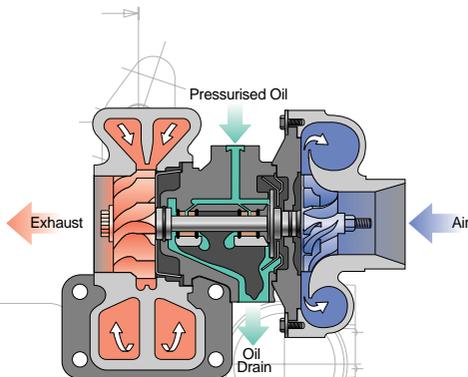


## The Turbocharged Engine

**HOLSET**



### Function of a Turbocharger

In any given engine, power output is determined by the amount of fuel that can be burned in a given time. For proper combustion, the fuel needs an adequate supply of air so therefore for increased power, more air is required.

Since the volume of the engine cylinders is fixed, the air supply can only be increased by using some form of compressor. The turbocharger increases the air supply by means of a compressor driven by the engines waste exhaust gases.

In a turbocharged engine, the exhaust gas energy is used to improve the overall efficiency of the engine. therefore the specific fuel consumption is reduced resulting in LOWER operating costs.

There are, of course, further advantages. By dampening the pulses of the exhaust gases, the turbocharger behaves as an effective silencer. Because the air supply is maintained under a wider range of the engines operating conditions, the exhaust smoke is greatly reduced.

In addition, the turbocharger automatically compensates for reduction in power which occurs at higher altitudes, an important fact in mountainous terrain.

It is important to appreciate that the turbocharger is an integral part of the engine and that the whole power unit is fully developed for performance and reliability by Holset. The quality of the oil, changing of the oil filters and the adherence to oil change periods are all essential to the maintenance of a satisfactory operating life of the engine / turbocharger combination.

High quality oils have been developed to meet the greater thermal load conditions of the turbocharged engines and Holset's recommendations should be closely followed. If inferior oil is used, carbon deposits can be formed at the exhaust end of the turbocharger causing excessive wear of the seal rings.

While the bearing assembly will operate indefinitely with minor scores, the continuous introduction of dirt in this area will result in eventual failure. A shortage of oil will also have serious consequences and any drop in oil level of blockage causing a delay in oil supply reaching the bearing system, especially on engine startup, must be corrected.

For more information please contact:

## Turbocharger Inlet Baffle Replacement Instructions

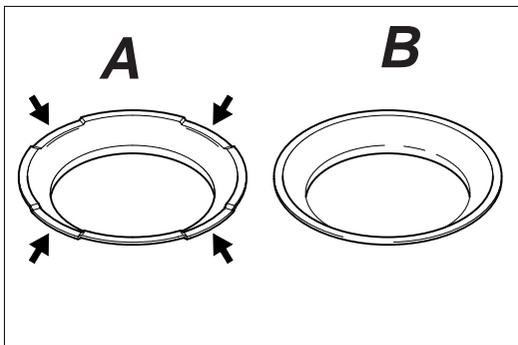
Web address: <http://www.holset.co.uk>

The Inlet Baffle used on some standard and wastegated turbochargers has been modified for improved performance.

These instructions are to be used to correctly replace the old Inlet Baffle with the new Baffle

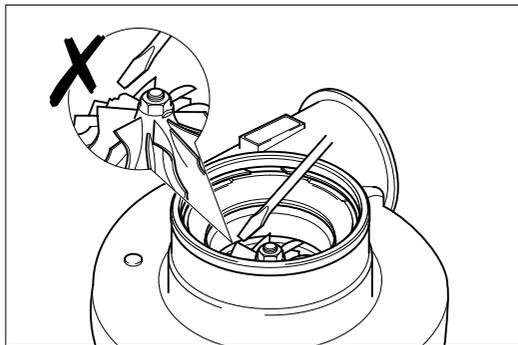
Please follow these instruction carefully to avoid any possible damage to the turbocharger

### Step 1 Identification



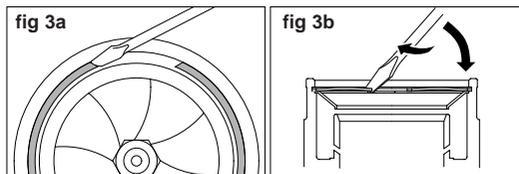
Inlet Baffle (A) is the old design, Inlet Baffle (B) is the new design. As can be seen from the Illustration, Baffle (B) has been improved and no longer incorporates the 4 stepped area's shown on Baffle (A) This gives the new baffle a much increased service life.

### Step 2 Caution, Do Not Damage Blades



When removing the Inlet Baffle Retaining Ring, be careful not to damage the Compressor Wheel with the screw driver. Use a rag or rubber bung to protect the wheel.

### Step 3 Locating Screwdriver Under Retaining Ring



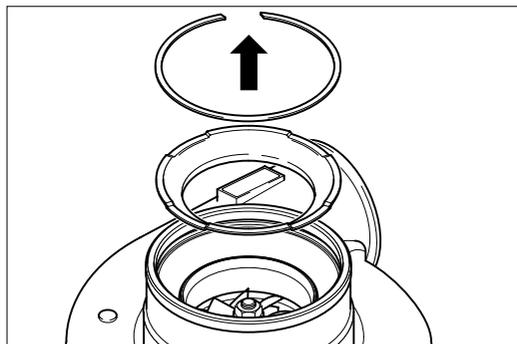
Using a flat screw driver, carefully apply force in the area shown in fig 3a. as the retaining ring starts to move, force the screwdriver under the ring as shown in fig 3b.

### Step 4 Removing The Retaining Ring



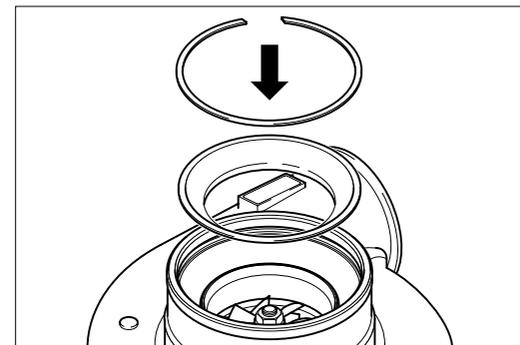
Push the screwdriver in an anti-clockwise direction to force the retaining ring out of the groove. Remove the retaining ring.

### Step 5 Remove The Inlet Baffle



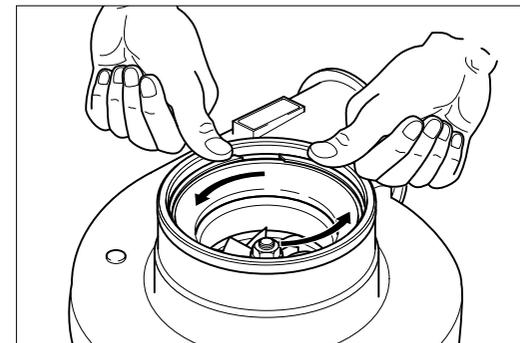
Remove the Inlet Baffle.

### Step 6 Replace New Inlet Baffle



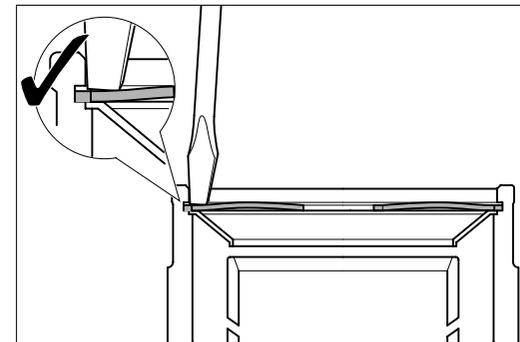
Locate the new inlet baffle on the location ledge of the compressor cover inlet.

### Step 7 Locate Retaining Ring On Recess



Hold the retaining ring in position with right thumb whilst pressing the ring into position in an anti-clockwise direction with the left hand.

### Step 8 Check For Correct Fitting



Use a flat screw driver to make sure the retaining ring is correctly seated on the compressor cover groove.