AUG 1999

The Hercules Engine News

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The question comes up quite frequently about WICO EK magneto systems. The following discussion will be as it applies to small size Hercules built engines. There are several things to consider. While this is not a detailed account of the magneto itself, there are a few basic things to keep in mind. The armature bushing should not be loose on the shaft. When it brakes, both sides should pull away from the magneto contacts at the same time. The points needs to be clean and free from oil. The magnets need to have a strong charge making it difficult to pull the armature away by hand.

Even though the magneto is in good shape, that does not necessarily mean that it will operate well on the engine. There is the matter of adjustment, wear and sluggishness of the tripping mechanism. The screw and bushing in the armature should be tight without any play. The slot in the tripping rocker arm should not be worn excessively. It is important to have the proper springs in the tripping mechanism. Any sloppiness of the side rod or the trip finger mounting needs to be corrected.

The following information is taken from the operators manual that will explain the whole adjustment process.

The numbers on Figures 15 and 16 will be used in the instructions on adjusting Wico magnetos. Figure 15 is a cut of a type P.R. showing the position of the trip finger No. 407 and armature No. 100, just before the contact between armature No. 100 and the face of the cores No. 107 has been broken. Figure 16 is cut of type E.K. showing position of the trip finger No. 407 and armature No. 100 after the contact between armature No. 100 and the face of the cores No. 107 has been broken, also at the point where trip finger No. 407 trips off of rocker arm No. 412 causing armature No. 100 to return to its original position.

Note—Type P.R. and type E.K. magnetos are alike except in size and the location of spring No. 97. Therefore the instructions on Wico magnetos will apply to both types.

ADJUSTMENTS

Latch-off of Trip Finger (See Figure 16)

The rocker arm (412) is provided with a screw (419) and locknut for adjusting the "latch-off" of the trip finger. This screw must be set so that the latch (407) will slip off the lip of the rocker arm just after the breaker points have been opened by the downward movement of the armature.

If the screw is screwed OUT too far the breaker points will not open and the magneto will not spark.

If the screw is screwed IN too far the trip finger will drive the armature down too far and possibly break the return spring or the parts that hold it.

This adjustment will be made originally by the engine builder and should not require attention thereafter. It has nothing whatever to do with the time of the spark.

If necessary, the adjustment can be made as follows:

Trip the armature (100) from its contact with the cores (107) and insert a strip of metal 7/64" thick between the armature and the face of the cores. Move the push rod slowly until the latch of the trip finger reaches the rocker arm. The edge of the latch should then just engage the edge of the lip of the rocker arm, and the adjusting screw (419) should be bearing on the top side of the latch (see Figure 16) so that the least further movement of the push rod will cause the latch to slip off the edge of the rocker arm.

If the latch does not engage the lip of the rocker arm when armature is set as above, the adjusting screw should be screwed in until the latch just engages. If the latch engages the lip of the rocker arm too much (more than 1/32"), unscrew the adjusting screw to give the proper engagement.

Loosen the locknut on the adjusting screw (419) before attempting to change adjustment and be sure to set it up tight after the adjustment has been made. Remove the metal strip before attempting to start the engine.

Wico Magneto

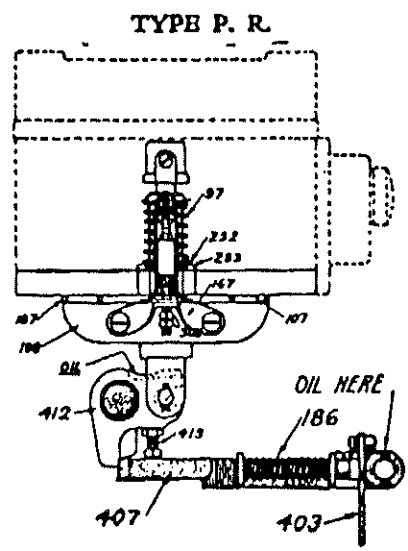

Figure 15

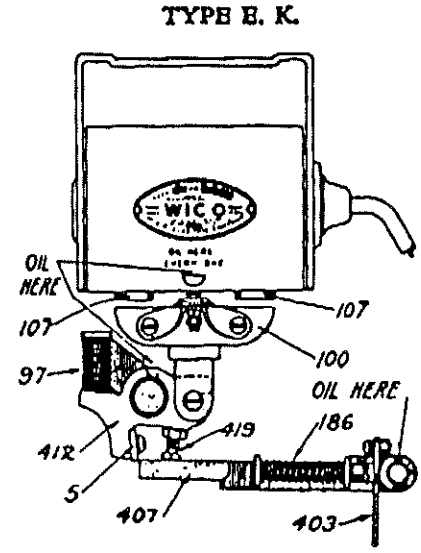

Figure 16

Adjustment of Breaker Points (See Figure 18)

The breaker point contacts are perfectly adjusted at the factory, and no readjustment will be required except when installing new contacts, at which time proceed as follows:

The breaker point contacts (301) and (223) should just touch when the armature (100) is 7/64" from the cores (107). To adjust, trip the armature from its contact with the cores, and insert a strip of metal 7/64" thick between the armature (100) and the face of the cores. Loosen the nuts (302) on the breaker point stem (see Figure 18), and turn the upper nut until the contact (223) just touches the contact (301). Then set up the lower nut tight against the upper nut. As soon as adjustment has been made, be sure to remove the strip that you placed between armature and cores.

Latch and Latch Block Edges (See Figures 15 and 16)

If the edge of the latch (407) becomes worn where it engages latch block (5), a fresh edge can be obtained by clamping the latch in a vise and pulling it out of the trip finger and giving it a quarter turn before replacing it. A fresh edge on the latch block (5) may be obtained by loosening the latch block crew and giving the latch block a quarter turn before replacing it. The screw is headed over at its outer end and the heading should be filed off before attempting to loosen the screw. Be sure to replace the lock washer and set screw up tight. The latch-off screw (419) should be removed to get at the latch block screw. After the latch block is replaced, the latch-off adjustment should be made as described under "Adjustment." ○