

Cloyes Hex-A-Just® Kits and Components for Ford Modular V8

4.6L and 5.4L with 2V and 4V

The Cloyes Hex-A-Just® system as applied to the Ford Modular engines addresses the fundamental issue with this power plant: timing variation from left to right bank. We have found that 2 degrees to 8 degrees variation is common from the factory. (It is believed that Ford may have built in 2 degree variance for idle quality). During the testing of our product we realized massive power gains on the 2V engine just from balancing the banks. Our full billet, Hex-A-Just® primary cam sprockets allow the installer infinite adjustability in a +/- 4 degree range to optimize engine performance. An important feature of these primary sprockets is the solid billet, one-piece design. The special center adjuster plate simply replaces the factory Ford washer and acts as the clamping load distributor from cam bolt to sprocket. Using our eccentric tool as leverage, our system enables you to rotate the special adjuster plate relative to the cam sprocket, which in turn rotates the camshaft to your desired location.

For the 4V models, in addition to the two primary Hex-A-Just® cam sprockets, we also have billet secondary sprockets (two 9-keyway & two 1 keyway). So once the banks are balanced using the adjustable primary sprockets, the installer can then fine tune the overlap with the two 9-keyway secondary sprockets. The secondary sprockets provide a +/- 4 degree range in one degree increments. This gives the end user a fully adjustable billet timing set.

Both the 2V and 4V sets also feature our precision CNC machined, billet steel crank sprocket. This is a significant upgrade from the original equipment, mass-produced, powdered metal crank sprocket. We have seen instances where the keyway on the OE sprocket is so loose that you can literally move it side to side on the crank nose. We have tightened that spec to what you would expect from a true performance product. Another important upgrade to both the 2V and 4V sets is the addition of Fine Finish primary chains. These premium race chains are extremely durable and offer a smoother finish that is less damaging to the guides and tensioner shoes.

We have the parts and kits arranged in many different combinations to accommodate the racers needs. The FULL KITS include all of the components – sprockets, chains, tensioners, and guides. The UPGRADE KITS contain only the improved or upgraded components, which are all the sprockets and chains. And then we have the 2V SPROCKET KITS, which contain just the two Hex-A-Just® primary cam sprockets; and the 4V SECONDARY KITS, which contain all the secondary components.

Though our kits themselves focus on Mustang coverage, the component parts can be used on other Ford models that use the 2V or 4V (4.6L or 5.4L) engines. There are 4.6L 2V's in the Crown Victoria's and 4.6L 4V's in the Mercury Marauder's, Mach 1 Mustang's, and Lincoln's. In addition, we have customers using the Cloyes system on the F-150 Lightning 5.4L 2V engines and on the Cobra Jet race car 5.4L 4V engines. Anyone working on something other than what is specifically cataloged can call our tech department and we can help them with the correct arrangement of parts.

Important Note: All of the Ford and Cloyes parts are interchangeable, and can be used in any combination the builder/installer chooses.



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HEX-A-JUST® KITS 4.6L FORD 2v and 4v

*SOLID, ONE-PC SPROCKET DESIGN, with
CUSTOM ADJUSTABLE WASHER*

Increase torque & horsepower with improved timing balance

The patented Cloyes Hex-A-Just® system allows quick adjustments to meet any custom specifications required to maximize your engine output.

- Heat Treated, Billet Steel, Adjustable Cam Sprockets vs OE Powdered Metal
- Heat Treated, Billet Steel Crank and Secondary Sprockets vs OE Powdered Metal
- Precision Machined Tooth Profile vs. OE pressed profile
- HEX-A-JUST® infinite timing adjustment vs. non-adjustable OE
- Precision Machined Keyways and Bore Fitment vs. OE wide tolerance fit
- Exclusive light weight, Fine Finished Performance chains

TIMING KITS FOR 2 VALVE ENGINES

Full Kit – kit includes ALL the timing components; two adjustable billet steel cam sprockets, billet steel crank sprocket, two fine finish chains, all guides and tensioners.

Upgrade Kit - everything in this kit is an upgrade from the OE; two adjustable, billet steel cam sprockets, billet steel crank sprocket, two fine finish chains.

Sprocket Kit – kit includes just the two adjustable, billet steel cam sprockets.

YEARS	FULL KIT	UPGRADE KIT	SPROCKET KIT
1996-98	9-3162A	9-3165A	9-3169A
1999-00	9-3163A	fits years 1996 to 2000	fits ALL years
2001-04	9-3164A	9-3166A	1996 to 2004

TIMING KITS FOR 4 VALVE ENGINES

Upgrade Kit - everything in this kit is upgrade from OE; two adjustable, billet steel cam sprockets, billet steel crank sprocket, four billet steel secondary cam sprockets (two 9 key, two 1 key), two fine finish primary chains, two secondary roller chains.

Secondary Kit – kit includes just the secondary components; four billet steel secondary cam sprockets, (two 9 key, two 1 key), and two secondary roller chains.

YEARS	FULL KIT	UPGRADE KIT	SECONDARY KIT
1996-1999	N/A	9-3174A	9-3676X9
2001-2004	N/A	9-3175A	