

Subject: Removal- and installation of magneto

Affected engine models: All engine models

L 1700
L 2000
L 2400

I. Removal:

1. Switch off ignition.
2. Remove high tension leads from the spark plugs.
3. Rotate engine to firing position as follows:
 Rotate the engine at the crankshaft until the timing mark on the propeller hub resp. starter ring gear lines up with the parting surface of the crankcase (on the L 2400 EB1.AD the timing pin P/N: 803.001.125 fits through a bore in the accessory case and must engage with a notch in the fly-wheel). The valves of the no.2 cylinder must either be crossing over or the no.1 cylinder must be at the end of it's compression cycle (feel pressure buildup by closing the spark plug bore of the no.1 cylinder by closing it with your thumb while rotating the crankshaft). If this is not the case rotate the crankshaft one full revolution.

 Turn engine slowly until the impulse coupling of the magneto "snaps" (apprx. 30°) and thereafter rotate the engine backwards to the firing position (timing mark and crankcase parting surface line up resp. timing pin engages on L 2400 EB1.AD engines).

Caution: If the engine is equipped with a vacuum pump, turning of the engine against it's rotation sense must be reduced to the absolute minimum.

4. Remove ignition harness from the magneto.
Note: mark position of harness cap relative to the magneto before removing.
5. Disconnect cut-off cable.
6. Unscrew fastening bolts for the magneto and remove it.
Note: it may be necessary to remove the ignition harness after removing the magneto on inconvenient engine installations.

II. Installation of magnetos type SLICK 4201, 4230, 4301, 4330

1. Remove protection cap (if there).
2. Check clearance of the magneto. To do so, determine the dimensions a, b, c and d. Insert values into the formulas and calculate the clearance.

 Formulas: $a - c = \text{clearance}$ and $b - d = \text{clearance}$ select smaller value

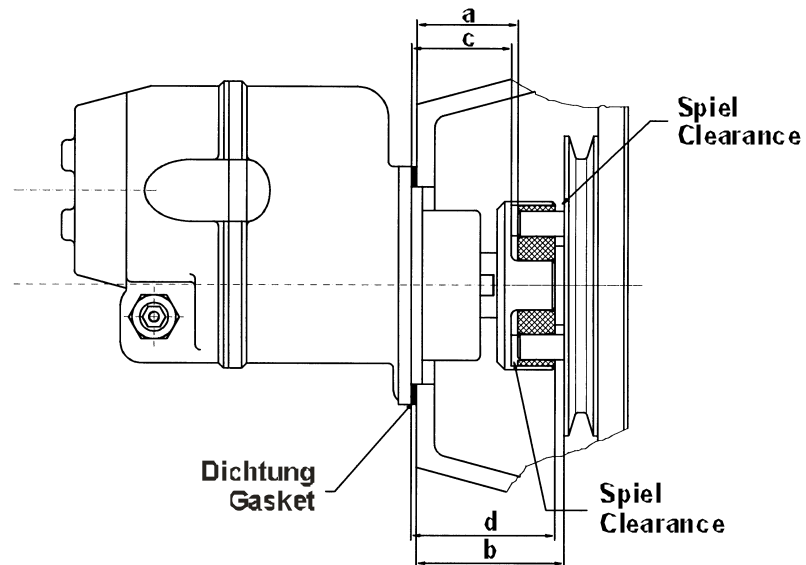
 The nominal installation clearance is 1.0 to 1.5 mm for EA-type engines and 2.0 to 3.5 mm for E0-, EB- and EC-type engines. The difference to the calculated clearance is adjusted by means of gaskets for the EA-type engines (there are two thicknesses available 0.5 and 1.0 mm). On E0-, EB- and EC-type engines the clearance is adjusted by means of gaskets or shims placed underneath the magneto flange

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3. Push locating pin W 113 into the bore marked:

- "R" of the distributor cap for SLICK 4230, 4330
- "L" of the distributor cap for SLICK 4201, 4301 magnetos.

Rotate the magneto drive slowly against its rotational sense (counterclockwise for SLICK 4230, 4330; clockwise for SLICK 4201, 4301) until the locating pin engages. In this position the magneto is locked for installation on the no.1 cylinder.



Caution: If there is any noticeable resistance while turning the magneto before the locating pin is engaged, lift the pin slightly until the magneto drive can be turned. Do not force the magneto drive. After aprx. 10° rotation reinsert locating pin.

4. Install new gasket.

5. Check whether engine is still in firing position for no.1 cylinder. Otherwise adjust the engine as described in the section removal.

6. Insert magneto into the accessory case resp. magneto mount. Install bolts, spring washers, washers and magneto clamps. Remove locating pin. Tighten bolts such that the magneto may still be turned by hand.

7. Connect timing light type Limbach P/N 170.235.010 or SLICK Timing Light Mod. 2300 with the red or green (if available) lead to the ground terminal on the magneto. Connect the blank or black lead to ground.

Caution: Do not use any other adjusting tool, since electrical currents may destroy the magneto.

8. Adjust timing.

For SLICK 4230, 4330:

Switch timing light on. Rotate magneto by hand in engine rotating sense until the light turns off. Then turn the magneto slowly backwards until the timing light just comes on. Torque fastening bolts for the magneto in this position (20 Nm).

For SLICK 4201, 4301:

Switch timing light on. Rotate magneto by hand against the engine rotating sense until the light turns off. Then turn the magneto slowly backwards until the timing light just comes on. Torque fastening bolts for the magneto in this position (20 Nm).

9. Check timing.

Turn the engine in its rotational sense until the impulse coupling "snaps". Turn engine backwards until about 10mm beyond the timing mark (not more, because the impulse coupling may engage once

more) and slowly line up the timing mark with the crankcase parting surface. When lined-up or when the timing pin P/N: 803.001.125 is engaged (L 2400 EB1.AD) the timing light must just come on. Otherwise the timing has to be corrected.

10. Install and secure cut-off cable (1,5 Nm).
11. Install ignition harness on magneto.
12. Install spark plug on no.1 cylinder (25 Nm) resp. valve cover.
13. Connect high tension leads to the spark plugs.
The installation must be documented in the log-book.

Caution: Check for foreign objects in the engine compartment after completion of work. Remove timing pin P/N: 803.001.125 on L 2400 EB1.AD engines

III. Installation of magneto type SLICK 4030

1. Remove protection cap (if there).
2. Check magneto clearance and adjust as per paragraph. II.2
3. Install ignition harness on magneto.
4. Hold high tension lead of the no.1 cylinder in a distance of aprx. 5 mm to the magneto ground. Rotate the magneto drive in its rotational sense (clockwise) until a spark jumps on no. 1 cylinder. Then turn magneto drive backwards aprx. 30°. Make sure, that the impulse coupling doesn't engage again.
5. Install magneto and adjust timing according to section II.

IV. Installation of magneto type BENDIX S4RN21

1. Unscrew inspection plug on the top of the magneto.
2. Check magneto clearance and adjust as per para. II.2
3. Rotate magneto slowly against its rotational sense (counterclockwise) until a tooth marked red on the distributor drive gear becomes visible in the inspection hole. Close inspection hole.
4. Install magneto and adjust timing according to section II.