

DUAL CIRCUIT BREAKER AND SPARK COIL IGNITION SYSTEM

This bulletin gives the procedure for checking and adjusting the ignition spark timing on 1961 Duo-Glide models and earlier models which have this ignition system installed.

The timing instructions given in the 1961 Duo-Glide Rider Hand Book for timing the engine - using the front cylinder breaker points only, are satisfactory to use for approximate timing for emergency use. However, for fine tuning we recommend for shop use, the timing procedure given in this bulletin. The reason being that variations in circuit breaker points may effect the rear cylinder timing.

The following ignition timing procedure will give the highest possible timing accuracy through individual timing of front and rear cylinder breaker points.

TIMING PROCEDURE

Set both front and rear cylinder contact points at exactly .022". Individual point settings should be made when fiber cam follower is on the high lobe of the circuit breaker cam.

Remove both spark plugs and the timing inspection plug.

If engine is installed on motorcycle, remove front chain outer guard to permit use of engine sprocket nut wrench for accurate rotation and positioning of flywheel assembly.

Timing Front Cylinder

Connect one test lamp wire to circuit breaker yellow wire (removed from front spark coil terminal) and the other wire to the battery positive terminal. Battery negative terminal should be grounded to engine.

Make certain the circuit breaker is fully advanced against its stop. Turn engine flywheel shaft in direction in which it runs until the mark on the cam approaches the cam follower fiber on the front cylinder breaker points as shown in Figure 1. Install circuit breaker cover and continue rotating engine very slowly in the same direction until flywheel timing mark for front cylinder on flywheel just appears at the rear of the inspection hole. When the mark reaches this position as shown in Figure 2, front cylinder piston is 7/16" before top dead center and breaker contacts should open to make light go off.

If the light fails to go off, timing is too late. To correct, loosen adjusting stud lock nut on circuit breaker and rotate circuit breaker head in a counterclockwise direction (viewed from top) until timing light just flickers or goes off. Retighten stud lock nut.

If timing light goes off before timing mark enters inspection hole, timing is too early. To correct, follow same procedure as above, only circuit breaker head must be rotated in a clockwise direction.

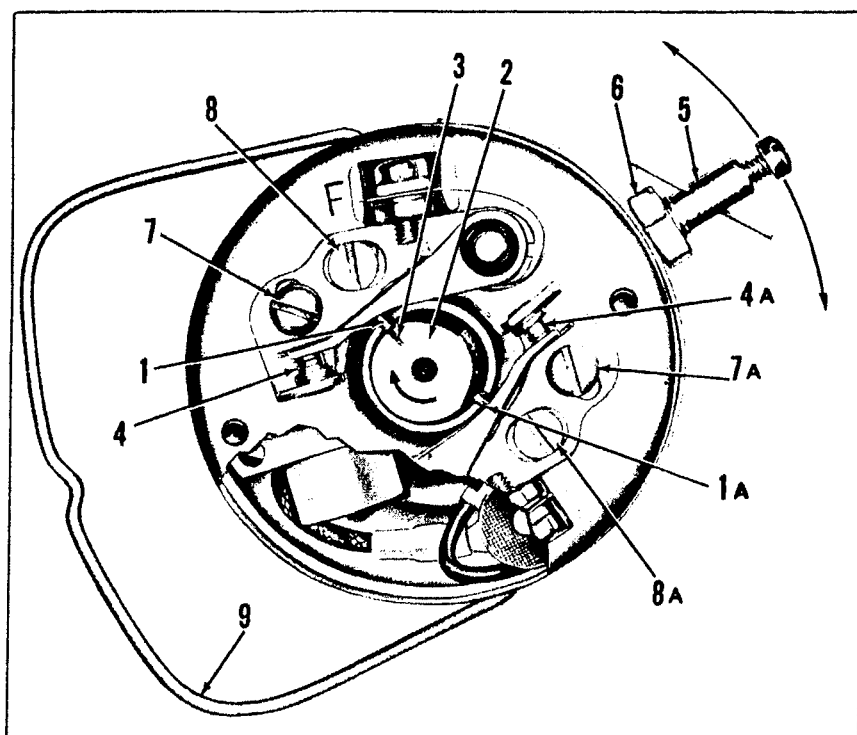


FIGURE 1. DUAL CIRCUIT
BREAKER

- | | |
|--|---|
| 1. Cam Follower, Front Cylinder Points | 7. Lock Screw, Front Cylinder Points |
| 1A. Cam Follower, Rear Cylinder Points | 7A. Lock Screw, Rear Cylinder Points |
| 2. Cam | 8. Adjusting Screw, Front Cylinder Points |
| 3. Cam Timing Mark | 8A. Adjusting Screw, Rear Cylinder Points |
| 4. Contact Points, Front Cylinder | 9. Cover Retainer |
| 4A. Contact Points, Rear Cylinder | |
| 5. Timing Adjusting Stud | |
| 6. Adjusting Stud Lock Nut | |

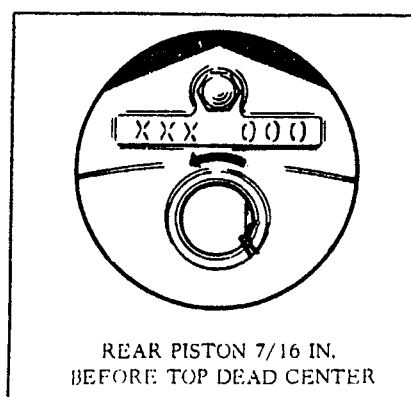
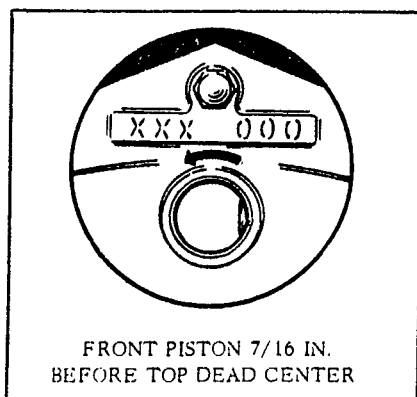


FIGURE 2. FLYWHEEL TIMING MARKS
(ON LEFT SIDE OF ENGINE)

Timing for front cylinder should now be double checked by following the same procedure from steps 5 through 7. Timing is correct when breaker contacts open to make timing light go off at exactly the same time the flywheel timing mark for front cylinder enters the rear of the inspection hole.

Timing Rear Cylinder

Connect one test lamp wire to circuit breaker black wire (removed from rear spark coil terminal) and the other wire to the battery positive terminal. Battery negative terminal should be grounded to engine.

Remove circuit breaker cover and fully advance circuit breaker.

Turn engine flywheel shaft in direction in which it runs until the mark on the cam approaches the cam follower fiber on the rear cylinder breaker points.

Continue rotating engine very carefully in same direction until timing mark for rear cylinder (marked "R" on flywheel) just appears at the rear of inspection hole.

When the mark reaches this position as shown in Figure 2, rear cylinder piston is 7/16" before top dead center and breaker contacts should open to make light go off.

NOTE: Flywheel is not marked for rear cylinder timing on 1961 Duo-Glide engines made prior to Engine No. 61FLH 7987. When flywheel is not marked, piston position must be used as an alternative to flywheel timing marks as follows:

Piston position can be determined by using spark timing gage Part No. 95885-61 which screws into rear spark plug hole. Gage rod contacts piston top to indicate piston position. Gage rod has two marks. When engine is turned over so gage rod has moved to highest point, (rear cylinder piston at top dead center) set gage collar exactly at lower mark on gage rod (See Figure 3). Piston position before top center is indicated when engine is turned over and piston moves so rod upper mark comes even with gage collar (See Figure 4). If timing gage is not available, rear cylinder head can be removed and piston position measured with a scale or dial indicator.

If timing light fails to go off when timing mark or piston reaches correct position timing is too late. If timing light goes off too soon, timing is too early.

To correct rear cylinder timing, the breaker points must be readjusted as follows:

With circuit breaker fully advanced against its stop and flywheel timing mark (or piston) for rear cylinder correctly positioned, contact points should just begin to open, "light off." The instant direction is reversed (circuit breaker retarded from full advance position), points should begin to close, "light on."

If contact points remain closed "light on" in the fully advanced position, timing is late - point contacts set too close together.

If contact points begin to open "light off" before circuit breaker is in fully advanced position, timing is early - point contacts set too far apart.

To correct rear cylinder timing, the breaker points must be readjusted so contact points just begin to open (timing light just flickers or goes off) when circuit breaker is fully advanced.

NOTE: This will result in a different point contact opening than original setting of .022 in.

Reinstall circuit breaker cover and with circuit breaker fully advanced recheck rear cylinder timing as before by rotating engine. Timing light should go off when flywheel timing mark or piston for rear cylinder reaches correct position. Readjust rear cylinder circuit breaker point contact gap as necessary to obtain correct timing.

NOTE: If engine is in chassis, test lamp can be connected to front or rear circuit breaker wire (disconnected from terminals on spark coils) and to engine ground. With ignition turned on, lamp will light with points open and go off with points closed (exactly opposite from battery hookup previously described).

