Instruction Manual (B-Series Cam Gears)

Thank you for purchasing FULL RACE B-series adjustable cam gears for Honda: B16A, B16B, B17A, B18A, B18B, B18C, B20B and B20Z engines. Prior to installation of the product please reference a Honda Factory Service Manual.
Before using the product, YOU MUST carefully read these instructions.

NOTE: THIS PRODUCT WILL **NOT** WORK FOR A B20A FROM AN 88-91 PRELUDE.

Features of the Product:

- This product can be used with the original or an aftermarket camshaft.
- The graduations allow for adjustments to 2° of the cam angle. (1 mark = 2° cam angle.)
- High Strength 6061-T6 Aluminum is CNC machined for the inner and the outer pieces of the cam gear to create a product that is accurate, lightweight, and strong.

Accurate Adjustments:
Conventional cam gears are manufactured as one-piece from sintered steel. The FULL RACE B-series adjustable cam gears are a two piece design, allowing for adjustment of the valve timing event. The graduations allow for adjustments to be made to 2° of the cam angle (1 mark = 2° cam angle) for maximum tune-ability.

Lightweight:
Cam gears are made from high strength 6061-T6 Aluminum for both the inner and the outer pieces. The gear's reduction in overall weight leads to a reduction in the rotational mass, improving engine response.

High Strength:
Using 6061 Aluminum heat-treated to T6 specifications creates a high strength and lightweight cam gear that improves valve timing accuracy whether you are using the original or an aftermarket camshaft. Both pieces of the cam gear are hard-anodized to prevent the locking bolts from sinking and to improve the wear of the timing belt.

Instructions:

Torque Specifications:

- Cam gear attaching bolt: Please refer to your Honda Factory Service Manual for the correct procedure.
  - Only use the OEM bolts and washers to fasten the gears to the cams. They should be tightened to 40~42 lbft.
  - The cam gear attaching bolt should be attached using a low strength bolt locking agent.
  - If any bolt remains un-tightened, damage to the motor may occur. PLEASE BE CAUTIOUS AND DOUBLE CHECK.
- Cam gear adjustment bolts
  - Use only the bolts and washers provided. They should be tightened to 8~10 lbft.
  - The cam gear adjustment bolts should be attached using grease between the bolt seat and the outer piece of the cam gear.
  - If any bolt remains un-tightened, damage to the motor may occur. PLEASE BE CAUTIOUS AND DOUBLE CHECK.

Caution:

Original cam shaft timing marks are provided. Dimples on the outer piece of the cam gear signify the original cam timing marks. Please refer to your Honda Factory Service Manual for the correct procedure.
*****NOTE: WHEN ADJUSTING YOUR TIMING, ONLY THE INNER PIECE OF THE CAM GEAR IS ROTATED, LEAVING THE OUTER PIECE FIXED TO THE ORIGINAL TIMING MARKS.*****

Setting the timing on your new adjustable cam gears:

INTAKE:
To advance the intake timing 2° from 110° to 108°:

Start at the original or zero point, and turn the inner piece counter-clockwise so that the locating mark on the outer piece lines up with the first mark on the inner piece.

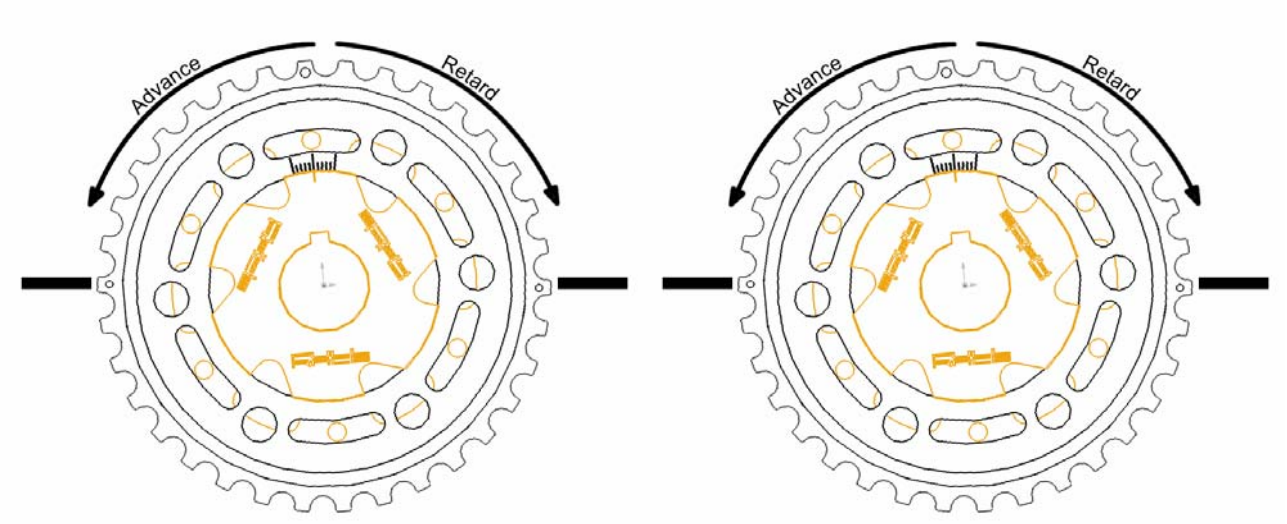
To retard the intake timing 6° from 110° to 116°:
Start at the original or zero point, and turn the inner piece clockwise so that the locating mark on the outer piece lines up with the third mark on the inner piece. Remember, 1 mark = 2° cam angle.

EXHAUST:
To advance the exhaust timing 2° from 110° to 112°:
Start at the original or zero point, and turn the inner piece counter-clockwise so that the locating mark on the outer piece lines up with the first mark on the inner piece.

To retard the exhaust timing 6° from 110° to 104°:
Start at the original or zero point, and turn the inner piece clockwise so that the locating mark on the outer piece lines up with the third mark on the inner piece. Remember, 1 mark = 2° cam angle.

*****NOTE: ANY MODIFICATION TO THE HEAD WILL AFFECT THE TIMING. FOR EXAMPLE, THICKER HEADGASKET (ADVANCE) OR SHAVING THE HEAD OR BLOCK (RETARD).*****

EXHAUST **INTAKE**



WARNING

1. Any time that an aftermarket part is used in place of an oem part, there is a possibility that the fuel economy, performance and drivability of the car/motor may be affected.
2. Once this product has been installed, FULL RACE MOTORSPORTS, LLC. cannot and will not accept any responsibility for damage or breakage of any part other than our own.
3. Since this product is intended for racing use, FULL RACE MOTORSPORTS, LLC. does not accept any claims or complaints of car/motor in which our products are mounted. Furthermore, FULL RACE MOTORSPORTS, LLC. is not responsible for any damage.
4. Because this product is intended exclusively for motor sports, we do not accept claims on principle.
5. For off-road use only.
6. This product is not to be used except on compatible car/motor types.
7. This product is not to be used for general driving or general mechanical maintenance.

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