

Your Serial Number

Keep this serial number with your records



Contains Important Information About Your TA Aluminum Heads Keep For Future Reference

# Head Torque Instructions

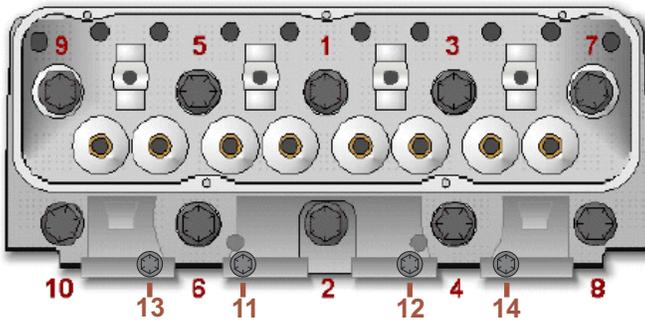
**The Torque Procedure Listed Below is Mandatory For TA 1723C And Recommended For All Other Gasket Types!**

When using a high performance specialty gasket such as the TA 1723C "Orange Crush" head gasket it is imperative that the special torque procedures listed below are used. The following instructions represent proven procedures on how to seal the Buick Big Block to withstand 10:1 upto 13: 1 Compression ratios without using an O-ring. The Unique design of the "Orange Crush" gasket incorporates a special composite material that seals under pressure. During the torquing process, initial torque is reduced by as much as 50% when the composite compound compresses. So repeated torquing is required for superior sealing.

**For BEST results we recommend the use of the TA 1723C "Orange Crush" head gasket, however, if another brand of composite gasket is to be used we recommend drilling (in the gasket) 3/16" or 1/4" coolant holes in the three positions on the exhaust side to correspond with the three passages in the block.**

**Note:** When torquing bolts it is important to use a continuous motion until necessary torque is obtained. If you stop prior to achieving the torque, break the bolt loose (about 1/8 turn from where you stopped) and redo.

## Stock and Stage 1 SE (Aluminum) Heads



**Note: Bolt #'s 11,12,13 and 14 are for optional use on TA Aluminum Heads.**

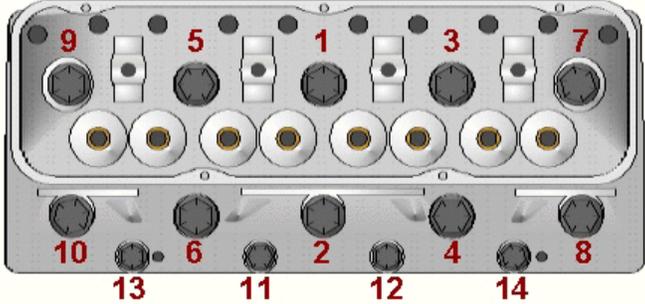
**Increment #1:** Torque all bolts to 30 ft/lbs in sequence

**Increment #2:** Torque all bolts to 55 ft/lbs in sequence (this is max torque for #'s 11,12,13,14)

**Increment #3:** Torque bolt #'s 1,3,5 to 110 ft/lbs, and all others except 11-14 to 100 ft/lbs in sequence

During the next couple days we recommend re-torquing the heads three more times. First within 6-8 hours (or overnight) and once approx. 24 hours after that, and then again in another 24 hours or as time permits. In the torque sequence, one at a time, break the bolt/stud loose 1/8 of a turn, then re-torque it to full torque spec. with one pull. I.E.: break #1 loose 1/8 turn then torque to 110 ft/lbs, break # 2 loose 1/8 turn and then torque to 100 ft/lbs, etc... DO NOT let the bolt/stud stop moving until it reaches full torque.

## Stage 2,3,4 Aluminum Heads



## Special Stage 1 SE Hardware

**Head Studs:** If using Head Studs with the TA Stage 1 SE aluminum heads, a special hardware upgrade kit is available which will include (4) each 3/8" studs, nuts and washers for use at position #'s 11,12,13,14 as well as (2) 1/2" 12 POINT nuts to be used at position #'s 8 & 10.

**Head Bolts:** If using the four additional bolts a special hardware upgrade kit is available that will include (4) each bolts and washers for position #'s 11,12,13,14.

If electing to use the four additional head bolt/stud positions please consider the following. Use of the four extra bolts will slightly reduce the amount of thread engagement for some of the header bolts. Extreme care must be taken to prevent damage to those threads, shortening of the header bolts may be necessary. Use of studs in place of header bolts for those positions may also be more more practical than bolts. To incorporate the extra bolt holes in the Stage 1 SE heads: from the underside drill the remaining portion of the bolt hole with a 25/64" (.390") drill bit.

**To prepare your block for use with the extra head bolts/studs, TA rents or sells a drill fixture kit to simplify this task!**

▶▶▶ Torque INTAKE MANIFOLD Bolts to 45 ft lbs ◀◀◀

## CAMSHAFT BREAK-IN USING DUAL VALVE SPRINGS



On applications that use this dual valve spring configuration and have open pressures above 300lbs, we recommend breaking in the camshaft with the **INNER spring removed**. Otherwise camshaft failure may occur. After proper cam break-in, re install the inner spring.

*p/n TA 2125 valve spring compressor tool will make this task much easier!*

## Additional Notes About Your Aluminum Heads

- To prevent corrosion, use an aluminum safe coolant with distilled water and a radiator/coolant conditioner such as RMI-25. Available from TA Performance

- Use a gasket type plug such as NGK BP5ES or equivalent. (see chart)

**Use an anti-sieze compound on the spark plug threads**

Hotter		Colder	
BP 4ES	BP 5ES	BP 6ES	BP 9ES
Lower Compression (Approx.)	9.5:1 Compression (Approx.)	BP 6ES thru BP 8ES	14:1 Compression (Approx.)

## Heat Crossover Provision

--- On regularly driven applications and/or applications that will be driven in cooler weather conditions such as below 60 degrees, we recommend removing the pipe plug in the center of each head on the intake side to allow coolant to pass through the underside of the intake manifold. This will warm the carburetor in a similar manner that the original heat cross over system did. This will provide better fuel economy and keep less raw fuel from entering the chamber.