

389 GTO ENGINE

The GTO engine uses the basic 389 block but differs in the valve train and head assembly from the standard 389 engine. Although there are no specific service procedures written for the GTO engine, the 1963 Pontiac Chassis Shop Manual engine section covers the standard 389 engine. By using these procedures and the specifications and differences that follow, the 389 GTO engine may be serviced. The following is a comparison of the two engines and may be an aid in overhauling or a guide when ordering parts, while servicing the engine:

A) Hydraulic Valve Lifter Assembly

Standard - Part No. 5231360 (Z)

GTO - Part No. 5232265 (Z)

The valve lifter used in the standard engine and shown as Figure No. 1, has the same outside dimensions as the GTO lifter. The GTO lifter or "high ball" lifter differs in that it contains a small ball check valve spring and a rocker feed metering valve (see Fig. 2). The ball check valve spring applies pressure to seat the ball valve to prevent leak down of the lifter. The feed metering valve limits the flow of oil from the valve lifter to the rocker arm and serves as a check valve, to limit lifter pump up during high RPM operation.

B) Rocker Arm, Ball and Push Rod Package

Standard - Part No. 540323 (Z)

GTO - Part No. 9771045 (Z)

When comparing this area of the valve train, attention must be given to the oiling system in the heads. The standard engine has an oil gallery cast in the head which is fed from the block. Oil from this gallery is fed into the passages in the rocker studs. A small hole drilled