

Adjusting the Pekar K68 for your Dnepr or Ural  
Adjustment section translated from Pekar K68 manual



## Adjusting the Pekar K68 carburetors on your Dnepr or Ural.

This document is intended to serve as the primer for proper adjustment of the K68's. It also contains the product specification sheet from Pekar for all of the K68 models. I will talk about the use of different tools used for the synchronization step, but will not go into detail on each tool. As part of this step, I will explain the "old timer" method of synchronizing the 2 carbs without the use of any special tools (placing the bike on the centerstand and using the speedometer to determine carburetor flow). This is very interesting to say the least.

### Pekar Specifications

The following is taken directly from Pekar (translated):

K6E, K68D, K68I, K68M, K68R, K68T, K68U, K68CH



- Horizontal flow
- Elliptical diffuser
- Cylindrical slide
- Centrally located float chamber
- Lever type float mechanism and detachable fuel line
- Adjustable idle
- Adjustable mixture and needle valve
- Hands free choke operation
- Symmetrical choke and throttle cable
- Synchronization port
- Float vent system

<b>Carburetor</b>	<b>Transportation means</b>	<b>Engine</b>	<b>Conditional diameter of diffuser (mm)</b>	<b>Diameter of mixing chamber (mm)</b>	<b>The capacity of fuel jet (ml/min)</b>	<b>Mass, is not more (kg)</b>	<b>Overall sizes (mm)</b>	<b>Drive of the starter</b>
<b>K68 A</b>	the motorcycle IZH-6.113-03	<b>IZH-6.113-03</b>	28	31,5	250	0,55	77,5*81*155	Manual
<b>K68 D</b>	the motorcycle "IJ- Jupiter "	<b>IZH- Ю5</b>	28	31,5	250	0,55	77,5*81*155	Manual
<b>K68 I</b>	the motorcycle "the IJ- planet	<b>IZH - П5, -7.107-10</b>	32	35	280	0,55	77,5*81*157	Manual
<b>K68 M</b>	the motorcycle IZH-'902	<b>IZH - 6.902</b>	32	35	320	0,55	77,5*81*157	Manual
<b>K68 P</b>	"Lynx"	<b>440.76, 440.93</b>	32	35	370	0,55	77,5*81*144	Manual
<b>K68 T</b>	"Ural" Motorcycles	<b>IMZ-8.128</b>	28	31,5	220	0,55	77,5*81*189	Electric
<b>K68 U</b>	"Ural" Motorcycles	<b>IMZ-8.123</b>	28	31,5	190	0,55	77,5*81*189	Manual
<b>K68 H</b>	motorcycle "IJ-chopper"	<b>IZH-6.113-05</b>	28	31,5	240	0,55	77,5*81*155	Manual

**Specification Chart from russianiron.com**

	<b>K63Ø 'Dnepr-12' K750</b>	<b>K63T Dnepr 11/16</b>	<b>K63y Ural</b>	<b>K65T Dnepr</b>	<b>K65y Ural</b>	<b>K68y Ural</b>
Choke size	26	26	28	26	28	28
Bore at flange	28	28	30	28	30	30
Main jet size (cc/min.)	135	163	170	165	170	190
Needle jet size (mm)	2,78	2,78	2,78	2,65	2,65	2,67
Pilot jet (cc/min)	50	50	50	50	50	50
Choke jet (cc/min)	55	55	55	55	55	55
'Diameter opening idle' (note 1)	0,7	0,7	0,7	0,7	0,7	0,7
'Diameter transition opening' (note 2)	1,2	1,2	1,2	1,2	1,2	0,8
Slide type	Flat	Flat	Flat	Flat	Flat	Round

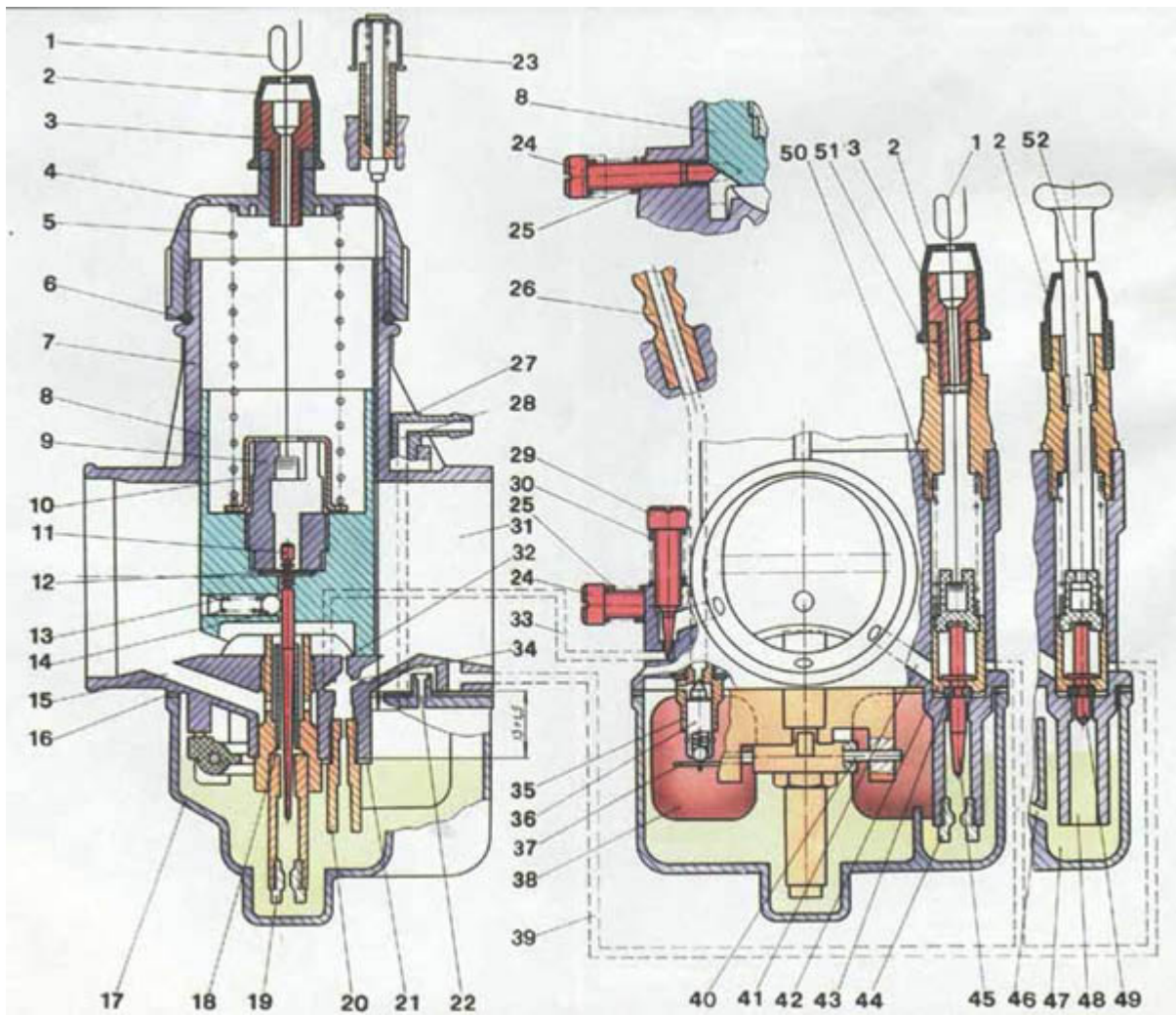


Figure 1  
K68

### From Figure 1

- |  |   |
|--|---|
| 1. throttle cable;                         | 27. balancing port;                                   |
| 2. shielding caps;                         | 28. balancing channel of float chamber;               |
| 3. cable guide;                            | 29. mixture adjustment screw;                         |
| 4. cover of choke well;                    | 30. spring of screw;                                  |
| 5. spring of choke;                        | 31. mixing chamber;                                   |
| 6. ferrule;                                | 32,34. transitional openings of the system of idling; |
| 7. housing;                                | 33. air duct of idling;                               |
| 8. slide;                                  | 35. saddle of fuel valve;                             |
| 9. cable catch;                            | 36. fuel valve in the collection;                     |
| 10. cable stop;                            | 37. regulation element;                               |
| 11. needle of choke;                       | 38. float;  |
| 12. lock of needle;                        | 39. channel of starter;                               |
| 13. spring of the compression of needle;   | 40. axis of floats;                                   |
| 14. slide bevel;                           | 41. air duct;   |
| 15. air duct of main system;               | 42. plunger of starter in the collection;             |
| 16. padding of the cover of float chamber; | 43. ferrule;  |
| 17. cover of float chamber;                | 44. jet;  |
| 18. sprayer;                               | 45. needle of corrector- enricher;                    |
| 19. main fuel jet;                         | 46. opening dosing;                                   |
| 20. dosing tube of the system of idling;   | 47. fuel well;  |
| 21. stopping washer;                       | 48. the fuel duct of starter;                         |
| 22. drain hole;                            | 49. needle of starter;                                |
| 23. float activator (tickler);             | 50. spring of plunger;                                |
| 24. slide (idle) adjusting screw;          | 51. guide of spring;                                  |
| 25. spring of screw;                       | 52. Choke.  |
| 26. fuel-feed nipple;                      |   |

### Preparation for K68 Adjustment

1. Make sure the ignition timing is correct
2. Adjust the valves as necessary to ensure proper operation
3. Run the engine to warm it up a bit
4. Adjust the float setting. To do this, remove the carburetors (leave the throttle cables attached), remove the bowl and turn the carburetor upside down (fuel will spill). The float should look like this:



Adjust as necessary by bending the float support (#37 in Figure 1). Reinstall.

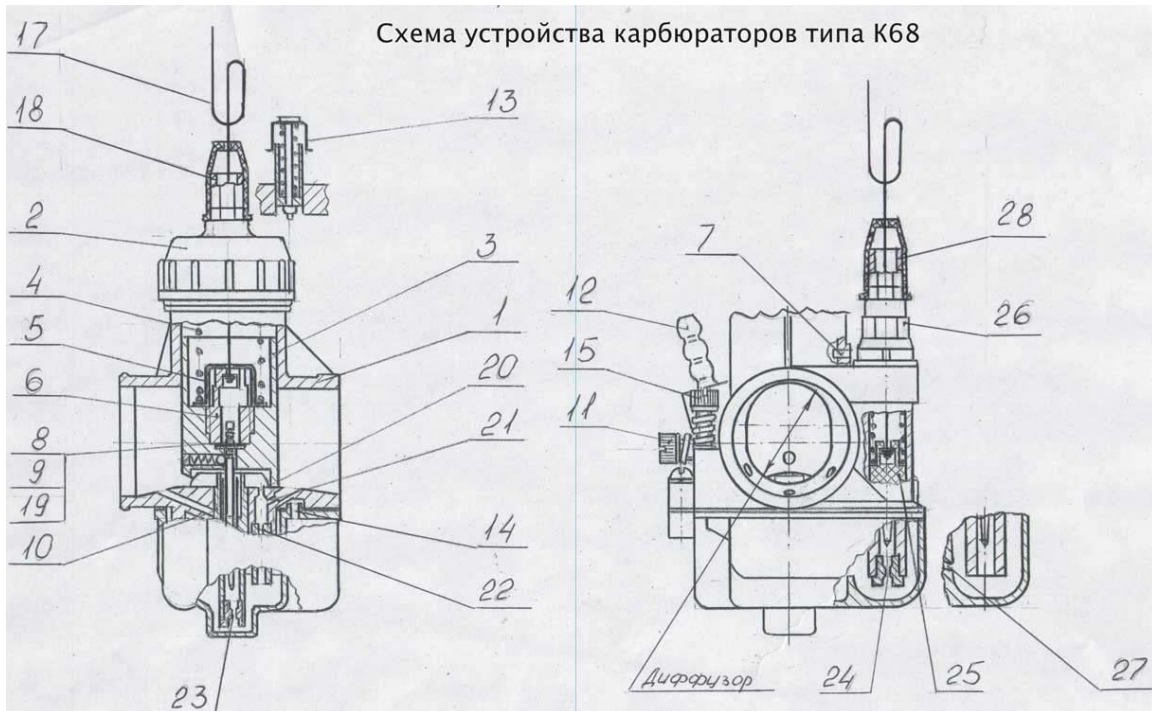


Figure 2

## Installation and idle adjustment

1. First you must adjust the idle. It is acceptable per the manual to adjust the idle by using the idle adjust screws (11). This usually involves screwing them then backing out 1 to 1.5 turns. Or you can adjust looking at the sliders
2. If installing the carburetors:
  - a. Remove the cover (2)
  - b. Remove the slider (3)
  - c. Place the throttle cable through the guide (18) with the spring (4) on the cable.
  - d. Route the cable through the slide catch (6)
  - e. Insert the slide assembly into the chamber and make sure it easily slides up and down. Direct the needle (8) into the opening of the diffuser (angled side visible).
  - f. Screw assembly together and verify via throttle movement that slide moves freely. Attach fuel delivery lines to (12).
3. Using the idle set screw (11) raise the slider so the lower edge is 1-2 mm.
4. Assemble to engine using the proper gaskets (paper – felt – paper).
5. Using the locknut (26) adjust the free play of the throttle cable (2-3 mm)
6. Adjust the idle mixture screw – turn in completely then out 1 to 1.5 turns.

□

## Starting using the K68's (cold weather)

1. Verify fuel flow. Apply choke (pull 52 in Fig1).
2. Using the ticklers (13) allow fuel to enter the bowl until fuel drains from (14)
3. With the ignition off, kick 1 or 2 times
4. Turn ignition on, and as soon as engine is warmed up (maybe sooner) push choke mechanisms to open choke

## **Idle Adjustment (engine running and warm)**

1. Remove one of the spark plug caps, and with the cap shorted, adjust (11) to decrease RPM's to a point of being minimally steady.
2. Adjust the mixture (15) out until RPM's decrease. Turn in until RPM's increase slightly. Then turn in screws  $\frac{1}{4}$  to  $\frac{1}{3}$  revolution.
3. Do the same for the second carburetor with the first spark plug cap shorted.
4. With both cylinders, adjust each idle (11) on each carburetor the same amount each until it's at a steady, minimal RPM. Use small changes. (at this point you can use your airflow tool to check).
5. Sharply increase, then decrease throttle. Then engine must return to low RPMs smoothly. If the engine goes below limits, readjust (11) from step 4.

## **Synchronization of the K68**

Note: Rather than using the opposite cylinder shorted to test the pull of the live cylinder carburetor, you can use something like a Twinmax connected to the test ports (27 Fig 1). Or, if you have a model without these ports, use a Synchronometer (Appendix 2) held against the face of the carburetor. These tools merely show airflow passing through each carburetor (which is dependent on the position and wear on the slide). If using these tools, it's not necessary to do the following steps. You will want to use a throttle guide (Appendix 1), to show airflow at various throttle settings. Using the flow meter of your choice make sure each carburetor is the same at the various throttle settings.

1. Place the motorcycle on the center stand ensuring the rear wheel is suspended
2. Make sure you have large area to work with (safety issues here)
3. Shift into the highest gear with the engine running
4. Short one spark plug cap to the cylinder (using a nail or something in the fins)
5. Increase the speed to 40-50 km/hr
6. Fix the throttle using the throttle (maybe using a throttle stop screw under the throttle housing).
7. Reconnect other cylinder and using the opposite carburetor determine the speed which should be the same as the first.
8. Adjust the position of this slide to achieve the referenced speed using the locknut at the top of the carburetor.

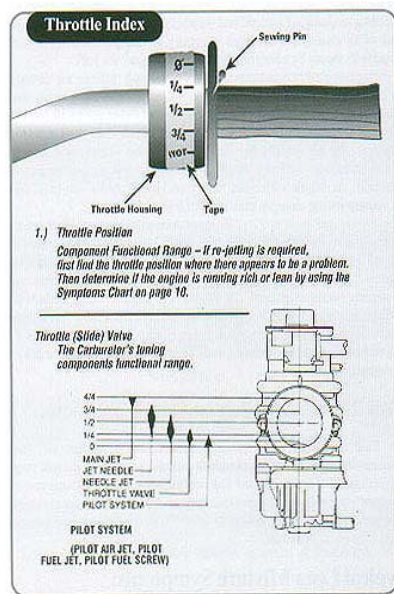
## **Adjustment of the mixture due to climactic condition changes.**

This involves changes to the needle valve (8 and 9 Fig 1) (11 and 12 Fig 2). With the needle moved upward, the mixture is leaned, movement down and the mixture is enriched. Needle movement occurs through removal of the lock and moving the needle to the next groove (coarse adjustment). Fine adjustment occurs through transposition of regulation washer (9 Fig 1) (19 Fig 2).



## **Special Operating Instructions**

Disconnect the fuel before maintenance on K68's. Must be used with a tightly connected air filter of manufacturers specification only. A modification of filter or manufacturer is not allowed. Fuel used must be cleaned and filtered of all impurities. Carburetor parts must be washed in gasoline only. Washing is not allowed with solvents. After washing, blow with compressed air to dry. Cleaning any of the metering holes (20,21 Fig 2) or nozzle holes (22, 23, 24 Fig 2) with metallic objects (wire, needle, etc.) is not allowed.

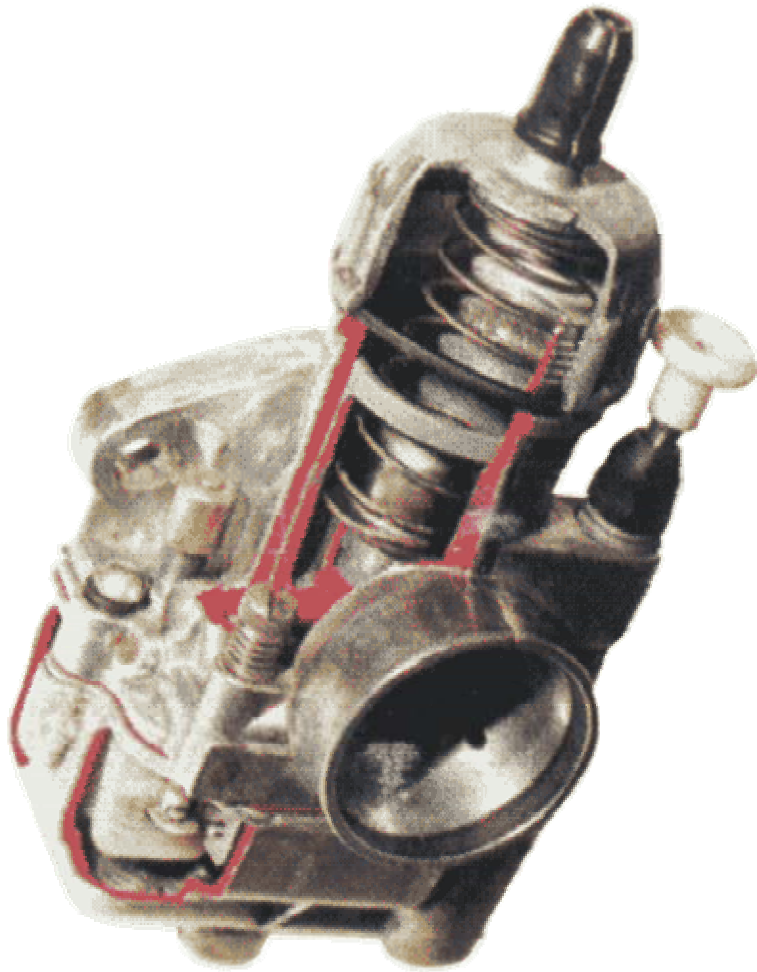


## Appendix 1

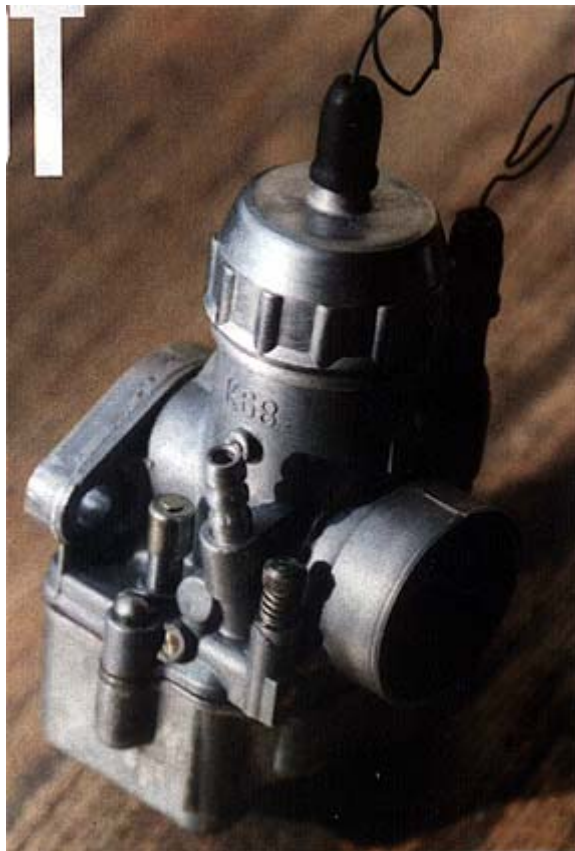
### Fixing the throttle and stages of operation

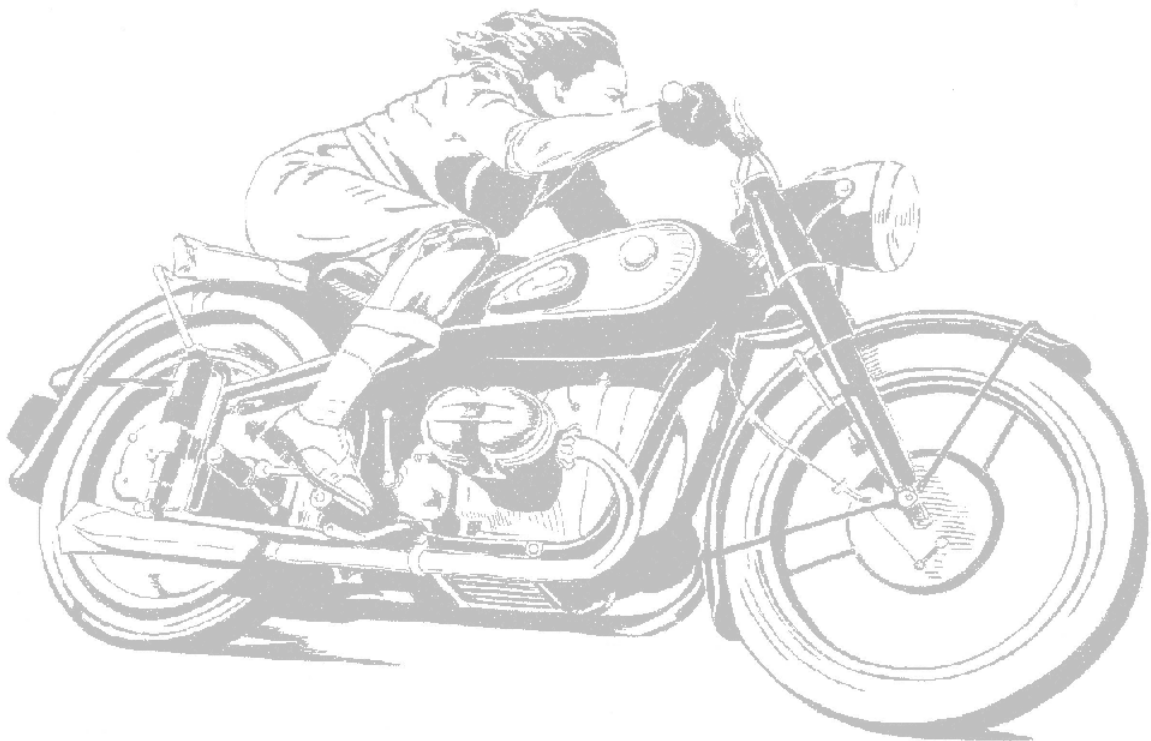
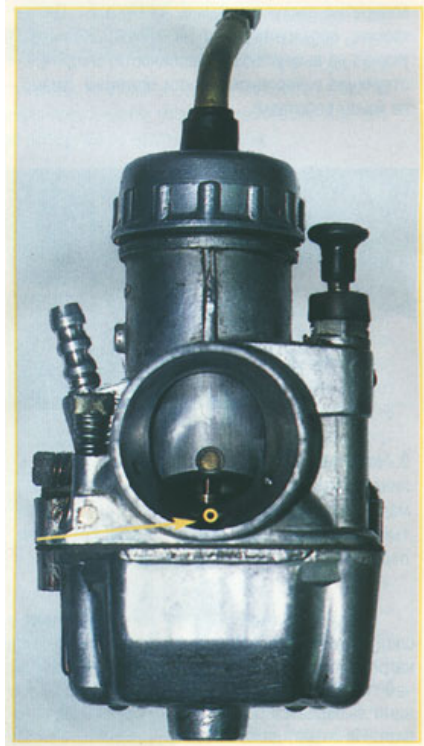


Appendix 2  
Synchrometer (an alternative to tuning)  
Used this on my 912 and it works great



Appendix 3  
Cutaway K68





[www.ClassicCycles.org](http://www.ClassicCycles.org)