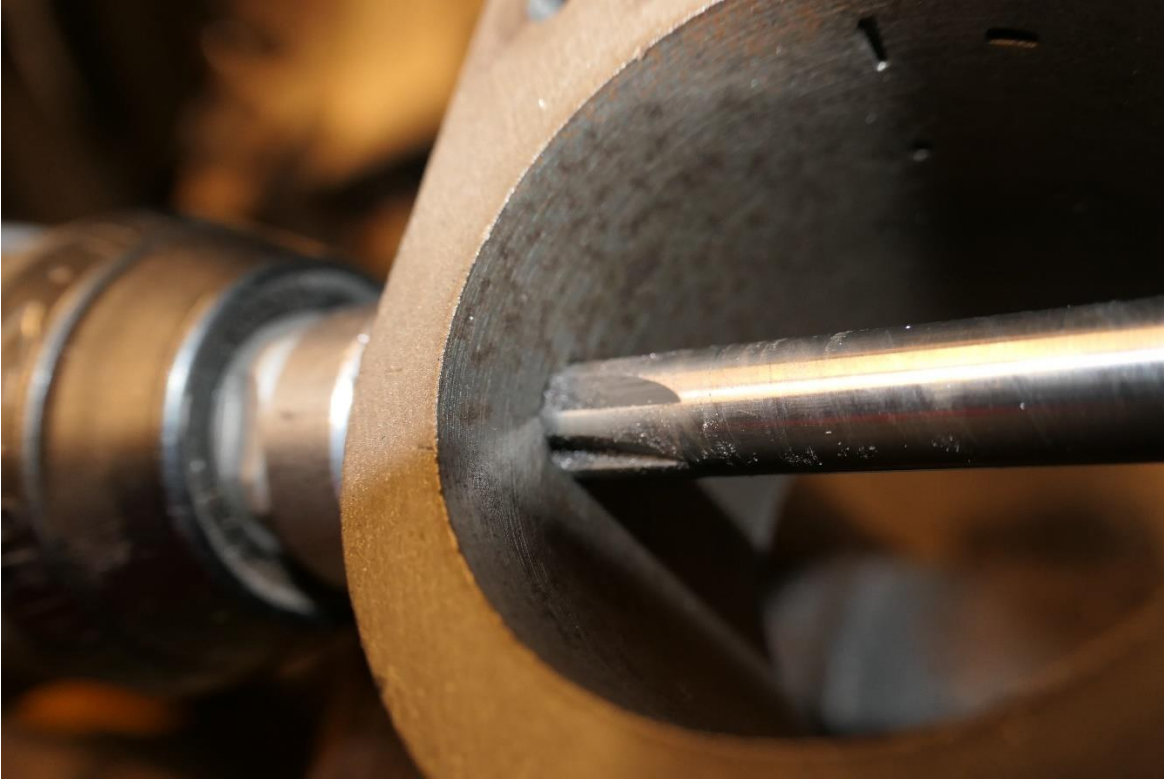
Mount the reamer on the drill so that you can exert a significant amount of pressure on the cut; it's not normal for an aluminum flange to do it this way but you are reaming an iron casting (lube didn't seem to help---made it worse):



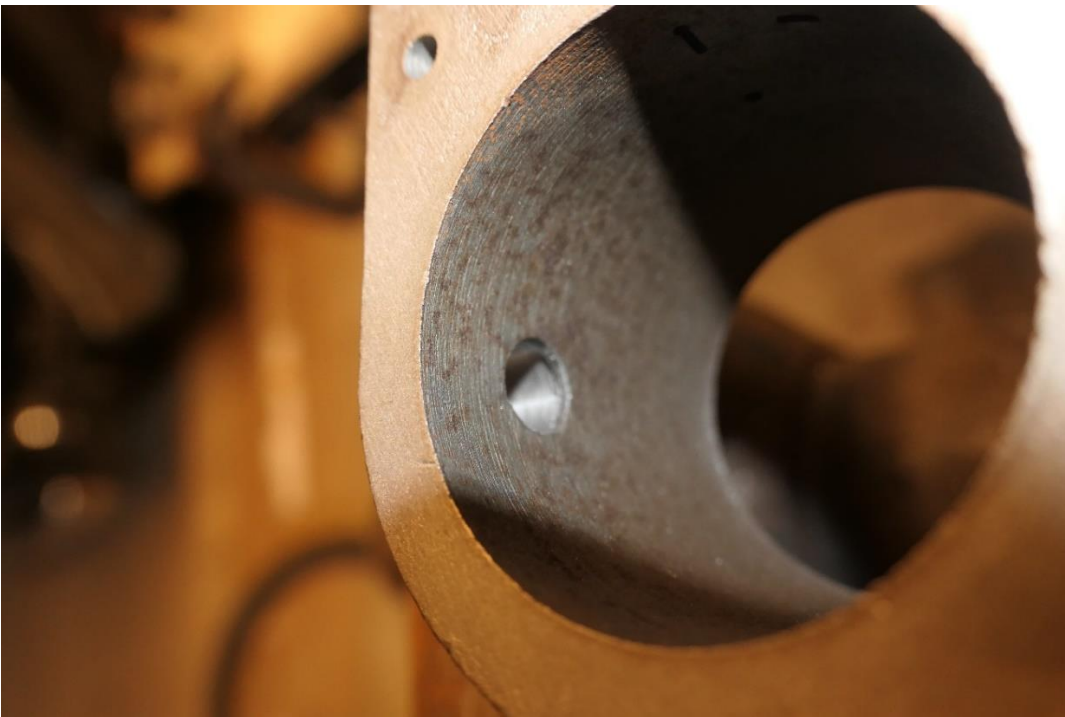
Machine until the reamer stop bottoms out on Throttle Flange bearing surface:



The reamer has the following appearance when the machining must end:



Once the reamer is removed a lip must be found on the inside of the bore:

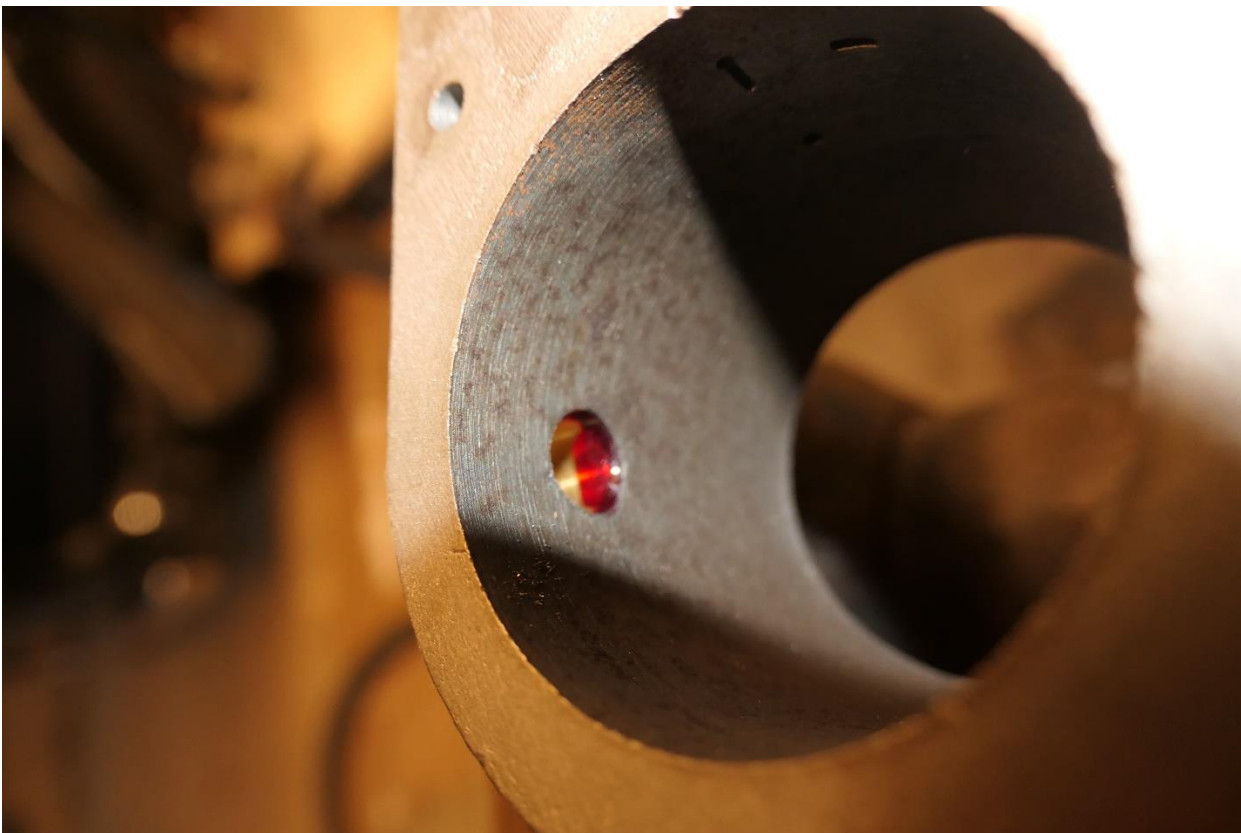


The reamer is now used to do the other bore AFTER RESETTING THE REAMER STOP and installing the first brass bushing.

The first brass bushing can be installed using high strength Locktite to hold the brass bushing in place and also provide a seal:



Remove excess Locktite promptly using the Throttle Shaft to push out the excess:



Re-examine the clearances now after both bushings are installed.

Make sure the Throttle Valve install is in the correct orientation and the lever on the Throttle Shaft points in the correct direction. Once Throttle screws are installed with medium strength Locktite removing them could be challenging if your Throttle Shaft and Throttle Valve positions are not correct the first time:



Do not use High Strength Locktite as it's likely screw removal will end up in broken screw pieces in the Throttle Shaft when the screws break off.