

# FAQ

Our FAQ (Frequently Asked Questions) page is meant to answer installation or operation questions that have arisen in the field. The FAQ page shall change as we develop new information that we think our customers might find useful. It also reflects questions from the field that may not be covered in our installation or tuning manuals.

Common Questions from the Field:

- 1. Slide rattle**
- 2. Carb hits fins on TC88**
- 3. Fuel line size**
- 4. Jet Needle is difficult to remove.**

## 1) Slide rattle:

Most HSR carburetors make a soft "ticking" noise at idle. This ticking is the result of the normal pulsing of the air in the intake system. This pulsing is caused by piston and cam action. The ticking is not a sign of wear or incorrect tolerances. It is normal.

During the intake cycle, when an intake valve is open and the piston is moving down, a partial vacuum is formed in the cylinder, intake manifold and behind the carburetor's throttle valve. The normal pressure on the out-side of the carburetor's slide then pushes the throttle valve back in the carburetor body. This movement can cause a "click".

Near the end of the intake cycle and below a critical rpm, which varies with cam design, a positive pressure forms in the cylinder, intake manifold and behind the throttle valve. This positive pressure forces the throttle valve forward in the carburetor body. This movement can cause another click.

So, the throttle valve being "pushed and pulled" by the variations in manifold pressure at low (idle) rpm results in some ticking. As soon as the throttle is opened and the throttle valve is raised, the ticking stops.

Cams that have been designed for high rpm performance usually close the intake valves much later (in crankshaft degrees) than the stock cams. The later the intake valves close, the greater the pressure on the back of the throttle valve and the louder the ticking may become.

Exhaust systems with no baffles, like long open straight pipes, also tend to increase the reverse pressure on the throttle valve.

By the way, it is the late closing of intake valves that cause "reversion" in high performance engines. Reversion is the word most commonly used to describe the fog of air/fuel ejected from the mouth of the carburetor when the throttle is opened at low rpm. Reversion disappears when the engine rpm becomes high enough that the intake valves close before the piston can push air/fuel mixture back through them.

## Factors that affect slide rattle:

- 1) Cam design --- the later the intake valves close (in crankshaft degrees) the higher the

rpm before reversion and therefore slide rattle stops.

- 2) Exhaust systems without baffles, particularly long, straight open pipes, increase reversion pressure.
- 3) Windshields, fairings and unrestricted air cleaners (like the Screamin' Eagle) echo any noise coming from the intake system.
- 4) Throttle valve to carburetor body clearance. There is some minor variation in the amount of play between the throttle valve and carb body. A "loose" throttle valve and a "big" cam can combine to make the normal ticking sound louder.

## **2) Carb hits fins on TC88**

About half of Mikuni/Twin Cam installations have an interference between the cylinder fins and the float bowl of the HSR carburetor. A small portion of the cylinder fin material must be removed from both front and rear cylinders to clear the float bowl. Failure to make this modification can result in alignment and wear problems.

A small file can be used to flatten the corner of the fins enough to clear the carburetor's float bowl. The modification is not visible with the carburetor mounted.

## **3) Fuel line size:**

- 1) Harley's standard fuel line size is 1/4". (This diameter refers to the inside diameter of the hose.)
- 2) The standard fuel line size for the Mikuni HSR fuel fitting (p/n: TM40/27) is 5/16".
- 3) Standard Harley fuel line does fit over the Mikuni with some lubrication and effort.
- 4) Most accessory petcocks such as the popular Pingle series also use 5/16" hose fittings.
- 5) 5/16" hose can be used on the stock fuel petcock. However, a hose clamp MUST be used to clamp the hose to the petcock.  
NOTE: Both ends of all fuel hoses should be fitted with quality hose clamps.

## **4) Jet Needle is difficult to remove**

Jet needle removal is easy - provided you back the idle speed screw off six turns or until the throttle valve is bottomed.

- 1) When bottomed, the throttle valve is positioned so that the jet needle assembly can easily clear the notch in the throttle lever.
- 2) When the throttle valve is not bottomed, the jet needle assembly cannot pass the notch.