



N63 Cam Timing Tool Kit

Part #: AGA-CTK-N63



Problem:

For BMW N63 engines, camshaft removal and installation is pricey. You must have the BMW cam timing kit in order to make the necessary repairs, which is very expensive when you buy it straight from the manufacturer.

Solution:

AGA has created a kit that allows you to do the right job for less. Our proprietary tool kits and coolant pipes have made us a trusted name in German auto products. We are proud to offer a more reasonably priced alternative to the BMW cam timing tool kit.

Benefit:

This kit is cheaper, easier to use, and comes with a case that makes it easy to keep track of all the parts. Replacing and installing camshafts on BMW N63 engines has never been easier.



Parts Included with this Kit:

| Part Number | Description | Quantity |
|---------------------|-----------------------|----------|
| AGA-11-9-892 | Hold Down Bar | 1 |
| AGA-11-9-893-EX-N63 | Cam Plate Exhaust | 1 |
| AGA-11-9-893-IN-N63 | Cam Plate Intake | 1 |
| AGA-11-9-190 | Crank Pin | 1 |
| AGA-11-8-570 | Crank Holder | 1 |
| AGA-11-9-900 | Chain Tensioner | 1 |
| AGA-G060-N63 | Chain Tensioner Gauge | 1 |
| AGA-125-TLP | Tensioner Locking Pin | 1 |
| AGA-8-12-A | Adapter 8-12mm | 1 |

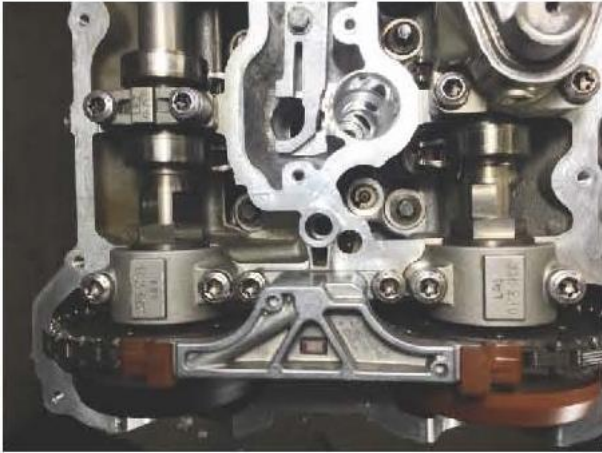
Note: This tool is intended for use with the engine in the car. This procedure can also be done with the engine out of the car. We recommend using our direct fuel injector kit (AGA-DIF-KIT) to remove and install direct injectors. Before starting this repair, we highly recommend you watch the instructional video located on YouTube or our website at www.agatools.com

Instructions:

Remove valve covers if servicing left and right sides. Only perform cam adjustment on one side at a time.



1. Turn engine over with 27mm socket in clockwise direction until mark on balancer is close to timing groove in front cover.



2. Note: when in correct position small flat on cams is facing up on intake and exhaust cams both banks



3. Install AGA-11-8-570 facing balancer. Turn engine over slowly in a clockwise direction until pin just drops in timing groove. This sets the engine to 150° before cylinder number 1 firing TDC.



4. Install AGA-11-9-893-IN-N63 and install AGA-11-9-893-EX-N63 if both plates are perfectly align with cylinder head surface, then the cam timing is correct

If adjustment is needed or cams need to be removed, proceed with the following steps.



5. Install 12mm to 8mm adapter and hold down bar AGA-11-9-892 tighten firmly by hand



6. Remove cam solenoids and timing cover, exposing timing chain tensioners.



7. Pull back timing pin. Turn engine very slightly counter clockwise to collapse hydraulic chain tensioners enough to push in locking pin. See picture.





8. Pin will keep piston in retracted position for tensioner removal. Rotate engine clockwise slightly to push timing pin back in front cover timing groove



9. Loosen E14 M10X1 cam adjuster bolts. Remove cam plate, hold down intake and exhaust plate. Remove 12mm to 8mm adapter.



10. Remove center chain guide. Remove bolt and remove cam adjusters intake and exhaust while supporting chain by hand. Note: adjuster timing position is not critical to cam or chain.



11. Loosen cam cap bolts and remove cams. Note: keep track of rocker arm location—they should not be interchanging.

To install cams:

- Oil and install all cams
- Evenly tighten cam caps and bolts to 15nm



12. To assemble:

- Lube bolt under head with copper anti-seize.
- Install exhaust cam adjuster with bolt. **Finger tight only.**
- Install intake cam adjuster with bolt. **Finger tight only.**
- Install center chain rail.
- Install 12mm to 8mm adapter.
- Install intake plate and exhaust plate.



13. Transfer bolts from stock chain tensioner to chain tensioning tool (AGA-11-9-900). Tighten T40 bolts to 13nm.



14. Tighten adjuster by hand to remove chain slag. Tighten with 10mm open end wrench until gauge tool (AGA-G060-N63) can just be inserted between 10mm hex and round end. Lube with copper anti-seize under bolt head.



With timing chain preloaded correctly, tighten E14 M10x1 cam adjuster bolts to 30nm plus 90° clockwise on intake and exhaust.

- Remove cam plate hold down
- Remove cam plates intake and exhaust
- Remove crank pin and holder

Turn engine over by crank center bolt 720° or two turns.



Install crank holding tool and pin
 Reinstall intake and exhaust plate to ensure correct timing.

Note: plates must align with cylinder head surface, if correct.

Install cam hold down to prevent cams from turning. Back off chain preload tool. Transfer bolts back to stock tensioner. Install tensioner and Torque T40 bolts to 13nm and remove pin.