

in the stud provides an outlet for the oil, to the rocker arm ball area. Oil is also directed from the valve lifter up through the hollow push rod, to lubricate the push rod socket in the rocker arm (see Figure 3).

The GTO rocker arm has a hole drilled in the push rod socket. The rocker arm ball area is lubricated from the valve lifter, up the push rod and out the small hole in the socket. Since the hole in the rocker arm socket is smaller than the hollow push rod, enough oil escapes to lubricate the socket.

C) Valve Springs

Standard - inner Part No. 519112 (Z)

outer Part No. 519113 (Z)

GTO - inner Part No. 524598 (Z)

outer Part No. 524593 (Z)

The GTO engine uses heavy duty valve springs, while the standard engine springs are lighter. The easiest method to identify the springs is to measure their wire diameter using a caliper. The wire diameter of the standard inner spring is .120", while the heavy duty is .141" (see Figure 5). The standard outer spring has a wire diameter of .162", while the heavy duty is .170" (see Figure 6).

When the springs are new they may be distinguished by two yellow stripes on the heavy duty springs but none on the standard spring.

Early production GTO engines were equipped with the lighter springs but after 12-19-63 engine No. 190810, all GTO engines have the heavy duty springs.

D) Head Assemblies

Standard - Part No. 9774766 (Z)

GTO - Part No. 9770981 (M)

The standard 389 engine uses two different compression ratio heads depending on the type of transmission used with the engine. All standard 389 heads will have an oil gallery under the rocker studs (see Figure 7).

The GTO head is 10.75:1 compression ratio and is easily identified by the flat surface under the rocker studs (see Figure 7). There is no oiling through the rocker studs, therefore, no gallery is necessary.