

## ZC Identification Guide

The ZC engine is one of the hardest to identify because there are many different versions of this engine. Honda offered this engine in both single and dual overhead cam designs, as well as fuel injected and carbureted versions of these. This article distinguishes the different versions of the ZCs offered. Hopefully this will separate the facts from the myths.

### **The first ZC**

ZC's were first offered in Civic's and Integra's in 1985 and were still being manufactured in vehicles up until 2001. The first Generation ZC's were offered from 1985 through 1987. These engines can be found in 85-87 JDM Civic's and JDM CRX Si's and were very similar to the 1986-1987 US Integra engine. It's worth noting that this engine came with the highest horsepower rating of all ZCs at 137 horsepower. Remember, these engines were offered in Japan and similar versions offered in the United States were only offering 112 horsepower. The main difference is Japan's higher quality gasoline and different fuel curves along with slightly higher compression. These engines are usually bolted into 1st generation Crx's and 3rd Generation Civic's along with 1986-1987 Integra's. Most of this is pretty straight forward. The main problem lies within the carbureted versus fuel injected models offered during these years. This conversion is both difficult and time consuming and really not recommended because the results really aren't that impressive.

### **Swapping the 1st gen ZC**

To bolt this engine in, the following mounts will be needed. First, the passenger side mount and rear mount from the ZC/Integra should be used while the driver's side mount and bracket need to be used from the Civic/Crx. To make things easier with wiring just use the stock wiring harness. Several of the wires may need to be lengthened but there shouldn't be any other problems. Ideally, the ZC ECU should be used however the Si ECU is adequate. If installing the Civic ZC into an 1986-1987 Integra is the goal, you'll need the Integra intake manifold and throttle body. Remember, the OEM wiring harnesses should be used with its own engine to make the swap easier and cleaner.

### **The 2nd Generation of ZC's**

In 1988 Honda introduced the second generation of ZC's. These came with a black valve cover and have several differences when compared to the first generation ZC's there. First, its important to realize that there are two types of ZC's. The first, offered exclusively in JDM Civic's/CRX's, has ZC stamped on the block. The second is the D16A8/D16A9 and it came in USDM Acura Integra's. These two engines are not interchangeable with one another and have different engine mounts. The Integra's driver's side mount is located near the front of the engine while the JDM ZC's engine mount is closer to the timing belt cover. It is also worth noting that the valve covers and intake manifolds are also slightly different.

## **What do these fit?**

Because the 88-89 Integra ZC engine mounts the same as the 86-89 Integra, the engine will not only bolt in to the 88-89 Integra, but also into the 86-87 Integra and 84-87 Civic or CRX. Cool you say? Well, sort of. The reason this is not done more often is because of the wiring differences. Some big changes need to be done. The two major sticking points are vehicle speed sensor and electronic load detector. These require more than just a couple of wires for the conversion to work. The 88-91 Civic style ZC is a direct bolt in to the 88-91 Civics and CRXs. You can bolt the ZC to the stock transmission easily too. You just need to make sure you have the right clutch and flywheel combo. The easy way is to match the pair to what ever year tranny you use. Electrically the ZC is identical to the Si with the exception of the distributor wiring.

If you decide to use the Civic ZC tranny with your Civic ZC engine, get the Civic ZC intermediate shaft because there is no US counterpart to this part. The 86-89 Integra intermediate shaft will not fit, and I don't care what your friend heard or said.

## **The 3rd Generation ZCs**

### **Is there such a thing?**

After 1992 in some Civics and a few 1994 and up Integra's still come with the odd model: the DOHC ZC. These ZCs look like the Civic style ZCs from 88-91 but have the later style electronics. There are even more Integra and Domani models with SOHC ZC engines. There is not a lot of interest in these (SOHC or DOHC) engines I am afraid, because the B-series VTEC motors bolt right in the 92 up Civics. The ZC does make a good swap in the lowly, underpowered CX or VX, but only with the EX, Si or ZC transmission, otherwise I don't recommend them. But for the sake of argument and to impress you with our large volume of trivial Honda knowledge, let's go ahead discuss them.

To recognize thie 3rd generation DOHC ZC engine, just look for the black valve cover and 92 up grey colored electrical connectors. Some of the other visual clues are:

- \* a plug in the end of the exhaust cam, like the B-series motors
- \* two studs sticking up from the driver's side engine bracket poking out of the timing belt cover
- \* and no writing on the top of the intake manifold, just the three raised bars on the casting like all the other 92-95 Civic engines.

## **What do they fit?**

Well, they will fit the 92-2000 Civics or the 94 up Integra... not that anyone would want to put it in an Integra. Again, this engine bolts to the stock transmission and the Si or EX trannys make for a decent combo. But if you decide to use the 92 up ZC tranny with your 92 up ZC engine, get the 92 up Civic ZC intermediate shaft too because again, there is no US counterpart to this part. Although it is different from the 88-91 style, it is interchangeable.

**Hopefully this clears up some debate about the ZC motors.**