

Honda F22C engine specs

Manufacturer	Honda Motor Company
Also called	Honda F22
Production	2004-2009
Cylinder block alloy	Aluminum
Configuration	Inline-4
Valvetrain	DOHC 4 valves per cylinder
Piston stroke, mm (inch)	90.7 (3.57)
Cylinder bore, mm (inch)	87 (3.43)
Compression ratio	11.1
Displacement	2157 cc (131.6 cu in)
Power output	176 kW (240 HP) at 7,800 rpm
Torque output	220 Nm (162 lb·ft) at 7,000 rpm
Redline	8,200
HP per liter	111
Fuel type	Gasoline
Weight, kg (lbs)	–
Fuel consumption, L/100 km (mpg)	Honda S2k
-City	13.1 (18)
-Highway	9.4 (25)
-Combined	11.2 (21)
Turbocharger	Naturally aspirated
Oil consumption , L/1000 km (qt. per miles)	up to 0.5 (1 qt. per 1200 miles)
Recommended engine oil	0W-40 5W-30 5W-40 5W-50 10W-30
Engine oil capacity, L (qt.)	4.8 (5.1)
Oil change interval, km (miles)	5,000-10,000 (3,000-6,000)
Normal engine operating temperature, °C (F)	–
Engine lifespan, km (miles)	
-Official information	–
-Real	300,000+ (180,000)
Tuning, HP	
-Max HP	600+
-No life span loss	–
The engine is installed in	Honda S2000

Honda F22C engine reliability, problems and repair

The F22 family also included another unique engine, which was named F22C1. We have devoted a separate article to it, since it is quite different from [F22B](#) or [F22A](#). This naturally aspirated straight-4 engine was created in 2003 specifically for Honda S2000 for the North American market. This engine was developed based on the [2.0-liter F20C](#). Let's compare the F22C and F20C, and find out the main differences.

Honda engineers installed a new 90.7 mm stroke crankshaft, 149.65 mm long rods and 29 mm high pistons into the F22C cylinder block. These pistons are slightly different from the F20C pistons and the compression ratio was reduced to 11.1. 224 mm high F22C block deck.

All these modifications allowed to increase displacement to 2.2 liters.

On top of the block, they installed a 16-valve DOHC head with the VTEC system. The F22C head is the same as the F20C head, but in F22C, new camshafts were used. Here are the F22C cam specs: duration 296/296 deg, lift 12.37/12.06 mm.

The F22C1 engine needs periodic valve adjustment after every 105,000 miles. Adjustment is recommended only if the valves are noisy. Valve clearances are as follows (cold): intake valves 0.21-0.25 mm, exhaust valves 0.25-0.29 mm.

Another F22C difference from the F20C is the use of a heavier flywheel that weighs 9.5 kg. These are the main differences between F22C and F20C, the remaining specs of the engines are the same.

Data upgrades were made to increase the torque at low and medium rpm by reducing the max rpm to 8,200 rpm. This made the car a bit more comfortable for everyday use.

In the end of 2005, JDM Honda S2000 with an F22C1 engine became available; after 3 years, Honda S2000 was discontinued, and F22C was also discontinued.

Honda S2000 2.2 engine problems and malfunctions

This F22C engine was developed based on the 2.0-liter F20C, and they have similar problems. All that is written [HERE](#), and is suitable for your F22C1, except for one thing. The Honda S2000 2.2 engines have no problems with cracked valve retainers, they have solved this problem.

Honda S2000 2.2 engine tuning

Naturally aspirated

Tuning of the F22C Engine is the same as for F20C, but you already have the stroker kit installed. The first step will be buying an AEM cold air intake system, a 4-2-1 header, and a 3 inch exhaust system. Then you have to configure the ECU and raise the max rev to 8,500 rpm. This can give you about 260 HP.

One should remember that the stock F22C rods experience high loads compared to F20C rods, so the rpm above 8,500 rpm is dangerous for the stock F22C engine. This motor can withstand short overloads above 8,500 rpm, but do not overdo it

To increase the redline to 9,000 rpm and get good reliability, you will have to buy aftermarket rods and pistons.

You can get even more power by installing an AEM intake system, a TODA 70 mm throttle body, a 3-row performance aluminum radiator, an oil catch can, NGK 9 iridium spark plugs, a TODA lightweight flywheel, a TODA B2 cams, adjustable cam gears, TODA valve springs, a 4-2-1 header, and a 3 inch exhaust system.

Building an N/A Honda S2000 300 WHP at the wheels is possible with these performance parts: 50mm ITB, high compression pistons (CR about 14), aftermarket rods, a Walbro 255 lph fuel pump, AEM fuel rail, 550 cc fuel injectors, an AEM fuel regulator, and an AEM EMS ECU. but this is not enough, you will need cylinder head porting, and you should buy bronze valve guides, Supertech valves (37 mm intake/31 mm exhaust), TODA valve springs and JUN valve retainers, Inline pro cams, a 4-1 header and a 3" performance exhaust system.

An engine with this mod is to be configured with the use of sports fuel. It will give you over 300 HP, but this is not the limit. You can get even more power if you use custom cams and a 2.7-liter stroker kit.

Turbo

Building a turbo project based on F22C1 is a good idea, stock internals hold the boost well. You can buy a turbokit based on a small turbocharger and easily get 300 WHP. It will be fast and comfortable for daily driving. To get 400 WHP, you will need a turbo kit based on the GT3076R with an intercooler, NGK 8 Iridium spark plugs, 750 cc fuel injectors, a Walbro 255 lph fuel pump, a 3" aftermarket exhaust system, and an AEM EMS ECU. This turbocharger will easily give you 400+ WHP at 15 psi (1 bar) of boost pressure with the use of E85 fuel. This is not the limit, you can get 500 WHP or more, but it will require a lot of mods for your cylinder head.