



ETD RACING'S K-SERIES WATER PUMP BLOCK-OFF PLATE

A MUST-HAVE UPGRADE FOR K-SERIES ENTHUSIASTS

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PHOTOS: COURTESY OF ETD RACING

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TIME NEEDED: 2.5 HOURS

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"THIRTY IS THE NEW TWENTY" IS A SAYING THAT'S BEEN GOING AROUND RECENTLY, MEANING THAT 30 IS THE AGE OF THE AVERAGE PERSON WHO LIVES AT HOME OR SETS OUT TO ESTABLISH HIMSELF IN THE WORKFORCE—LATE BLOOMERS, IF YOU WILL. IN THE HONDA TUNING PERFORMANCE COMMUNITY, THE K-SERIES IS THE NEW B-SERIES IN TERMS OF ENGINE SWAPS. THE TRUTH OF THE MATTER IS THAT K-SERIES ENGINE SWAPS HAVE BEEN AROUND FOR QUITE SOME TIME, BUT WHILE MANY ENTHUSIASTS HAVE BEEN PERFORMING THEM IN ALL KINDS OF HOT HONDAS, IT WASN'T UNTIL THE LAST FEW YEARS THAT A LARGE VARIETY OF PRODUCTS CAME ON THE MARKET THAT WERE GEARED TOWARD K-SERIES SWAPS, SO THAT'S WHEN THE SWAP BECAME POPULAR. WHILE IT'S TRUE THAT K-SERIES UPGRADE PRODUCTS LIKE CAMSHAFTS, HEADERS AND OTHER POWER-PRODUCING PRODUCTS HAVE BEEN READILY AVAILABLE TO OWNERS OF K-SERIES ENGINES FOR A LOT LONGER, PRODUCTS SUCH AS WIRING HARNESES, SHIFTER LINKAGES AND ADAPTERS FOR PLATFORMS SUCH AS THE EG AND EF CIVICS HAVE BECOME MORE COMMONPLACE, MAKING SUCH SWAPS AS EASY AS BOLTING THEM IN AND BUTTONING THEM UP.

The K20 engine has so much potential, due to its larger displacement and i-VTEC, that it's become a shoe in for many high-performance applications that go beyond the street. For example, a lightweight EG Civic with a trick suspension setup and hot-blooded K20 engine would make a very spirited road-race car in the hands of a capable driver. There are enthusiasts who see the racing potential in the K20, and when you are interested in extracting as much power as possible in a racing environment where engine modifications are tightly regulated and policed, you have to be creative in your search for power.

There are different ways to enhance power without altering the internals of the engine,

and one such way is to reduce the parasitic drag on the engine. This can be done by installing lighter pulleys or deleting unnecessary ancillary devices, such as the A/C compressor, power steering pump and even the mechanical water pump. Various companies have been producing electric water pumps for various vehicles, including the B-series engine from Honda, but fitting an electric water pump to a K-series that has been swapped has not been a plug-and-play proposition as most have had to fabricate their own adapters and fittings to make such an upgrade work.

Ten years ago, ETD Racing started off as a tuner shop and has chosen to develop parts that have been traditionally hard to find or even totally

unavailable to enthusiasts. One such product is their K-series water pump block-off plate, which allows an electric water pump to be used instead of the mechanical pump while eliminating the need for you to fabricate your own. This block-off plate kit not only deletes the mechanical water pump, which reduces parasitic drag, but it also allows you to use a B- or D-series alternator, which is smaller and lighter than the stock K-series alternator. Additionally, the block-off plate, which is CNC-machined from powdercoated 6061 aluminum, features a water outlet hole that's been drilled and tapped for a 3/4 inch and a -8 AN hole that has been tapped for a fitting so that vacuum can be pulled from the block just

like stock, except it looks 100 times better from a cosmetic standpoint.

For photographic purposes, this installation was performed on an engine stand, but the upgrade can be performed almost as easily while the engine is installed in the engine bay. Typically, this installation would take about 3-1/2 hours to complete, and while this upgrade could just as easily be performed on a street-driven vehicle, it's probably more likely to be found on a more serious, high-performance street/track machine or dedicated race vehicle. Either way, here's what's involved should this trend in engine cooling be an upgrade that would help you in your quest for better performance. **Hci**



01 The accessory belts are removed from the pulleys, as well as the bolts that secure the water pump to the engine.



02 Once the bolts in the water pump are removed, the water pump can be removed from the engine. Once the pump assembly is removed, you can see how large this unit is.



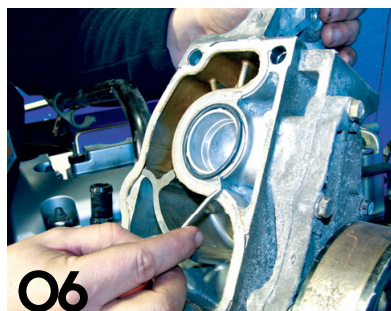
03 The engine looks considerably cleaner with the pump removed.



04 The old RTV sealant must be cleaned off the surface of the block. This is a necessary step as any old RTV that's present will cause leaks when the block-off plate is installed.



05 Next, the O-ring in the stock water pump assembly is removed as it will be reused as long as it's in good shape.



06 After the O-ring is properly cleaned and free of debris, it's installed into the groove in the block-off plate. A dab of RTV will help hold the O-ring in place during assembly.

tech



Next, RTV sealant is placed around the sealing surface on the engine block.



The ETD Racing water pump block-off plate is installed using a pair of M10 30mm bolts in the top holes.



Now, the alternator bracket that is supplied with the kit is installed in the lower bolt location using a pair of M10 40mm bolts.



Now, the fittings are to be installed. The first fitting goes into water outlet, and thread sealant is used to prevent leakage.



Next, the upper fitting for the vacuum is installed.



Here is what the block-off plate can look like when quality fittings are used.

Drag
RACING WHEELS

DW-25

SPECTACULAR 8 SPOKE

BOLD & DISTINCT

17 - 18 inch

DW-09 **DW-03** **DW-14** **DW-18**

17 - 18 inch 17 - 18 inch 17 - 18 inch 17 - 18 inch

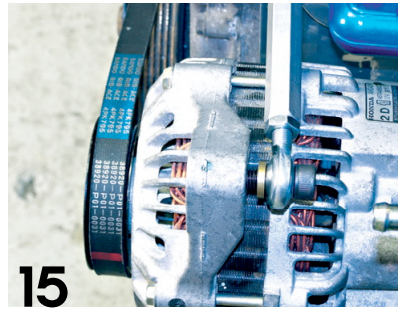
www.dragracingwheels.com



13 Next, install the alternator of your choice, whether it's a B-, D- or K-series unit. The stock lower alternator bolts can also be reused in this kit.



14 At this point, there are two bolts and a spacer left over from the water pump upgrade. The shorter of the two bolts (M8 25mm) is used to secure the radius arm.



15 The other bolt is used to secure the radius arm to the alternator. A washer is placed between them so that they don't contact each other.



16 Adjust the radius arm so that the alternator moves toward the engine to allow the belt to be installed more easily.



17 The belt that should be used with the kit (which isn't supplied) is a 4PK795, and it can be purchased from any auto parts store.



18 The installation is completed, and the engine (???) can be installed into the engine. This upgrade cleans up the engine compartment considerably.

www.4mat.com 888.876.8888

DM-22

AGGRESSIVE 8 TWIN-SPOKE

RACING DESIGN

17 - 18 mm

DM-19

17 - 18 mm



DM-18



17 - 18 mm

DM-17



17 - 18 mm

DM-12



17 - 18 mm

DM-11



17 - 18 mm