



***Ural (Урал) - Днепр
(Днепр)
Russian Motorcycle
Carburetors
Part 7: K-63 Carburetor***

(see also Part 7A- Pekar K-63 Carbs and Part 7B- Setting K-63 Carbs)

***Ernie Franke
eaf Franke@tampabay.rr.com
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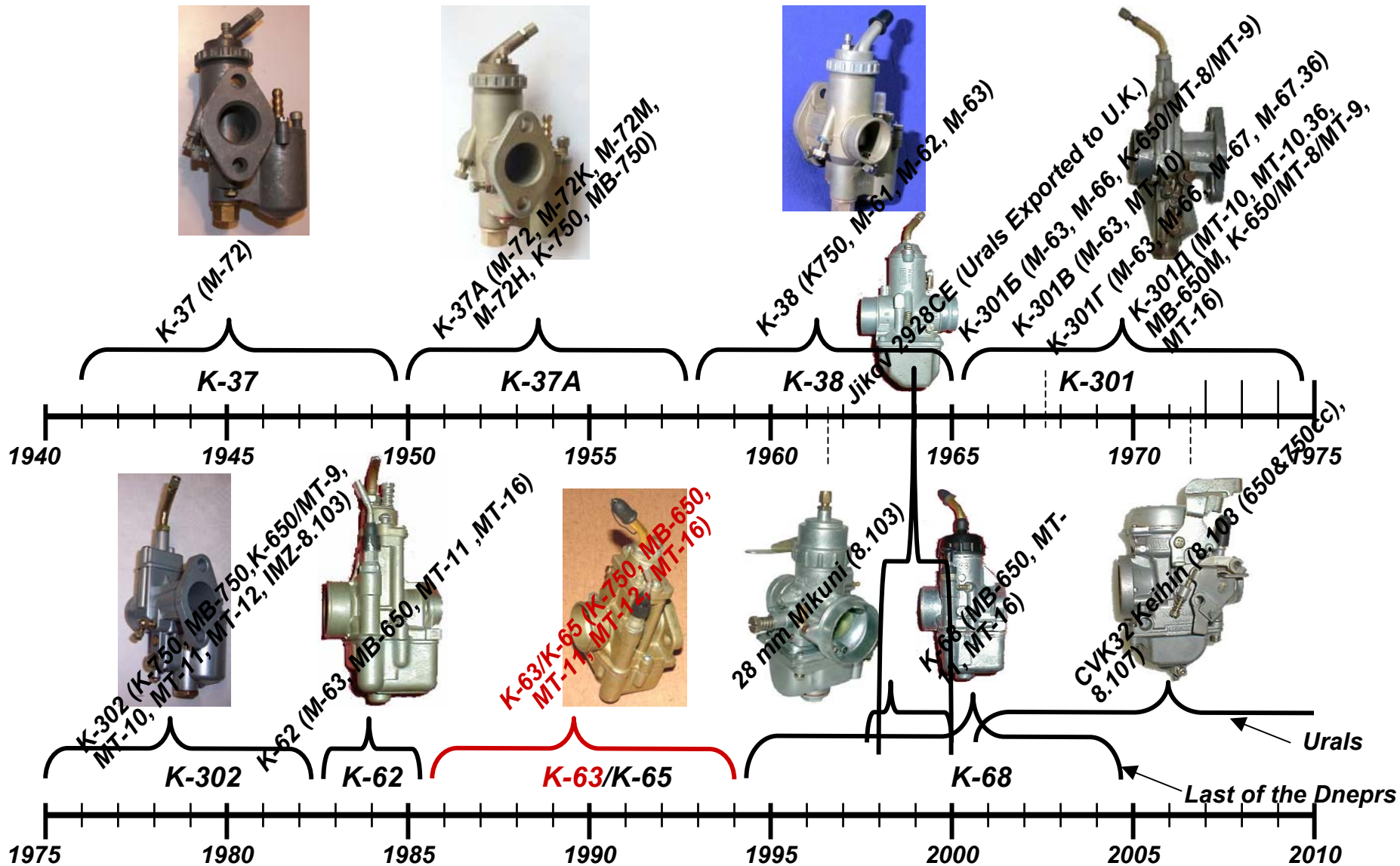
K-63 Carburetor

- **Common Carburetors Found on Urals and Dneprs**
- **K-63Φ (K-63F in English) Introduced to Dnepr K-750M and Later to MT-12**
- **K-63T (most popular) Introduced in 1985 on Dnepr MT-11 and MT-12**
- **K-63Y (K-63U in English) Introduced to Modern (8.101) Urals in 1998**
- **Significant Improvement Over Predecessor K-301 / K-302**
- **Similar to K-62 Carburetor**
 - **Enrichener Added for Cold-Start Prime (twist up ¼ turn to lock)**
- **Very Reliable, but Needs Setting Often to Remain in Peak Condition**
- **Left and Right-Hand Versions Identical**
- **Flange Bolts Directly on Cylinder Head**
- **Later Replaced with K-65**
- **Re-Build and Repair Kits Readily Available**



The *K-63* carburetor predominantly appeared in the late 1980's, on Dnepr MT-16 and MT-11 and modern Ural 8.103 (650 cc).

Russian Carburetor Time-Line (09/2012)



We have seen the gradual migration of the K-37 to the K-37A and then the K-38. The K-301 went through several iterations before the K-302 came along, followed by the K-Series carburetors.

Table I: KMZ (KM3) - Dnepr (Днепр) Sidecar Model/Year vs. Engine and Carb (09/2012)

<i>Model</i>	<i>Use</i>	<i>Year</i>	<i>Engine Size (cm³ / inch³)</i>	<i>Compression Ratio</i>	<i>Horse Power BHP (hp / kW)</i>	<i>Max Power (rpm)</i>	<i>Voltage</i>	<i>Carburetor</i>
<i>M-72</i>	<i>Military</i>	<i>1952-56</i>	<i>746 / 45.3 SV</i>	<i>5.5:1</i>	<i>22 / 16.2</i>	<i>4,500-4,800</i>	<i>6-Volt</i>	<i>K-37A (1950)</i>
<i>M-72H</i>	<i>Military</i>	<i>1956-59</i>	<i>746 / 45.3 SV</i>	<i>5.5:1</i>	<i>22 / 16.2</i>	<i>4,500-4,800</i>	<i>6-Volt</i>	<i>K-37A (1950)</i>
<i>K-750</i>	<i>Military</i>	<i>1959-63</i>	<i>746 / 45.3 SV</i>	<i>6.0:1</i>	<i>26 / 19.1</i>	<i>4,600-4,800</i>	<i>6-Volt</i>	<i>K-37A (1950), K-38</i>
<i>K-750M</i>	<i>Military</i>	<i>1963-77</i>	<i>746 / 45.3 SV</i>	<i>6.0:1</i>	<i>26 / 19.1</i>	<i>4,500-4,800</i>	<i>6-Volt</i>	<i>K-37A, K-302, K-63Φ</i>
<i>MB-750</i>	<i>Military 2WD</i>	<i>1964-73</i>	<i>746 / 45.3 SV</i>	<i>6.0:1</i>	<i>26 / 19.1</i>	<i>4,600-4,900</i>	<i>6-Volt</i>	<i>K-37A, K-302</i>
<i>K-650/MT-8</i>	<i>Civilian</i>	<i>1967-70</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1</i>	<i>32 / 23.5</i>	<i>5,000-5,200</i>	<i>6-Volt</i>	<i>K-301Б, K-301Д</i>
<i>K-650/MT-9</i>	<i>Civilian</i>	<i>1971-74</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1</i>	<i>32 / 23.5</i>	<i>4,800-5,200</i>	<i>6-Volt</i>	<i>K-301, K-301Б, K-301Д, K-302</i>
<i>MB-750M</i>	<i>Military 2WD</i>	<i>1973-77</i>	<i>746 / 45.9 SV</i>	<i>6.0:1</i>	<i>26 / 19.1</i>	<i>4,500-4,900</i>	<i>6-Volt</i>	<i>K-302</i>
<i>MT-10</i>	<i>Civilian</i>	<i>1973-76</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1 (7.5:1)</i>	<i>32 / 23.5 (36 / 26.5)</i>	<i>5,600-5,800</i>	<i>12-Volt</i>	<i>K-301Б, K-301Д</i>
<i>MB-650M</i>	<i>Military 2WD</i>	<i>1969-1974</i>	<i>649 / 39.4 OHV</i>	<i>7.5:1</i>	<i>36 / 26.5</i>	<i>5,000-5,200</i>	<i>12-Volt</i>	<i>K-301Д</i>
<i>MT-10.36</i>	<i>Civilian</i>	<i>1976-87</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1 (7.5:1)</i>	<i>32 / 23.5 (36 / 26.5)</i>	<i>5,600-5,800</i>	<i>12-Volt</i>	<i>K-301Д</i>
<i>MT-12</i>	<i>Civilian 2WD</i>	<i>1977-85</i>	<i>746 / 45.3 SV</i>	<i>6.0:1</i>	<i>26 / 19.1</i>	<i>5,000-5,800</i>	<i>6-Volt</i>	<i>K-302, K-63Φ</i>
<i>MB-650</i>	<i>Civilian 2WD</i>	<i>1968-91</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1</i>	<i>32 / 23.5</i>	<i>5,000-5,200</i>	<i>12-Volt</i>	<i>K-301, K-62, K-63T (1985), K-65T, K-68</i>
<i>MB-650-M1</i>	<i>Military (MT-16)</i>	<i>1985-2007</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1</i>	<i>32 / 23.5</i>	<i>5,000-5,200</i>	<i>12-Volt</i>	<i>K-301Б</i>
<i>MT-16 (Dnepr-16)</i>	<i>Civilian & Military 2WD</i>	<i>1985-2005</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1 (7.5:1)</i>	<i>32 / 23.5 (36 / 26.5)</i>	<i>5,600-5,900</i>	<i>12-Volt</i>	<i>K-301Д, K-62, K-63T (1985), K-65T, K-68</i>
<i>MT-11 (Dnepr-11)</i>	<i>Civilian</i>	<i>1987-2005</i>	<i>649 / 39.4 OHV</i>	<i>7.0:1 (7.5:1)</i>	<i>32 / 23.5 (36 / 26.5)</i>	<i>4,800-5,200</i>	<i>12-Volt</i>	<i>K-301Д, K-302, K-62, K-63T (1985), K-65T, K-68</i>

Dnepr principally used the *K-63T* carburetor in the *MT-11* and *MT-16*.

Table II: IMZ (ИМЗ) - Ural (Урал) Sidecar Model/Year vs. Engine and Carburetor (09/2012)

Model	Use	Year	Engine Size (cm ³ / inch ³)	Compression Ratio	Horse Power BHP (hp / kW)	Max Power (rpm)	Voltage	Carburetor
M-72	Military	1941-56	746 / 45.3 SV	5.5:1	22 / 16.2	4,500-4,800	6-Volt	K-37, K-37A after 1950
M-72K	Military	1954-60	746 / 45.3 SV	5.5:1	22 / 16.2	4,500-4,800	6-Volt	K-37A (1950)
M-72M	Military	1956-60	746 / 45.3 SV	5.5:1	22 / 16.2	4,500-4,800	6-Volt	K-37A (1950)
M-61	Civilian	1958-60	649 / 39.4 OHV	6.2:1	28 / 20.6	4,800-5200	6-Volt	K-38
M-62	Civilian	1961-65	649 / 39.4 OHV	6.2:1	28 / 20.6	4,800-5,200	6-Volt	K-38
M-63 (Ural-2)	Civilian	1965-68	649 / 39.4 OHV	7.0:1	32 / 23.5	5,200-5,800	6-Volt	K-38, K-301, K-301Б, K-301В, K-301Г, K-301Д, K-62
M-66 (Ural-3)	Civilian	1968-72	649 / 39.4 OHV	7.0:1	32 / 23.5	5,600-5,900	6-Volt	K-301, K-301Б, K-301Г
M-67	Civilian	1973-75	649 / 39.4 OHV	7.0:1	32 / 23.5	5,000-5,200	12-Volt	K-301Г
M-67.36	Civilian	1976-95	649 / 39.4 OHV	7.0:1	36 / 26.5	4,600-4,900	12-Volt	K-301Г
8.103, 8.107 Series "650"	Civilian	1994-2002	649 / 39.4 OHV	7.0:1	36 / 26.5	5,000-5,200	12-Volt	K-302, K-63Y, 28mm Mikuni (1994), Keihin CVK32 (2000)
8.103 "750"Series	Civilian	2003-present	745 / 45.2 OHV	8.6:1	45 / 29	5,600	12-Volt	Keihin CVK32 (2000)

Ural used the K-63Y (K-63U in English) carburetor in early versions of its 8.103 Series "650 cc".

K-63 Parts Diagram Figure 1

1. Steady-State Adjustment Screw (Idle Adjust)

5. Throttle Cap

6. Throttle Spring

Horizontal Flange Manifold Mount

12-14. Tickler

11. Fuel Feed Fitting

16. Idle Mixture Adjustment Screw

17. Idle Mixture Adjustment Spring

18. Idle Jet

19. Needle Jet Assembly

26. Throttle Cable Guide

25. Lower-Limit Throttle Valve Travel (discard after engine break-in)

10. Flat-Slide Throttle Valve

24. Throttle Jet Needle Bar (Cleat)

23. Enrichener (Cold-Start)

28. Floats

29. Float Axle

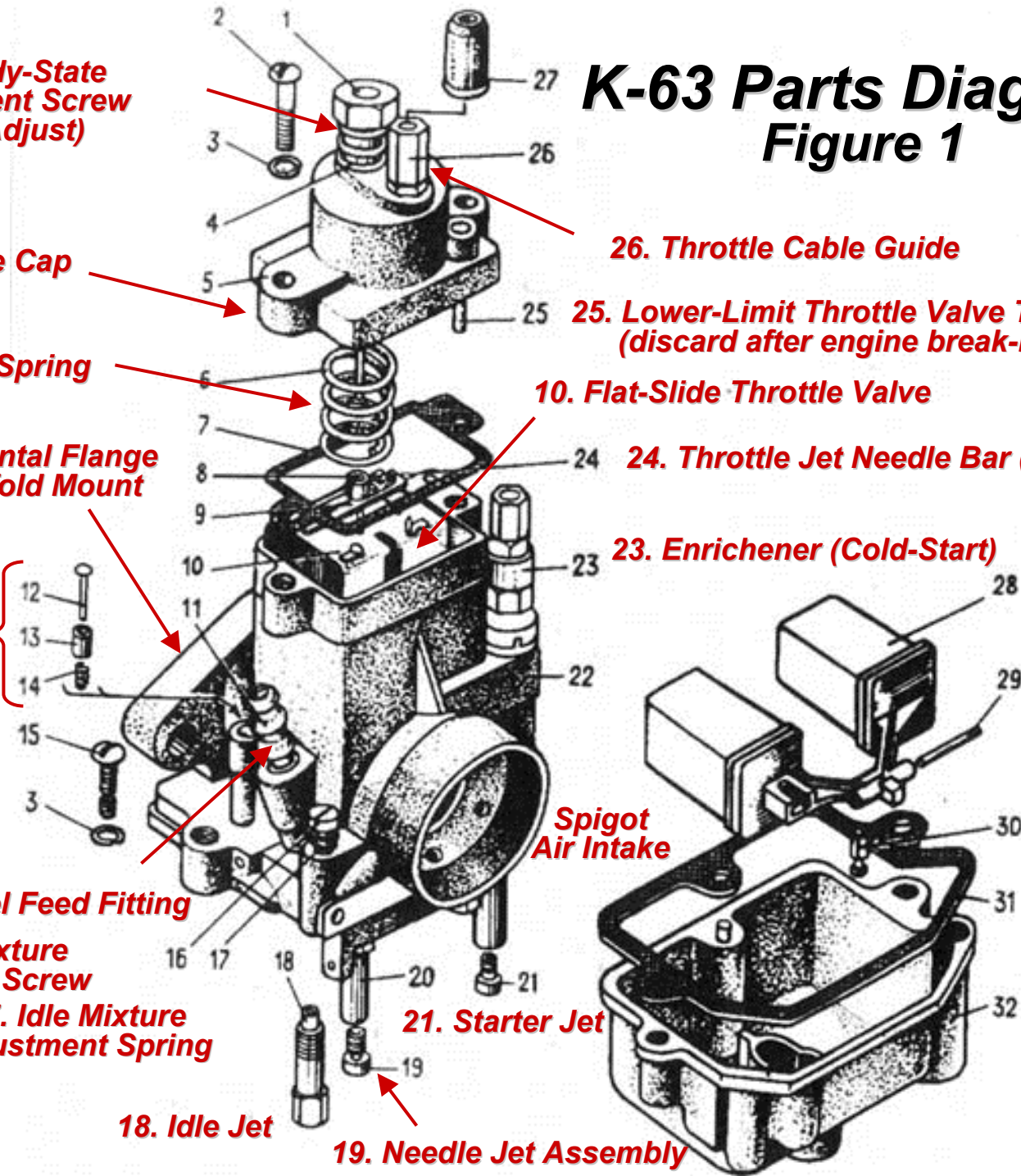
30. Float Valve

31. Gasket

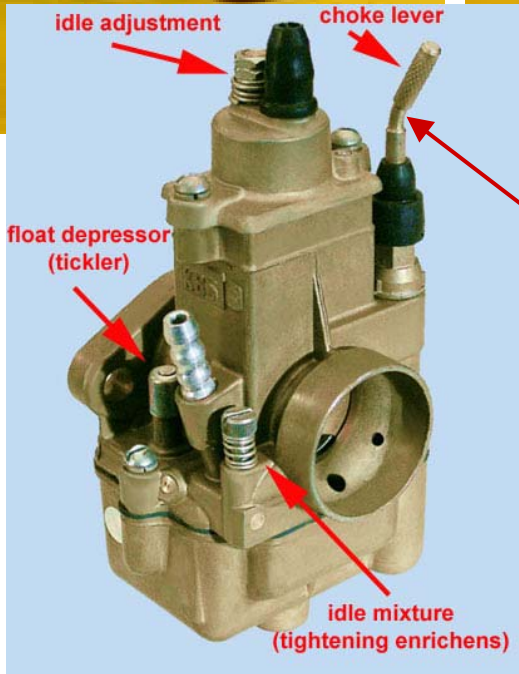
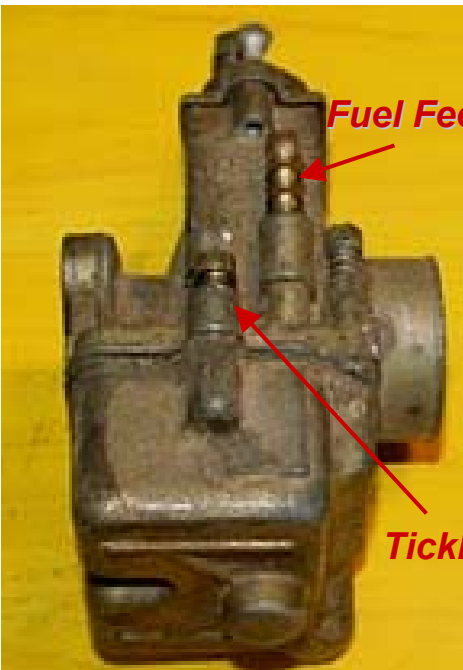
32. Float Chamber

Spigot Air Intake

21. Starter Jet



K-63 Carburetors

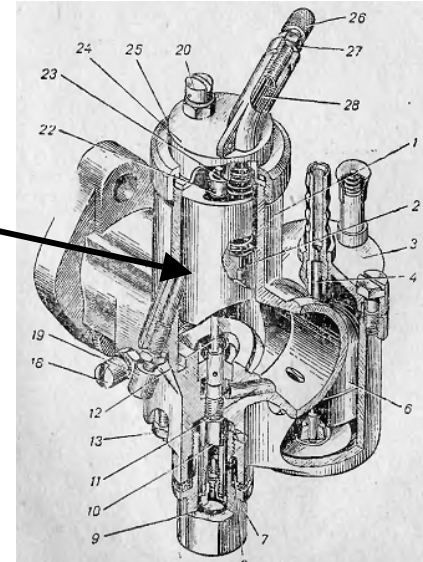


Enrichener (a.k.a. Choke)
Pull Up and Rotate 90° to Enable.
Disable (Un-twist and Release) Soon
after Warm-Up!

Characteristics: Round-Slide vs. **Flat-Slide** vs. Butterfly Throttle Valves

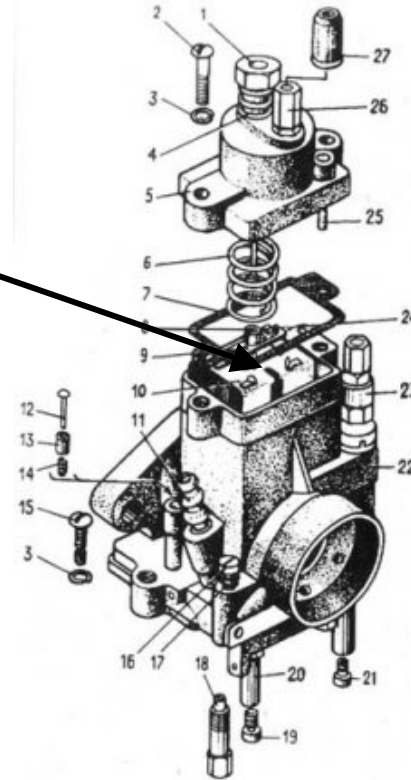
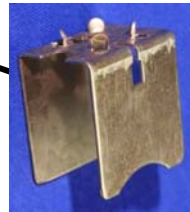
- **Round-Slide Throttle Valve**

- K-37 / K-38 / PZ-28D
- K-68
- Kaptex VDC-RAM (Ukrainian copy of Pekar K-68)
- Mikuni VM-28
- Jikov 2928



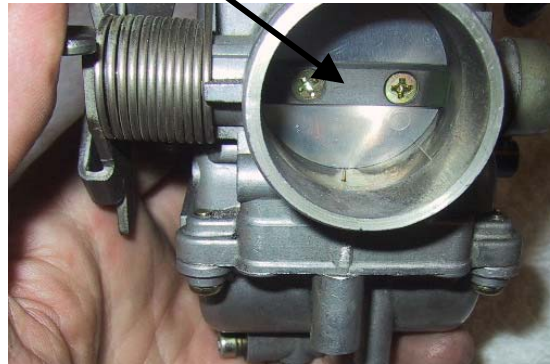
- **Flat-Slide Throttle Valve**

- K-301 / K-302
- K-62 / **K-63** / K-65



- **Butterfly Throttle Valve**

- Keihin CVK32



One term describing carburetors is round-slide, **flat-slide** or butterfly throttle valves.

Characteristics: **Flange** vs. Spigot Intake Manifold Mount

• **Flange-Mount**

–Bolts Directly on Cylinder Head or Adapter

- K-37 / K-38 / PZ-28D

- K-301 / K-302

- K-62 / **K-63** / K-65 / K-68

- **Kaptex VDC-RAM** (Ukrainian copy of Pekar K-68)



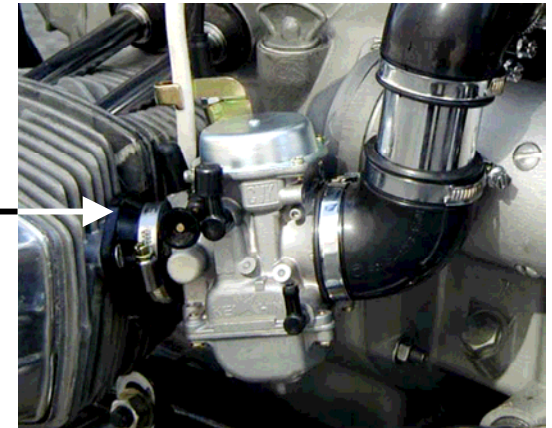
• **Spigot-Mount**

–Rubber Compliant Mount to Cylinder Head

- Mikuni VM-28

- Jikov 2928CE

- Keihin CVK32



Another term describing carburetors is **flange-mount** or **spigot-mount**.

Characteristics: Vertical vs. **Horizontal Flange-Mount**

- **Vertical Mounting Holes**

- K-37 / K-38 / PZ-28D, K-301 / K-302



- **Horizontal Mounting Holes**

- K-62 / **K-63** / K-65 / K-68

- Kaptex VDC-RAM (Ukrainian copy of Pekar K-68)



- **Transition from Vertical-to-Horizontal**

- Used to Transition from Older K-37/38 and K-301/302 Carbs to Modern K-62 / **K-63** / K-65 / K-68 Carbs

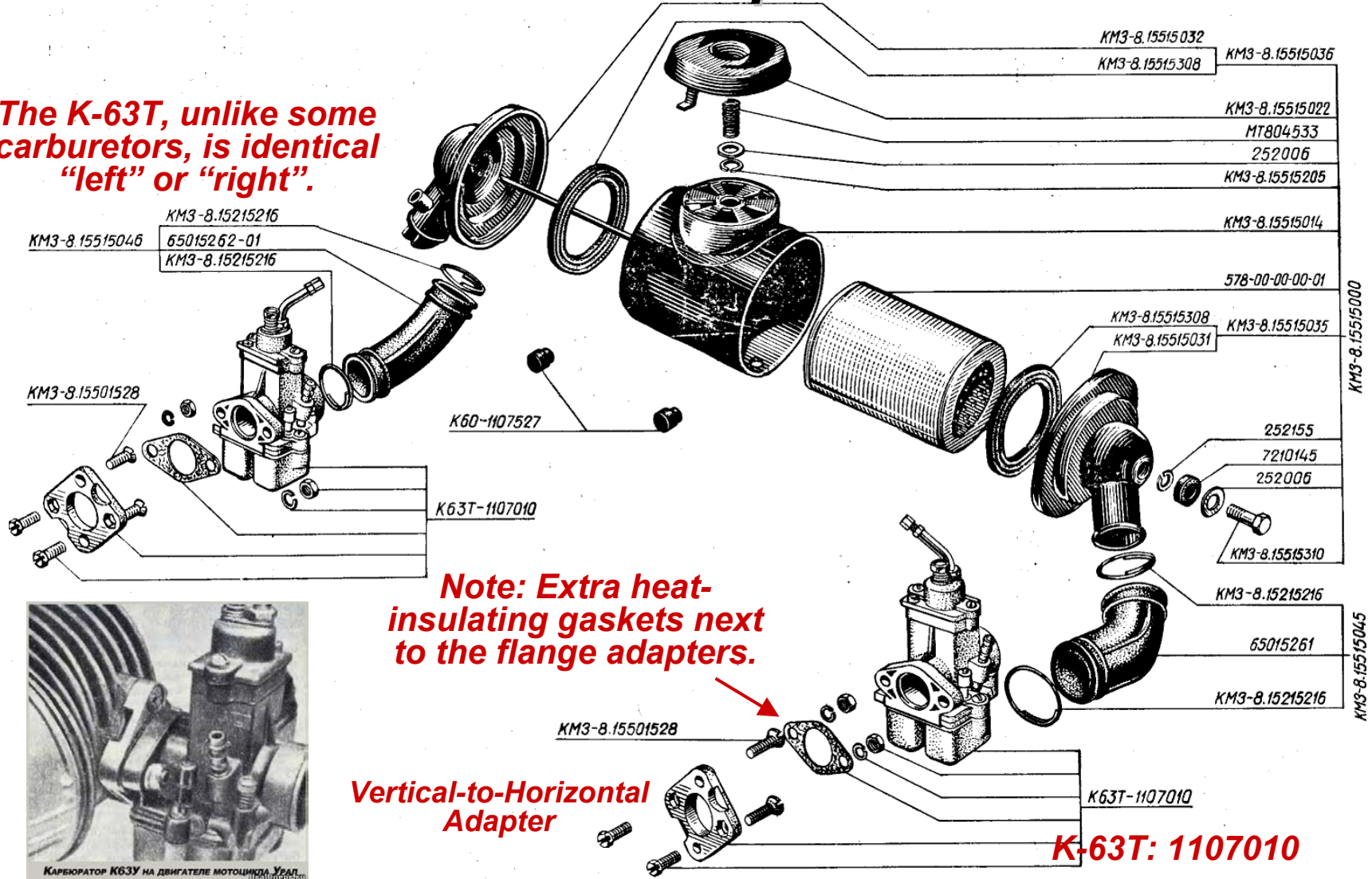
- Adapter Plates Readily Available



An adapter plate is needed to upgrade older motorcycles to the modern **horizontal pattern** for the **K-63** / K-65 / K-68 type carbs.

K-63T Carburetor on Dnepr MT-11 and MT-16

The K-63T, unlike some carburetors, is identical "left" or "right".



Note: Extra heat-insulating gaskets next to the flange adapters.

Vertical-to-Horizontal Adapter

K-63T: 1107010



The MT-11 and MT-16 maintenance manuals show the adapter plates needed to transform the vertical mounting pattern used by the K-37/K-301 carbs to the K-63 horizontal mounting pattern.

Characteristics: In-Line vs. Off-Axis Float Chamber Mount

- **Older Float Chamber (Bowl) Offset from Carburetor Body**
 - **Vertical vs. Slanted Float Chamber (Bowl) Mount**
 - **Vertical: K-37 / K-37A / K-38 / PZ-28D, K-301 / K-302**



- **Modern Float Chamber (Bowl) In-Line with Center of Carburetor Body**
 - **K-62 / K-63 / K-65 / K-68, Mikuni VM-28, Jikov 2928CE, Keihin CVK32**



Older Russian carburetors had external float bowls, with some built on a slant, with greater foaming of the fuel under vibration.

Characteristics: Left-or Right-Hand vs. Similar Construction

- **Left-Hand or Right-Hand Construction (mixture-adjust on opposite sides)**
–K-37 / PZ-28D, K-301 / K-302, K-68, Kaptex VDC-RAM (Ukrainian Copy of Pekar K-68)



- **Identical Construction (mixture-adjust on same side, top or bottom)**
–K-62 / K-63 / K-65, Mikuni VM-28, Keihin CVK32 (L22A)



A few Russian carburetors (L/R) were built so that the mixture-adjust screw was always on the outside.

K-63 Carburetor Construction (Figure 2)

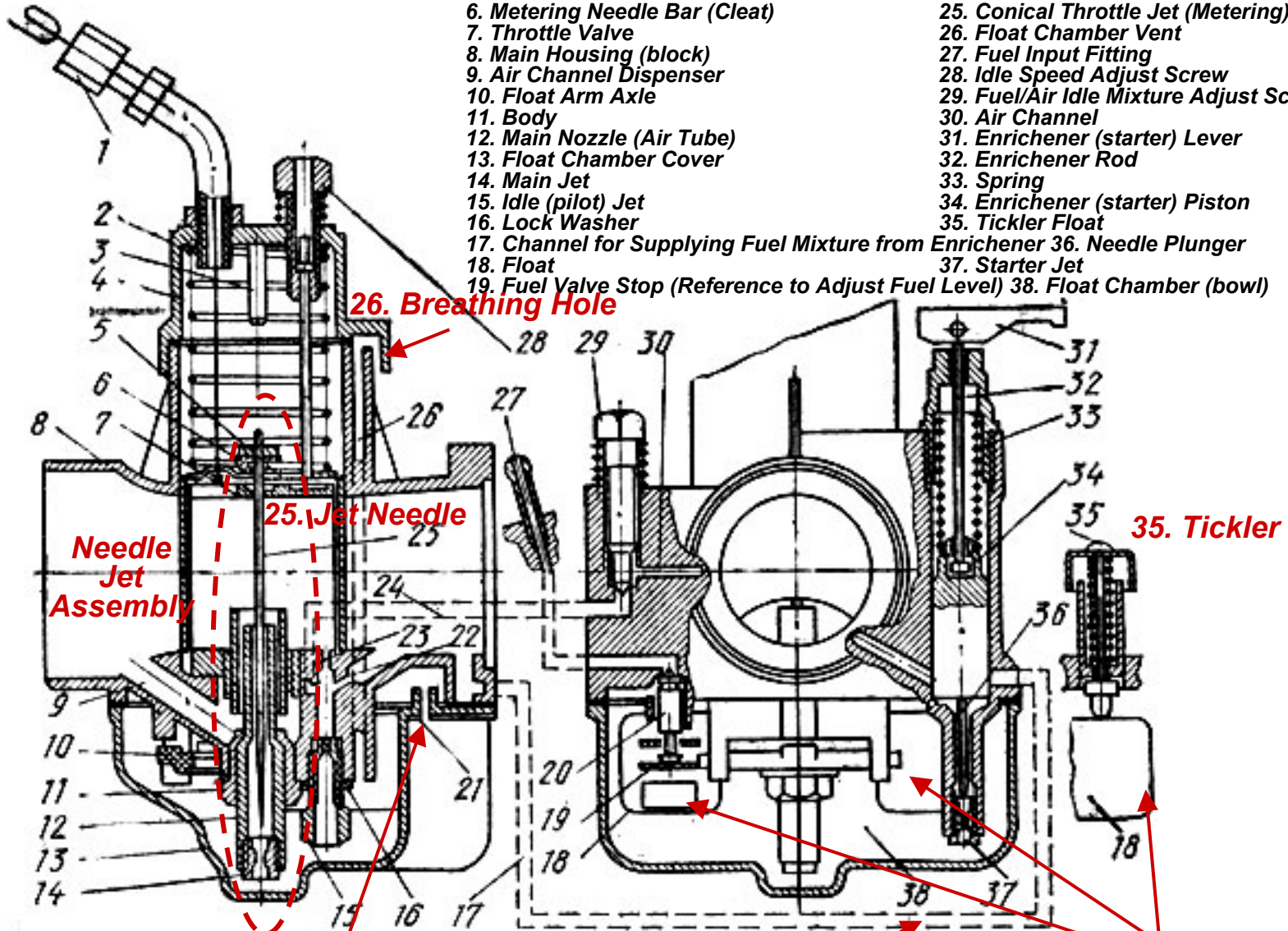
- **K-63 Construction Similar to K-62**
- **Carburetor Consists of Three Main (cast zinc alloy) Parts;**
 - **Body (8), Float Chamber (bowl) (38) and Throttle Cover (4)**
- **Float Chamber (38)**
 - **Breathing Hole Connected to External Environment via Opening (26)**
 - **Float Mechanism Consists of Two, Rectangular, Lever-Type Floats (18), Connected by a Common Shaft (axle) (10)**
 - **Float and Lever Made of One-Piece Plastic**
 - **Level of Fuel in Float Chamber Approximately the Same as in the K-62**
 - **When Carburetor Upside Down, Molding Line on Side of the Float Should be Parallel and 13 ± 1 mm to the Plane**
 - **Drain Hole (21) In Lid of the Float Chamber**
- **Fuel Valve (20)**
 - **Designed as Brass Needle which Rests on the Bottom of the Float Plate**
 - **Top Closes the Fuel Supply Channel**
 - **Disc of Elastic Material In Upper Cone of Fuel Valve (20)**
 - **Level of Floats in the Chamber (bowl) Controlled by Bending the Supporting Plate Tab**
- **Mixture Enrichener System (starter)**
 - **Before Starting a Cold Engine, Lever (31) or Bent Stick Raises Piston (34)**
 - **Fuel mixture from the Enrichener (starter) to Mixing Chamber Enters thru Channel (17)**
 - **Under the Influence of Vacuum, Formed when Turning Kick-Starter, Fuel Flows thru Starter Jet (37)**
 - **Spring (33) Prevents Conical Needle (36) from Sticking**
- **Throttle Valve (11)**
 - **Vertical, Flat, U-shaped Cross-Section of Sheet Brass**
 - **In Wall, Facing the Air Cleaner, the Bottom Is Cut on a Semi-Circular Radius to Provide Air/Fuel Mixture when Idling**
- **Throttle Jet (metering) Needle (25)**
 - **Made of Brass or Stainless Steel**
 - **Upper Part Has a Thread to Move to Change the Amount of Spray**
 - **Metering Needle Can Be Raised or Lowered by Loosening the Lock-Nut (5) and Screwing or Twisting the Throttle Needle (25) in the Needle Bar (6)**
 - **Need for Such Adjustments May Occur Under Seasonal Operation, Break-In Period, or In Conditions of High Temperature or Altitude (mountains)**
 - **Each Full-Turn Moves the Needle by 0.5 mm**

K-63 Carburetor Construction (Figure 2)

- **At Low-Speed**
 - **Cylinders Need a Rich Mixture, When Idle Throttle Screw (28) Is Slightly Screwed In**
 - **Mixing Occurs in the Mixing Chamber thru the Emulsion Hole (22), from Fuel Leaving the Idle (pilot) Jet (15) and Air Coming thru Air Channel (30)**
- **In the First Quarter of the Throttle (when the throttle is lifted)**
 - **When Lifting the Throttle Up to a Quarter, the Mixture Composition Is Determined by System Idling**
 - **Idle Jet (15) Fuel Fed Directly from the Float Chamber thru Emulsion (22) and Transition (23) Holes**
 - **Vacuum in the Air Tube (12) Increases**
 - **Fuel Is Discharged from the Float Chamber thru the Main Jet (14) to the Annular Cavity between the Jet Needle (25) and the Walls of the Air Tube into the Air-Flow of the Main Air Duct**
 - **Here, Fuel is Sprayed, Partially Evaporating and Entering the Cylinder**
 - **Composition of the Mixture Is Controlled by Idle Mixture Screw (29) and Idle Speed Adjust Screw (28)**
 - **With Mixture Screw Turned Out (CCW) (29) Mixture Is Depleted (leaner)**
 - **Turned In (CW) Mixture Is Enriched (richer)**
 - **Best Composition of Fuel/Air Mixture Depends on Position of Conical Jet Needle (25), the Capacity of the Main Jet (14) and the System Idling System**
 - **Jet Needle (25) Provides Necessary Fuel Supply Over Most of Throttle Range, Corresponding to about $\frac{1}{4}$ to $\frac{3}{4}$ of Range**
 - **Since Moving Jet Needle Up Increases the Area of Annular Cross-Section between the Jet Needle and the Air Tube, and Consequently the Fuel**
- **In the Last Quarter of the Throttle**
 - **Flow Area of Air Channel in Spray Zone Varies Relatively Little, so Air Flow Remains Almost Unchanged**
 - **Amount of Fuel Supplied Determined Mainly by Diameter of Main Jet (14)**
 - **Air Entering thru Channel (9) of Main Nozzle (12) in the Annular Gap between the Nozzle and Body, Substantially Improves Mixing**

K-63_{F,T,Y} (Φ, T, Y) Carburetor Construction (Figure 2)

1. Fitting with Lock-Nut
2. Throttle Spring
3. Max Throttle Travel Limiter
(remove after engine break-in)
4. Throttle Housing Cover
5. Jet Needle Lock-Nut
6. Metering Needle Bar (Cleat)
7. Throttle Valve
8. Main Housing (block)
9. Air Channel Dispenser
10. Float Arm Axle
11. Body
12. Main Nozzle (Air Tube)
13. Float Chamber Cover
14. Main Jet
15. Idle (pilot) Jet
16. Lock Washer
17. Channel for Supplying Fuel Mixture from Enricher
18. Float
19. Fuel Valve Stop (Reference to Adjust Fuel Level)
20. Fuel Valve
21. Drain Hole
22. Emulsion Hole
23. Transition Hole
24. Air Channel Idle Jet
25. Conical Throttle Jet (Metering) Needle
26. Float Chamber Vent
27. Fuel Input Fitting
28. Idle Speed Adjust Screw
29. Fuel/Air Idle Mixture Adjust Screw
30. Air Channel
31. Enrichener (starter) Lever
32. Enrichener Rod
33. Spring
34. Enrichener (starter) Piston
35. Tickler Float
36. Needle Plunger
37. Starter Jet
38. Float Chamber (bowl)



21. Float Chamber Drain Hole

17. Enricher Mixture Channel

18. Dual Floats

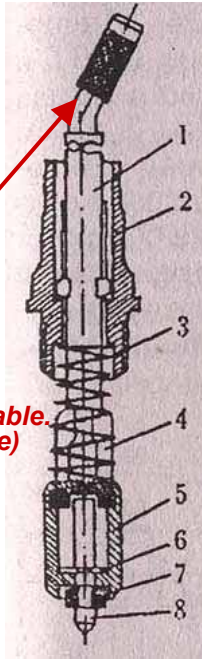
K-63 Carburetor Construction (Figure 2)

- ***Tickler (cold-start) (35)***
 - ***Ensures Desired Mixture when Starting a Cold Engine ($\leq -15^{\circ}$ C)***
 - ***Momentarily Bypasses Float Valve (20) to Give Extra Shot of Fuel during Cold-Start***
 - ***To Avoid Excess Fuel Ending Up in the Cylinder, Which Can Lead to Compression with Devastating Consequences, a Drain Hole (21) Is Provided in the Float Chamber***
- ***Max Throttle Limiter (3)***
 - ***Rod (3) Molded Inside Carburetor Lid***
 - ***Limits Travel Height of Throttle Valve, Thus Limiting the Max Speed During New Engine Break-In***
 - ***Made To Be Removed following Engine Break-In Period***
- ***Idle Speed Adjust Screw (28)***
 - ***Upper End of Idle-Adjust Throttle Rod (28) Is Fixed with a Screw, Screwed into the Lid***
 - ***Rotate to Limit the Lowest Value of the Throttle***
 - ***Engine Idle Speed Regulated by Screw (28)***
 - ***If Unscrewed: Speed Is Increased; if If Screwed In: Speed Is Reduced***
- ***Idle Mixture Adjust Screw (29)***
 - ***Screw (29) Regulates Composition of the combustible mixture when the engine at Idle***
 - ***If Unscrewed (counter-clockwise): Mixture Is Leaned; If Screwed In (clockwise): Enriched***

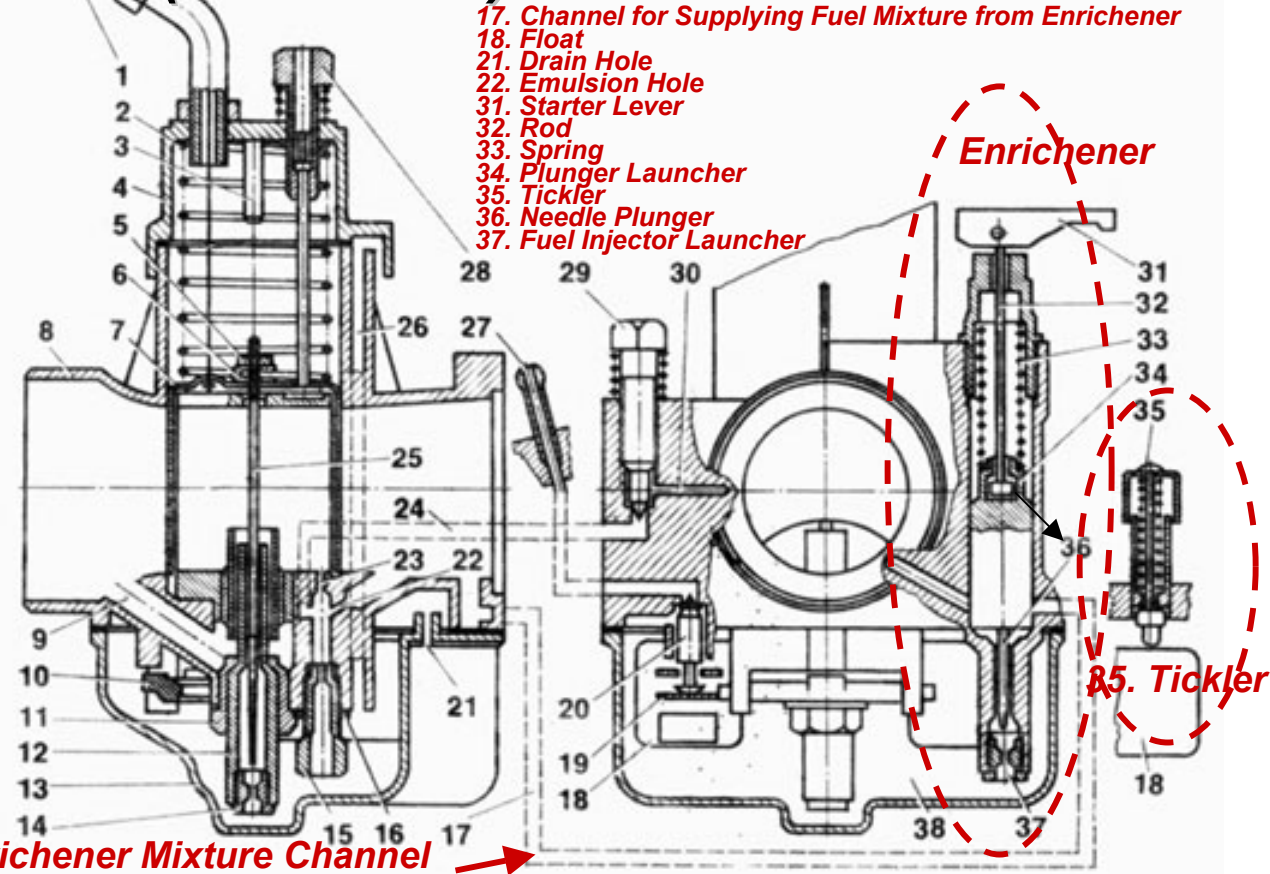
Tickler and Enrichener (Cold-Start) for the K-63 Carburetor

Starting Device Enrichener or Choke):

1. Stem
2. Rail
3. Spring
4. Plunger Tube
5. Piston
6. Lock Washer
7. Sealing Washer
8. Needle

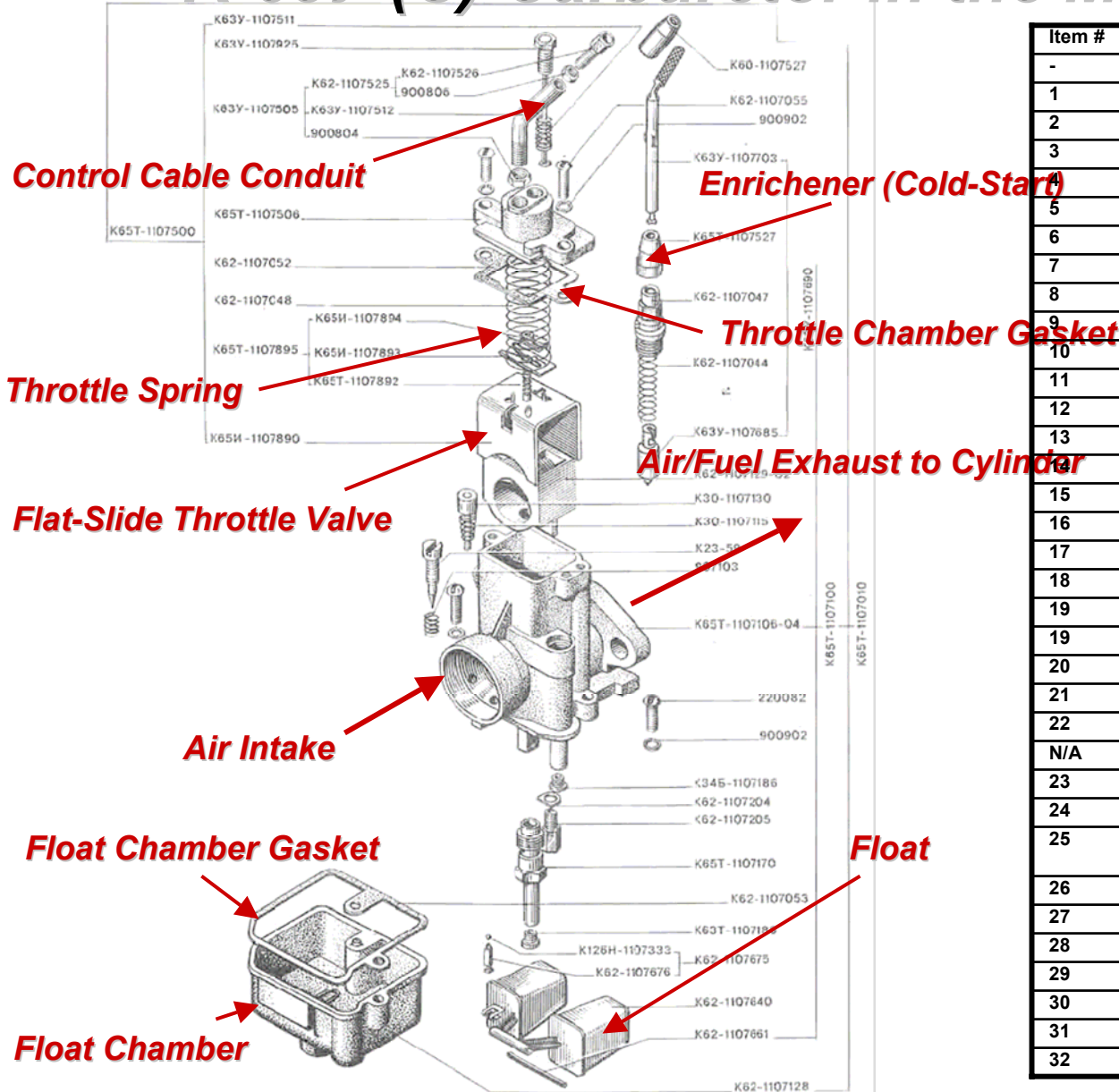


Enrichener (a.k.a. Choke)
 Pull Up and Rotate 90° to Enable.
 Disable (Un-twist and Release)
 Soon after Warm-Up!



Before starting a cold engine, lever (31) raises piston (34). Under the influence of vacuum, formed for the throttle when turning the kick-starter, fuel flows through the nozzle (37) in the cavity under the plunger. Here it is mixed with air, which goes through a channel to the inlet pipe of the carburetor, then in the form of a rich emulsion is directed through channel (17) in the mixing chamber and then into the engine cylinder. When fully raised, the plunger reaches the maximum enrichment of the mixture, based on the limited capacity of the nozzle (37). When fully retracted, the plunger needle closes the fuel feed and fuel supply is stopped. Tickler (35) is momentarily pushed to bypass the float valve and provide a rich fuel mixture from the float chamber.

K-63Y (U) Carburetor in the MT-11/ MT-16



Item #	Part Number	Part Description
-	K63T-1107010	Carburetor
1	K63Y-1107925	Steady-State Idle Adjust Screw
2	K62-1107055	Screw
3	900902-0	Washer
4	K63Y-1107511	Spring
5	K63Y-1107506	Throttle Cover
6	K62-1107048	Throttle Spring
7	K62-1107052	Throttle Gasket
8	K63Y-1107892	Needle
9	K63Y-1107894	Strap (Bar)
10	K63Y-1107890	Throttle Valve
11	N/A	Fuel Input Fitting
12	K30-1107130	Depressor (Tickler) Knob
13	K30-1107130	Depressor (Tickler) Stem
14	K30-1107115	Depressor (Tickler) Spring
15	220082	Screw, M5-6gx20
16	K23-59	Idle Stroke Screw
17	907103-0	Idle Screw Spring
18	K62-1107205	Idle Jet
19	K63T-1107186	Main Fuel Jet
19	K34B-1107186	Main Fuel Jet
20	K63Y-1107170	Main System Atomizer
21	K63-1107185	Enricher Jet
22	K62-1107044	Enricher Spring
N/A	K62-1107047	Guide Spring
23	K63-1107690	Corrector-Enrichener
24	N/A	Throttle Needle Lock
25	N/A	Lower-Limit Throttle Valve Travel (remove after engine break-in)
26	K62-1107525	Guide Wire Assembly
27	K60-1107527	Cover
28	K62-1107640	Float assembly
29	K62-1107661	Axle
30	K62-1107675	Needle valve Assembly
31	K62-1107053	Float Chamber Gasket
32	K62-1107128	Float Chamber

The breakdown of the K-63 carb shows the flat-side throttle valve, and flange-mount. The part numbers clearly show a heritage to the K-62.

K-63Φ, T, Y (F,T,Y in English) Evolution and Parameters

Parameter	Model carburetor		
	K-63F (Russian: K-63Φ)	K-63T (Russian: K-63T)	K-63U Russian: (K-63Y)
	Model of Motorcycle		
	Dnepr: MT-12, K-750M-01	Dnepr: MT-11, MT-16	Ural : Modern 650 cc
Engine Size	750 cc	650 cc	650 cc
Year Introduced	Late 70's	1985	1988
Cone Diameter	26 mm	26 mm	28 mm
Diameter of Mixing Chamber	28 mm	28 mm	30 mm
Capacity of Main Fuel Jet	135 cm³/min	165 cm³/min	170 to 175 cm³/min
Jet Hole Diameter	2.78 mm	2.78 mm	2.78 mm
Capacity of Idle (pilot) Jet	50 cm³/min	50 cm³/min	50 cm³/min
Capacity of Enrichener (corrector) Jet	55 cm³/min	55 cm³/min	55 cm³/min
Diameter of Idle Hole	0.7 mm	0.7 mm	0.7 mm
Diameter of Transition Hole	1.2 mm	1.2 mm	1.2 mm
Carburetor Part Number		K63-11070010	8.101-15001-10
Engine Horse Power	32 HP	32 HP	36 HP

The *K-63* carburetor predominantly appeared in the late 1980's, on Dnepr's MT-16 and MT-11 and Ural's modern 8.103 (650 cc).

Carburetor K-63 Adjustment (moto4you.ru) (see Figure 2)

• Initial Checks and Adjustments

– Before Checking the Carburetor

- Check / Adjust Spark Plug Electrode Gaps
- Check / Adjust Ignition Breaker Points
- Check / Adjust Clearances between Valve Stems and Rocker Ends

• Idling Speed Adjustment

– First, Ensure There Is Clearance (Gap) between Cable Sheath End-Piece and Union of 2-3 mm

- If Not, Loosen the Lock-Nut Socket of Union (1) and Rotate It Clockwise or Counterclockwise, Adjusting the Proper Gap and Then Secure the Lock-Nut (5)

• Carburetor Adjust for Idle (Low-Speed)

– If Warm Engine Stops at Minimum Idling Speed without a Load, Must Adjust Carb Idle

– Adjust Each Carburetor Individually, Disabling the Other Cylinder

– Idle Adjustment Procedure

- Adjust Idle Screw (28) to Set a Minimum Sustained Speed, then Slowly Unscrew (CCW) Idle Mixture Screw (29) until It Misses (misfires), then Slowly Turn the Screw In (CW) until Engine Starts to Operate Steadily
- Then Screw (28) Again to Reduce Throttle to Obtain the Minimum Sustainable Speed, at the Same Time Adjusting Mixture Screw (29)
- These Operations are Repeated Three or Four Times until Minimum Sustained Speed Is Achieved
- Similarly, Adjust the Carburetor of Other Cylinder

• Synchronizing Engine Idling Speed

– After Adjusting, Idle Speed when Using Either Left or Right Cylinders Should Be the Same

– Checked by Ear, Alternately Disabling Left and Right Cylinders

– By Lifting the Cap from the Spark Plug or By Shorting Out the Spark Plug to Ground

– If Engine Speed Varies When Shifting between Left and Right Cylinders, Adjust Screw (28), until They're the Same

– Engine Stability Checked by Sharp Opening and Closing the Throttle (Turning Throttle Control Handle)

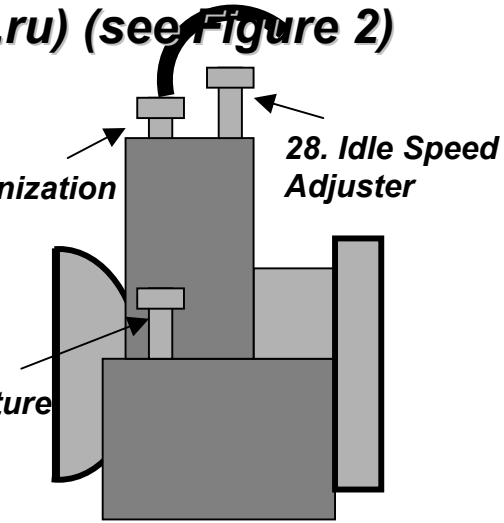
– If Engine Runs Stably at Low-Speed, but Stops during Heavy Throttle (Sharply Opened), Enrich the Mixture by Screwing In (CW) Mixture Adjust (29) by 1/4 to 1/2 Turn

– If Engine Stops when Abruptly Closing the Throttle, Lean the Mixture by Unscrewing (CCW) Mixture Adjust Screw (29) by 1/4 to 1/2 Turn

1. Synchronization
Adjuster

29. Idle Mixture
Adjuster

28. Idle Speed
Adjuster



Carburetor K-63 Adjustment (moto4you.ru) (see Figure 2)

- **Air-Fuel Mixture Adjustment Under Engine Operating Conditions**
 - Running the engine at average load Conditions depends on the position of Jet Needle (25) in Main Jet (14)
 - Therefore Adjustment is Choice of Correct Needle Position
 - Need for Adjustment Appears When Changing Seasons (summer-to-winter) or for Increasing Engine Power for Economical Operation
 - Needle Position Adjustment
 - Adjust Jet Needle (25) Using Thread on the Needle Bar (cleat) (6) by Slackening Nut (5)
 - When Needle Is Screwed into Cleat, Needle Is Raised with Respect to Atomizer Hole, and Mixture Is Enriched
 - With Needle Screwed Out, Needle Is Lowered and Mixture Becomes Leaner (impoverished)
 - One Turn of the Jet Needle Cause It to Move 0.6 mm
 - Tighten Up Lock-Nut (5)
 - To test regulation, sharply increase Engine Speed
 - If Knocking Is Heard in the carburetor, the mixture should be enriched by Raising the needle
- **Setting the Fuel Level in the Float Chamber**
 - If the Fuel Level in Float Chamber Is Too High, Fuel Consumption Is Increased or Engine Pick-Up Is Insufficient
 - After Replacement of Fuel Valve or Float, Need to Check Normal Fuel Level
 - Remove the Carburetor, Remove Float Chamber Cover and Gasket
 - Hold Carburetor Vertically with Float Chamber Up
 - The Float's Mold Parting Line Must Be Parallel to the Carburetor Body
 - Distance between Float Parting Line and Plane Must Be 13 ± 1 mm
 - Adjustment by Bending Fuel Valve Stop (16) Metal Tab
 - Leakage of Fuel thru Drain Hole (21) Indicates a Leaky Fuel Valve
 - Wash or Replace the Elastic Washer, Eliminating Any Nick on Valve Seat
- **Carburetor Care**
 - After Every 5,000 kilometers (3,000 miles) Wash and Blow-Out the Carbs
 - Acetone, or Similar Solvents, Used to Clean Jets
 - Do Not Use Steel Wire to Clean Jets, which Can Change the Cross-Section of Holes and Disrupt Carburetor Operation
- **With Long-Term Use**
 - in Hot Climate ($\geq 35-40^{\circ}\text{C}$) and at an Altitude of 2,000 meters (6,500 ft): Lower Jet Needle (25)
 - At Temperatures $\leq -15^{\circ}\text{C}$: Raise Jet Needle (25)

Carburetor K-63 Adjustment (moto4you.ru) (see Figure 2)

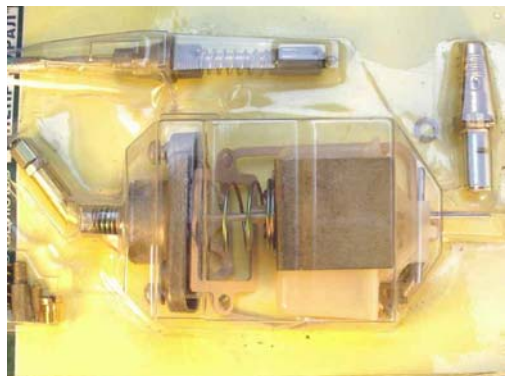
- **Medium-Speed Adjust: 1/3 to 3/4 Throttle Range**
 - **The Greatest Influence In This range Is the Position of the Throttle Jet Needle (25)**
 - **To Determine the Proper Position of the Jet Needle, Need to Run at least 20-30 kilometers (15-20 miles), Stop and Look at Color of the Spark Plugs**
 - **Color of the insulator of the center electrode - your only hint.**
 - **If Black with Signs of Soot: Indicates a Rich Mixture - Lowered (lean the mixture)**
 - **If Too Light, Pale Gray: Indicates a Lean Mixture - Jet Needle Must Be Raised (enrich the mixture)**
 - **Normal should be regarded as a light brown or dark gray**
- **High-Speed Adjust: Selection of Main Fuel Jet (14)**
 - **Easiest Method Is Substitution**
 - **Form a Queue of Different Performance Jets and Determine Which Shows the Best Results.**

Setting K-63/K-65 Carbs (FoilHeadz Maintenance)

- **Instructions based on revising the generic K-301 / K-302 / K-37**
- **1. Warm up the engine (make sure both sides get hot because many times bikes are only running off of one cylinder). If installed, disconnect the supercharger hose and plug up the carb holes or pinching off the tube with vise-grips so that absolutely ZERO air passes from one side to the other. Then, kill or ground out one cylinder; we'll set the carb on the other cylinder.**
- **2. Loosen the carb neck screws so that there is slack between the end of the cable casing and the carb neck.**
- **3. Note that both adjustments are vertical screws. It's now LOWER (mixture) and UPPER (slide stop) adjustments.**
- **4. Screw the LOWER screw 1.5 turns out from a softly seated, fully-in position. If already operating fine, it is not necessary to "pre-set" this screw, simply adjust it in Step 6.**
- **5. Set the UPPER screw for minimum steady operation.**
- **6. Adjust the LOWER screw for maximum engine speed.**
- **7. Set the UPPER screw for minimum steady operation again.**
- **8. Repeat for the other side.**
- **9. Note differences in engine speeds when operating on single cylinders. Plug up both cylinders spark plug cables. Adjust the UPPER screws equally in 1/8 turns for final low-speed idle operation.**
- **10. Put it on the center stand (or jack up the drive wheels on an MT-16).**
- **11. Fire it up.**
- **12. Put it in 4th gear (might wanna chock it).**
- **13. Rev it up to 30-40 khp (20-30 mph).**
- **14. Clamp/hold the throttle in place, AND DO NOT CHANGE UNTIL THE PROCEDURE IS OVER**
- **15. Disconnect (or ground) one cylinder wire**
- **16. Note exactly what the speedometer settles down to after 10 seconds.**
- **17. Now quickly re-connect that side, disconnect the other (don't move the throttle even though it'll rev up some).**
- **18. Adjust the carb cable ferrule on the running side to match the exact speed you noted while the first side was running.**
- **19. Now let off the throttle and reconnect your supercharger (if present).**

Note: Upper Screw is (1) Min. Idle Speed, and Lower Screw is (16) Idle Mixture Adjust, both from Figure 1.

K-63 / K-65 Overhaul Rebuild Kits (\$2012)



Carb Part #: 1107500
Vendor Part #: 000.377
List Price: 22.18€
(www.oldtimergarage.eu)



K-65 Carb Repair Kit
List Price: 10.00€
(www.minskparts.com)



K-63 Idle Jet (above) and
Main Jet Assembly (below)



Vendor Part#: Carb Kit – K-63/K-65: Includes Carb Top, Emulsion Tube and Jet Holder, and Complete Choke Plunger
Vendor Part #: F24010/K65 x1, List Price: £28.00
Vendor Part #: F24010/K65 x2, List Price: £50.00
(www.f2motorcycles.ltd.uk)

Because the left-hand and right-hand models of the **K-63** and K-65 are identical, one kit is need for each carburetor re-build.
The parts for the **K-63** carburetor are very similar to those of the K-65.

K-62 / **K-63** / K-65 Flat-Slide Carburetor Parts



Float Chamber Gasket
Part #: K62-1107053
Vendor Part #: 825
List Price: 1.36€
(www.moto-boxer.com)

Vendor Part #: S119
List Price: 1.49€
(www.ural-zentrale.de)

List Price: 2.05€
(www.ural-hamburg.de)



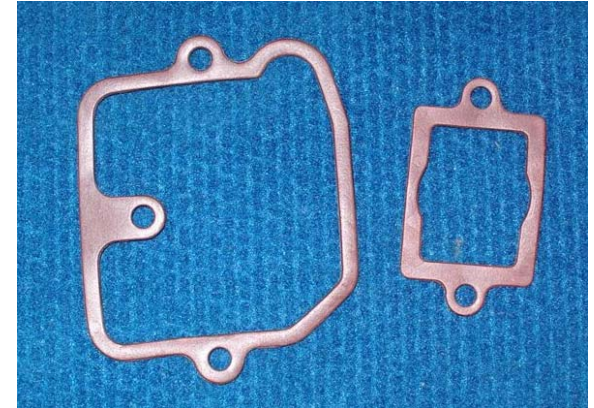
Idle Jet 0.7 mm
Part #: K62-1107205
Vendor Part #: S119-D
Carburetor jet made from brass
For all Pekar K-63 / K-65 / K-68
Exact Adjusting with Reamer is
Recommended.
List Price: 1.79€
(www.ural-zentrale.de)



K-63 / K-65 Mixing Chamber Top Gasket
Part #: K62-1107052
Vendor Part #: 826
List Price: 1.00€
(www.moto-boxer.com)

Vendor Part #: S2120
List Price: 0.99€
(www.ural-zentrale.de)

List Price: 1.02€
(www.ural-hamburg.de)



Gasket Set
Vendor Part #: 000.140/141
Vendor Part #: 813
List Price: 3.53€
(www.oldtimergarage.eu)



**Set of 12 Jet Reamers with Holder
for Jets with Bores from 0.6 to 2 mm**
Vendor Part #: S7005
Perfect for fine-tuning carburetors.
List Price: 19.99€
(www.ural-zentrale.de)



**Carburetor K-63 / K-65 Throttle Jet Needle
with Clip**
Part #: K63U-1107895
Vendor Part #: 148
List Price: 2.95€
(www.moto-boxer.com)

The K-62 / **K-63 / K-65 carburetor has two gaskets;
the float chamber gasket and the mixing chamber gasket.**

Carburetor K-63 / K-65 / K-68 Parts (\$2012)



**Float Needle,
with Silicone Seal**
Part #: K62-1107675
Vendor Part #: 149
List Price: 1.89€
(www.moto-boxer.com)

**Float Needle,
with Silicone Seal**
Vendor Part #: S374
List Price: 1.99€
(www.ural-zentrale.de)

Float Needle Seal
Part #: K126N-110733
Vendor Part #: 1994
List Price: 1.00€
(www.moto-boxer.com)

Set of 10 Float Needle Seals
Fits on needle valve of K-63/K-65/K-68
Vendor Part #: S388
List Price: 7.99€
(www.ural-zentrale.de)



**Rubber Boot to Seal Throttle
Cable for All Carbs**
Length: 20 mm, Diameter: 5 mm
(elastic)
Vendor Part #: S4537
List Price: 0.99€
(www.ural-zentrale.de)

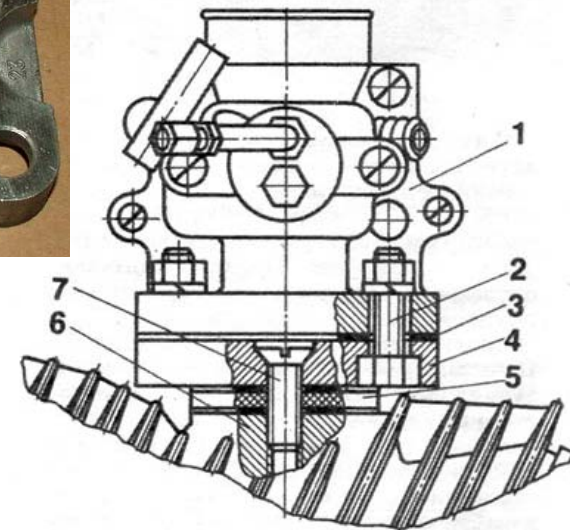
**Rubber Boot to Seal Throttle and
Choke cable at Carb Cover**
Size: 8 x 13 mm, Length: 11 mm
Vendor Part #: S4538
List Price: 0.99€
(www.ural-zentrale.de)



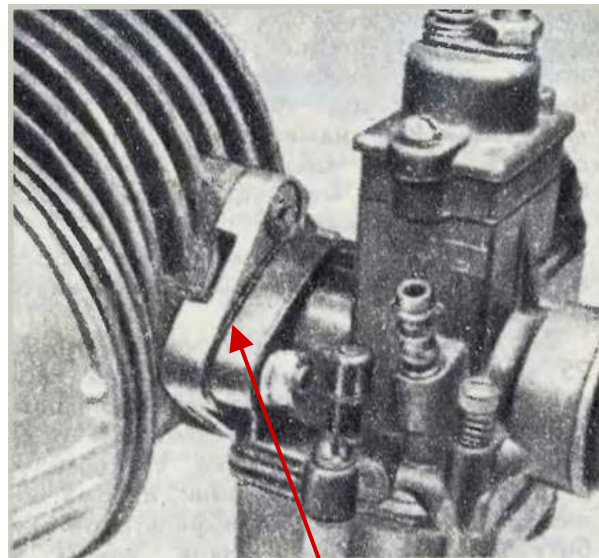
**Carburetor K-63/K-65/K-68
Rubber Protector Cap**
Part #: K60-1107527
List Price: 3.07€
Vendor Part #: 671
(www.moto-boxer.com)

**Air-Intake Rubber Tubes, 38 mm
for K-301, K-63/K-65/K-68 Carbs**
Vendor Part #: 001.655
List Price: 7.00€ for pair
(www.oldtimergarage.eu)

Carburetor Adapter from Older Vertical (K-37/K-301/K-302) to Horizontal Type of Installation (K-62 / **K-63** / K-65 / K-68)



- 1.K-63 Carburetor
2. Spacers Bolt to Carburetor
3. Gaskets
4. Spacer
5. Gasket
6. Cylinder Head
7. Screw Spacers to Cylinder Head



Vertical-to-Horizontal Transition Adapter

A simple conversion kit is needed to adapt from vertical (K-37/K-38/K-301/K-302) to a horizontal type of installation (K-62 / **K-63 / K-65 / K-68).**

Carb Heat Protection Shields



For K-62 / K-63 / K-65 / K-68
Vendor Part #: S119-SB
List Price: 7.49€
(www.ural-zentrale.de)

The Carb Heat Protection Shield protects the carburetor efficiently against the heat of the cylinder. Suitable for both sides, has to be bend around the carburetor. The gap to the carburetor should not be less than 5 mm. Use a gasket in front and behind the shield, if necessary use longer stud bolts.