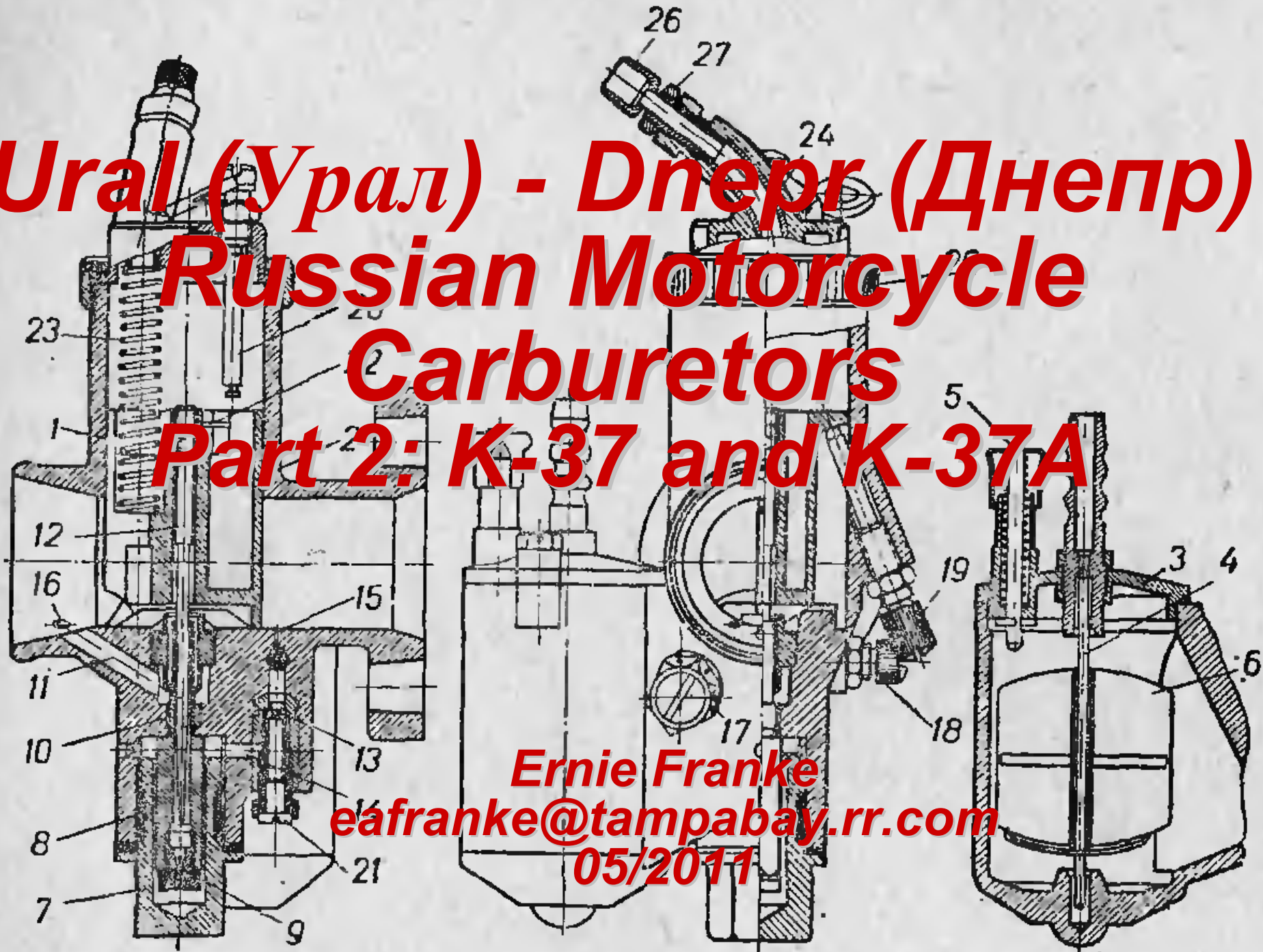


Ural (Урал) - Днепр (Днепр) Russian Motorcycle Carburetors Part 2: K-37 and K-37A



Ernie Franke
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05/2011

K-37 and K-37A Carburetor

- **Used in Dnepr M-72, MB-750 and K-750 750 cc Engines**
- **Later Replaced by K-38 and K-301**
- **Motorcycle has Two Carburetors**
 - **Right and Left-Side Version**
 - **Similar, but Mirror-Images**
- **Specifications:**
 - **Diameter of Inlet Pipe: 24 mm**
 - **Diameter of Mixing Chamber: 24 mm**
 - **Distance from Fuel Level in Float Chamber to Plane of Connector: 21 mm**
 - **Weight of Float: 8.5 g**
 - **Carburetor Weight: 0.85 kg**
 - **Capacity of Main Jet: 160 cm³/min**
 - **Capacity of Main Jet: 21 cm³/min**



K-38 carbs were used on the M-72, K-750 and MB-750, until replaced by the K-38 carburetor.

Russian Carburetor Time-Line (03/2011)



K-37 (M-72)



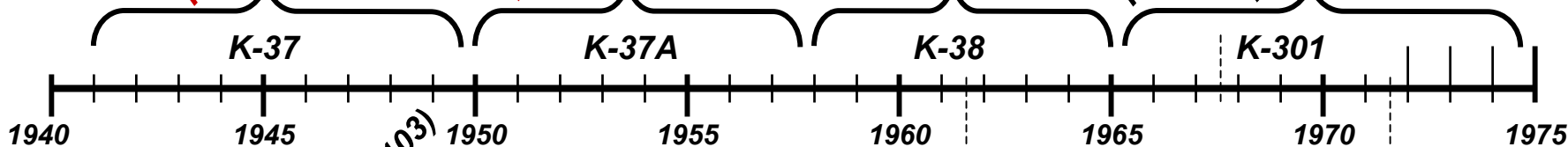
K-37A (M-72, M-72K, M-72M, M-72H, K-750, MB-750)



K-38 (M-61, M-62, M-63)



**K-301B (M-63, M-66, K-650/MT-9)
K-301B (MT-10)
K-301Г (M-63, M-67, M-67.36)
K-301Д (MT-10, MT-10.36, MB-650M, K-650/MT-8/MT-9)**



K-302 (MT-11, MT-12, IMZ-8.103)



K-62 (MT-16, MT-12, MB-650)



K-63/K-65 (MT-11, MT-16)



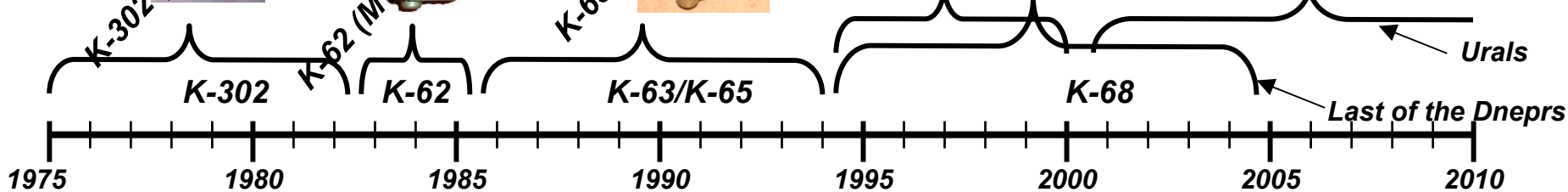
28 mm Mikuni (8.103)



K-68 (MB-650)



CVK32 Keihin (8.103, 8.107)



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.

Flange-Mount vs. Spigot-Mount

- **Flange-Mount**

- Bolts Directly on Cylinder Head or Adapter
- **K-37**, PZ-28, K-38,
- K-301 / K-302
- K-62 / K-63 / K-65 / K-68
- Kaptex VDC-RAM



- **Spigot-Mount**

- Rubber Compliant Mount to Cylinder Head
- Mikuni VM-28
- Jikov 2928CE
- Keihin CVK32

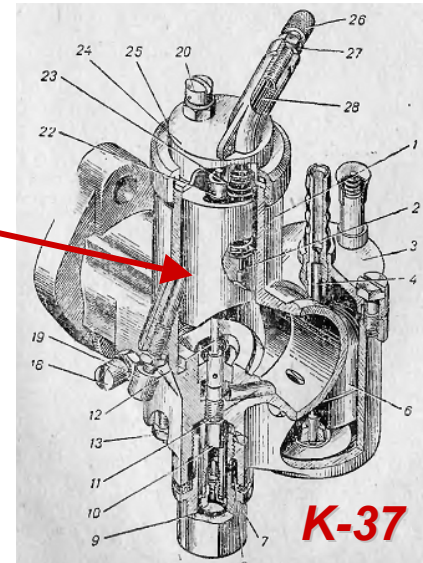


Another term describing carburetors is **flange-mount** or **spigot-mount**.

Round-Slide vs. Flat-Slide vs. Butterfly Throttle Valves

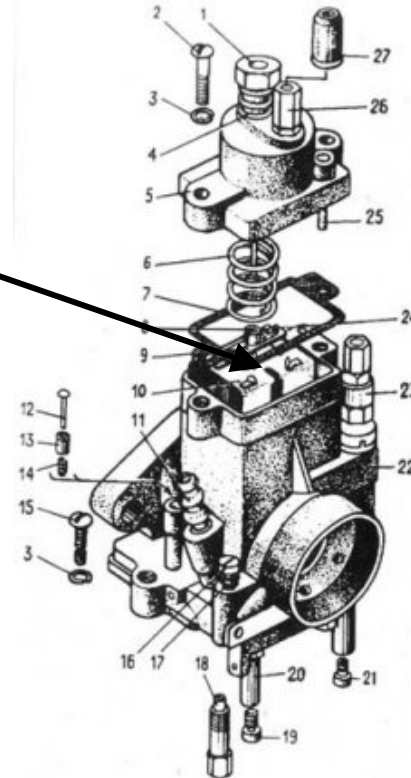
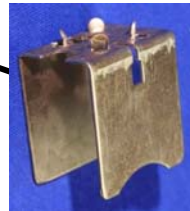
- **Round-Slide Throttle Valve**

- **K-37**, PZ-28, K-38
- Kaptex VDC-RAM
- K-68
- Mikuni VM-28
- Jikov 2928



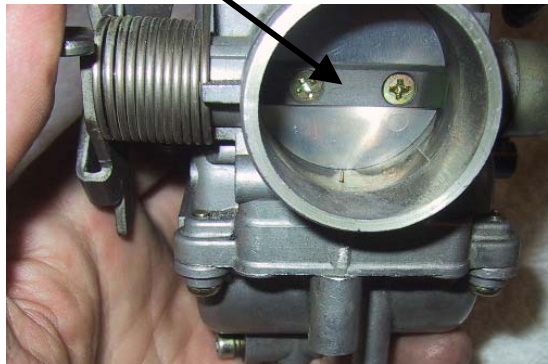
- **Flat-Slide Throttle Valve**

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



- **Butterfly Throttle Valve**

- Keihin CVK32



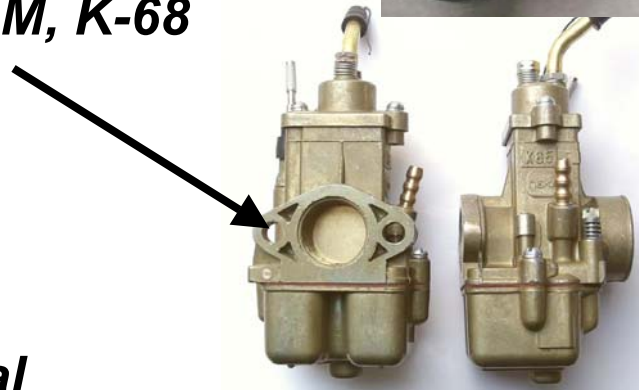
One term describing carburetors is **round-slide**, flat-slide or butterfly throttle valves.

Flange-Mount: Vertical vs. Horizontal

- **Vertical Mounting Holes (MT-9's, MT-10's)**
 - **K-37**, PZ-28, K-38, K-301, K-302



- **Horizontal Mounting Holes (MT-11's, MT-16's)**
 - K-62, K-63, K-65, Kaptex VDC-RAM, 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-65 / K-68 Carbs
 - Adapter Plates Readily Available



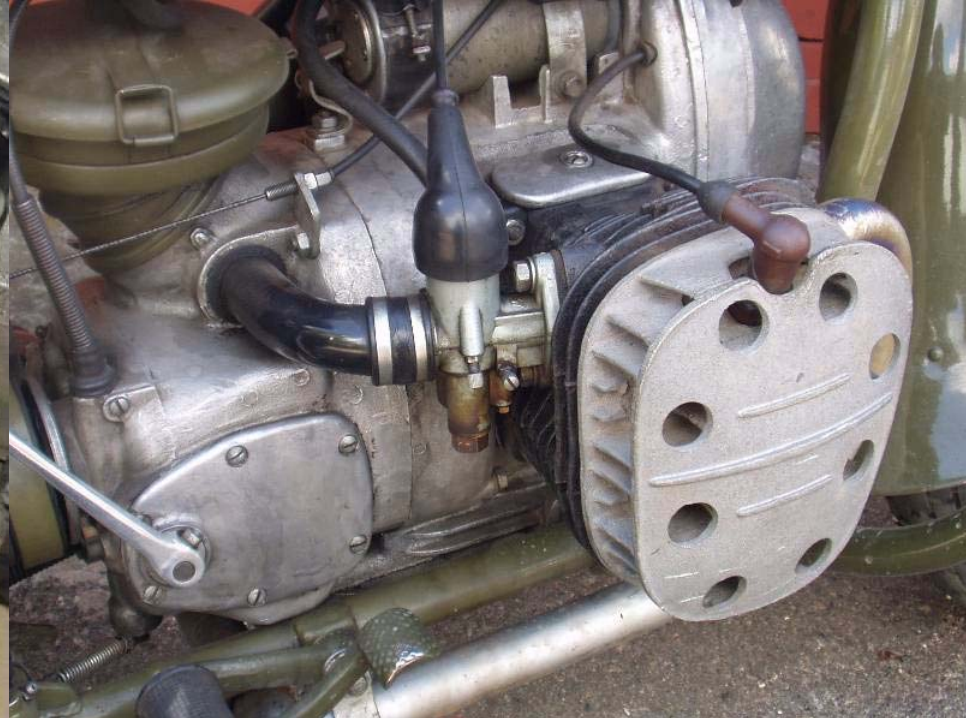
An adapter plate is needed to upgrade older motorcycles to the modern horizontal pattern for the K-63 / K-65 / K-68 type carbs.

K-37's on the M-72 and K-750



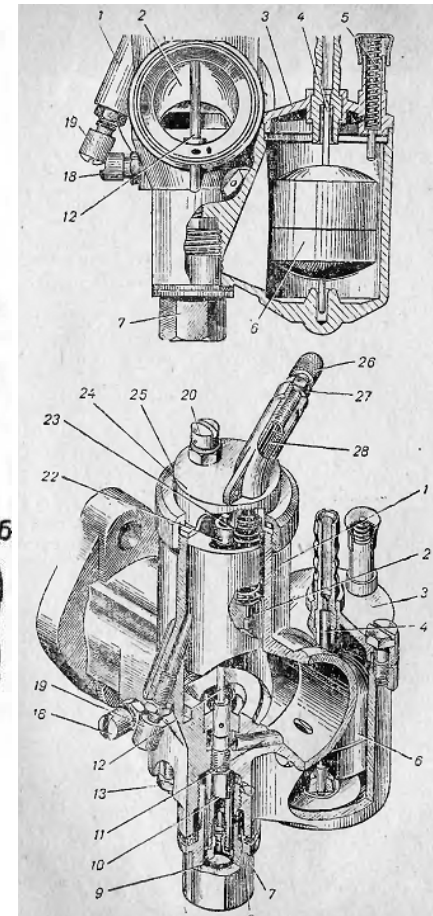
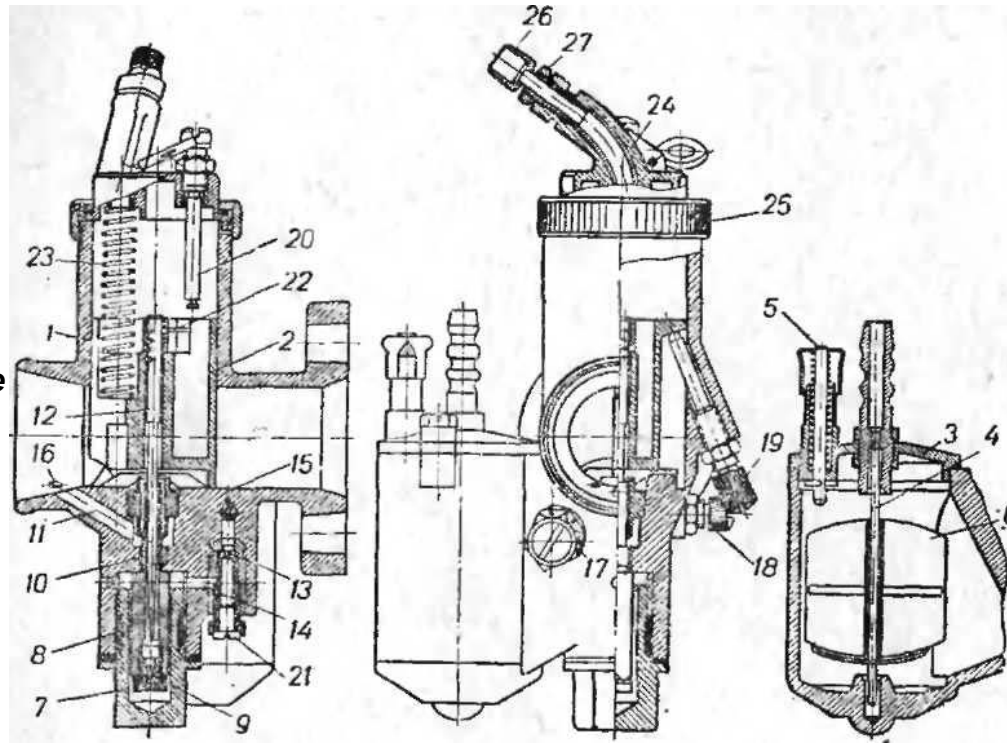
K-37's come in left- and right-side, mirror-images.

Round-Slide Throttle Valve K-37 and K37A Carbs



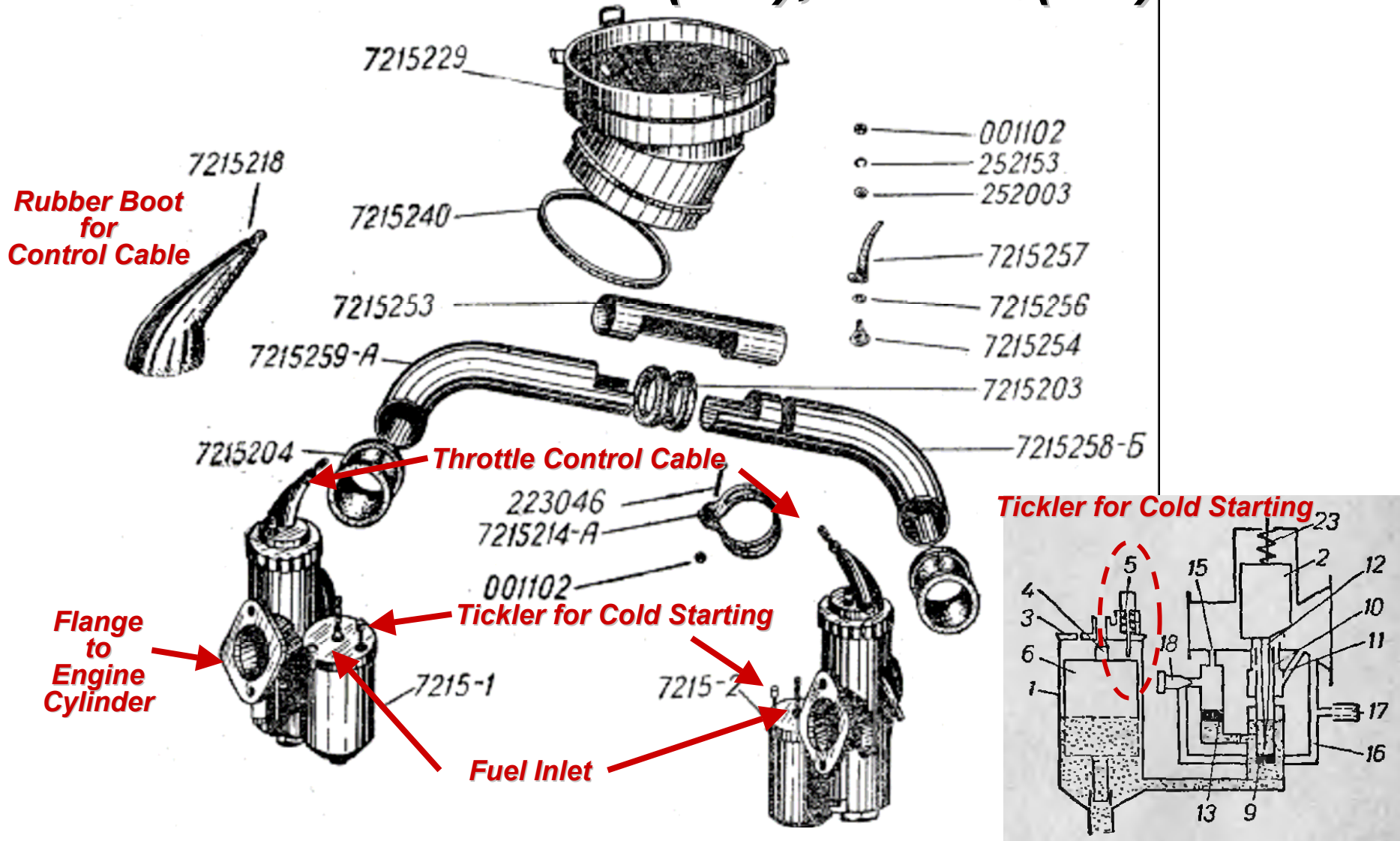
Carburetor K-37 Parts Breakdown

(5mv.ru/article.php & Manual for Motorcycle with Sidecar M-72, City of Irbit, 1954)



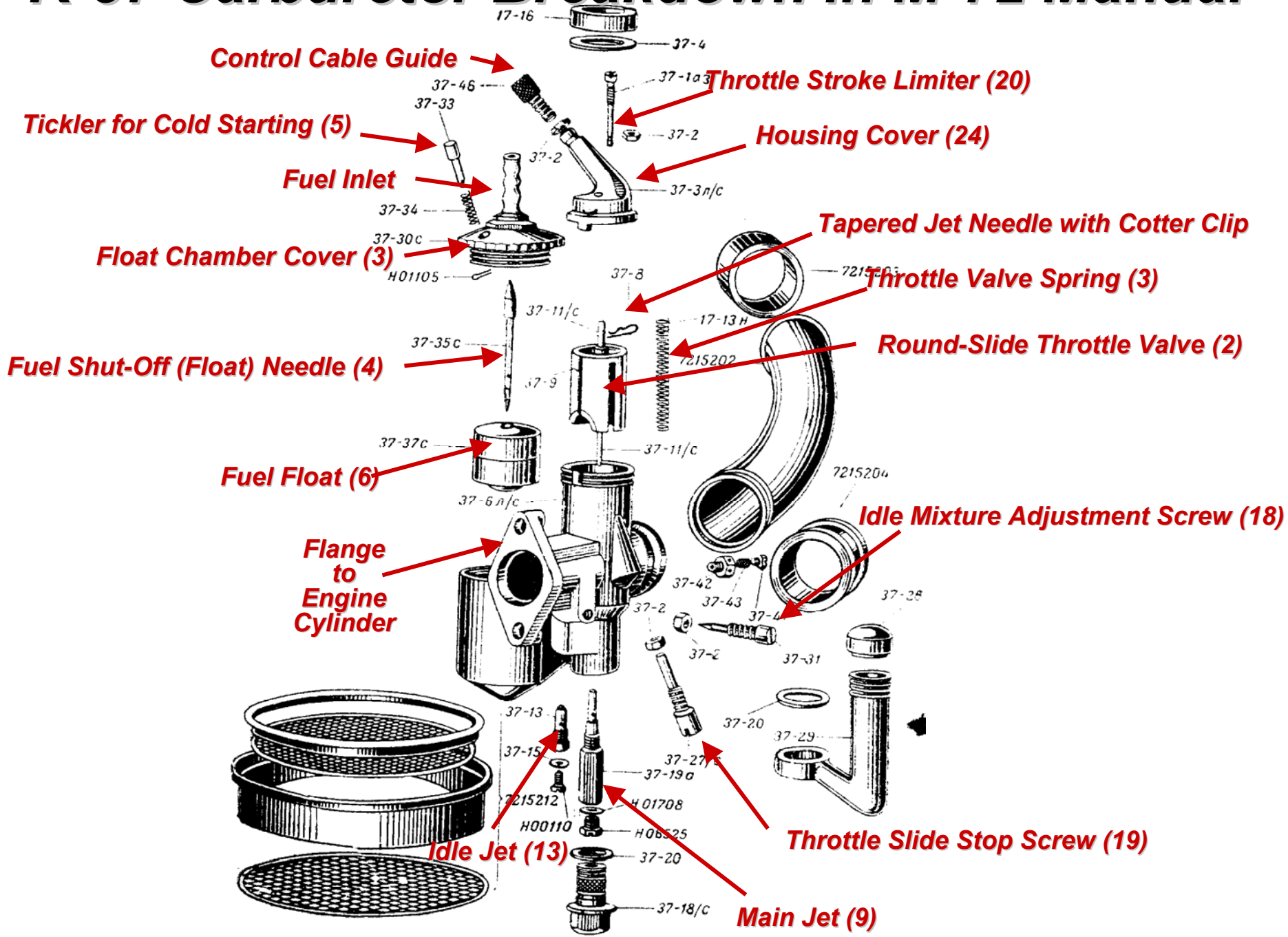
- 1 - Carburetor Body
- 2 - Round-Slide Throttle Valve
- 3 - Cover of Float Chamber
- 4 - Float Needle Valve
- 5 - Enichener (Tickler)
- 6 - Float
- 7 - Connecting Piece
- 8 - Filter Screen
- 9 - Main Jet
- 10 - Atomizer
- 11 - Air Duct of Atomizer
- 12 - Jet Needle
- 13 - Low-Speed (Idle) Jet
- 14 - Fuel Channel of Idle Jet
- 15 - Atomizer (Spray Nozzle) Idle Jet
- 16 - Air Duct of Idle Jet
- 17 - Filter of Auxiliary Air Duct Idle Jet
- 18 - Idle Mixture Adjustment Screw
- 19 - Throttle Slide Stop Screw
- 20 - Throttle Stroke Limiter
- 21 - Lock Screw of Idle Jet
- 22 - Attachment Split-Pin of Jet Needle
- 23 - Spring
- 24 - Housing Cover
- 25 - Union Nut
- 26 - End of Control Cable
- 27 - Lock Nut
- 28 - Control Cable

M-72 and K-750, K-750M, MB-750 and MT-12 Parts: 7215-1(RH), 7215-2(LH)

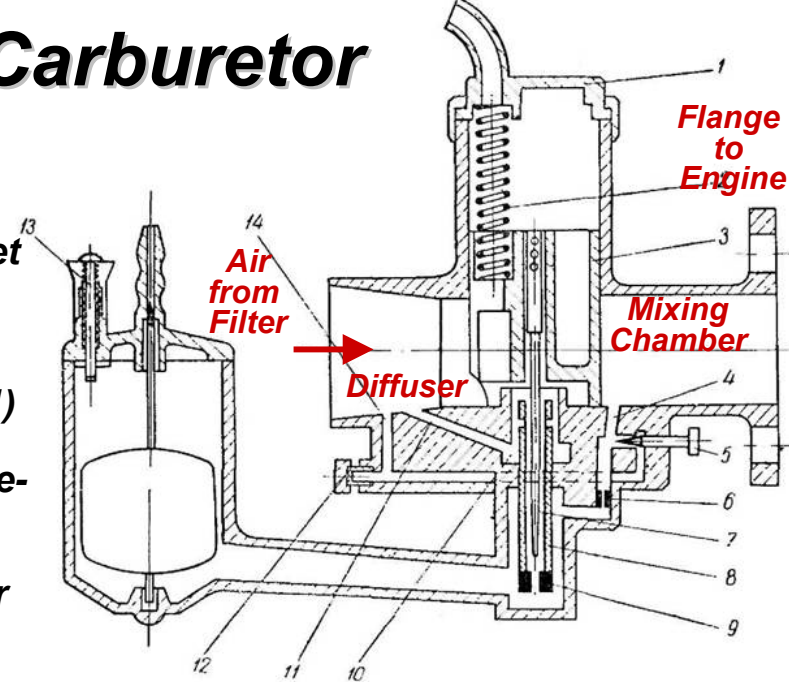


Ticklers (5), used for starting at cold temp, are clearly seen in the parts diagram. Pressing on the tickler pushes against the float and allows extra fuel.

K-37 Carburetor Breakdown in M-72 Manual



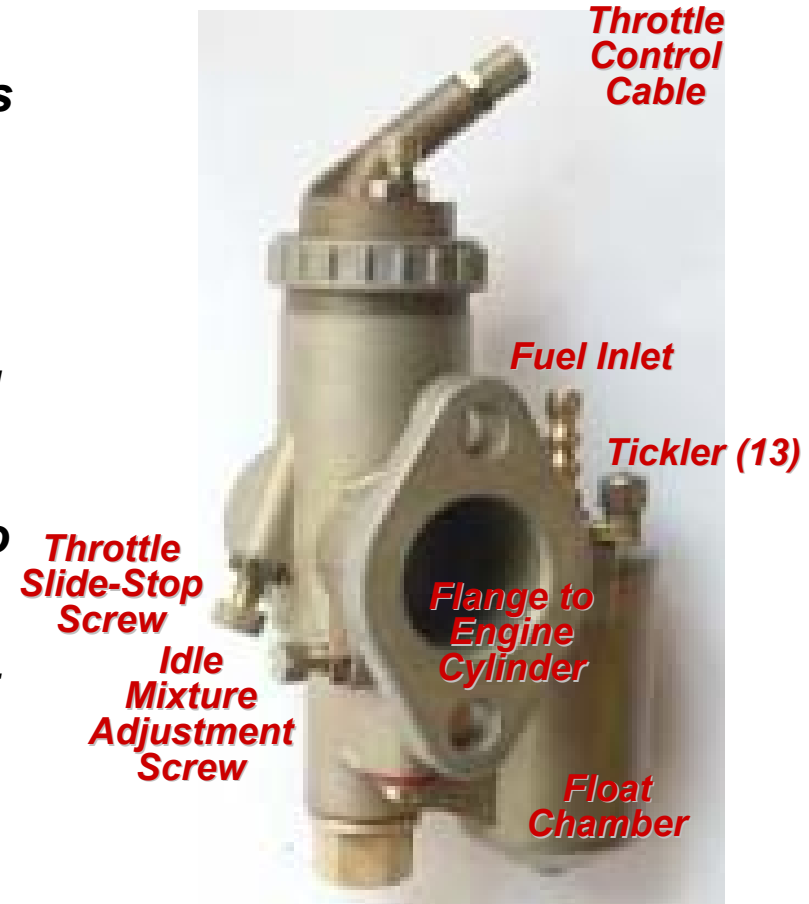
Operation of K-37 Carburetor



- **Both Right and Left Carburetor Design and Adjustment Are Identical**
 - **Mirror Images of Each Other**
- **Air/Fuel Mixture Adjusted by Controlling Fuel thru Shaped Jet Needle and Vacuum of Main Jet**
 - **Round-Slide Throttle Valve (3) in Vertical Channel**
 - **Tapered Jet Needle (7) in Vertical Channel**
- **Throttle Valve (3) Pushed Down by Spring (2), between Lid (1) and Valve**
- **Maximum Travel of Throttle Valve Limited by Abutment (Slide-Stop) Screw**
- **Rise of Throttle Valve Controlled by Cable**
- **Main Dosing System Consists of Main Fuel Jet Nozzle (8), Air Chamber (10) with Conduit (11) and Jet Needle (7)**
- **Main Jet (9) Screwed into Body of Carburetor Bottom**
- **At Diffuser Are Two openings for Passage of Air Entering thru Channel (11)**
- **Nipple with Strainer at Bottom Filters Fuel Entering from Float Chamber**
- **Fuel Idle Injector (6) in Bottom Side of Carburetor Body**
- **Air Supply System Idle Carried Out Air Suction Pipe thru Channel (14), a Hole Near the Opening of Main System Channel, as Well as from Ambient thru Opening Protected by Mesh Filter (12), Located in Side of Carburetor Body**
- **Idle-Speed Adjusting Screw (5) Regulates Air Entering Carburetor Mixing Chamber**
- **Idle (Low-Speed) Operation**
 - **Fuel from Idling System Goes thru Channel (4)**
 - **Outlet Located in Mixing Chamber**
 - **At Low-Speed (Idle), Throttle Valve Closed**
 - **Fuel Enters Fuel Channel thru Nozzle (6) in Idling Channel (4)**
 - **Upon Leaving Nozzle (6) Atomizes Air, Going from Environment thru Strainer (12) and Suction of Air thru Carburetor Nozzle (14)**
 - **Adjust Carburetor at Idle Screw by Limiting Closing Throttle Valve, and Screw (5), Altering Composition of Combustible Mixture**
 - **With Rise of Throttle Valve, Carburetor Action Enters Main Dosing System**

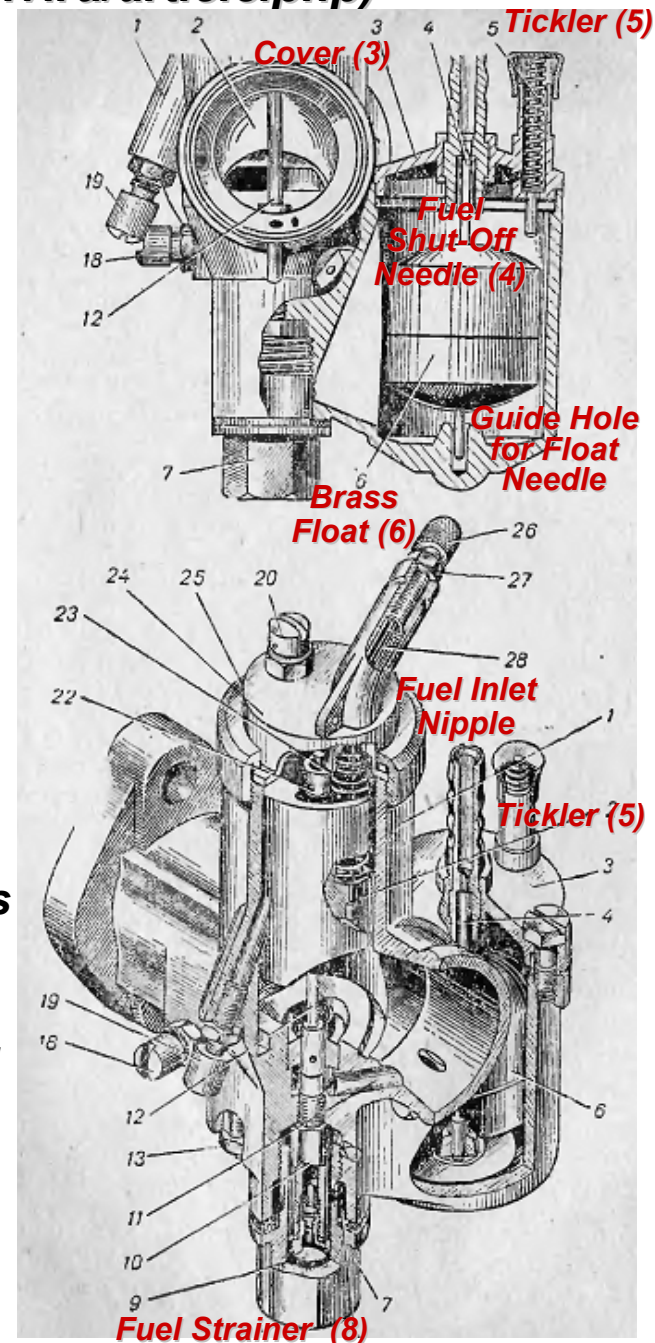
Medium and Full-Throttle Operation of K-37 Carb (cont.)

- **Fuel from Float Chamber Enters Mixing Chamber thru Main Jet Atomizer (9) and (8)**
- **When Fuel Flows into Nozzle, Mixed with Air Coming from Air chamber (10) thru Two Holes Made in Diffuser**
- **Air/Fuel Mixture Regulates the Negative Pressure behind Main Jet (9)**
- **Composition of Mixture at Medium Loads Mainly Determined by Annular Section between Inner Walls of Atomizer and Tapered Dosing Needle (Jet Needle)**
- **When Engine at Constant Position of Throttle Valve, but with Change in Load, Air/Fuel Ratio Adjusted by Air Supplied to the Spray from Air Chamber (10)**
- **At Full-Throttle, Round-Slide Valve at Highest Position**
 - **Provides Rich Fuel Mixture Needed for Maximum Power**
 - **Adjustment of Mixture Also Set by Size of Main Jets**



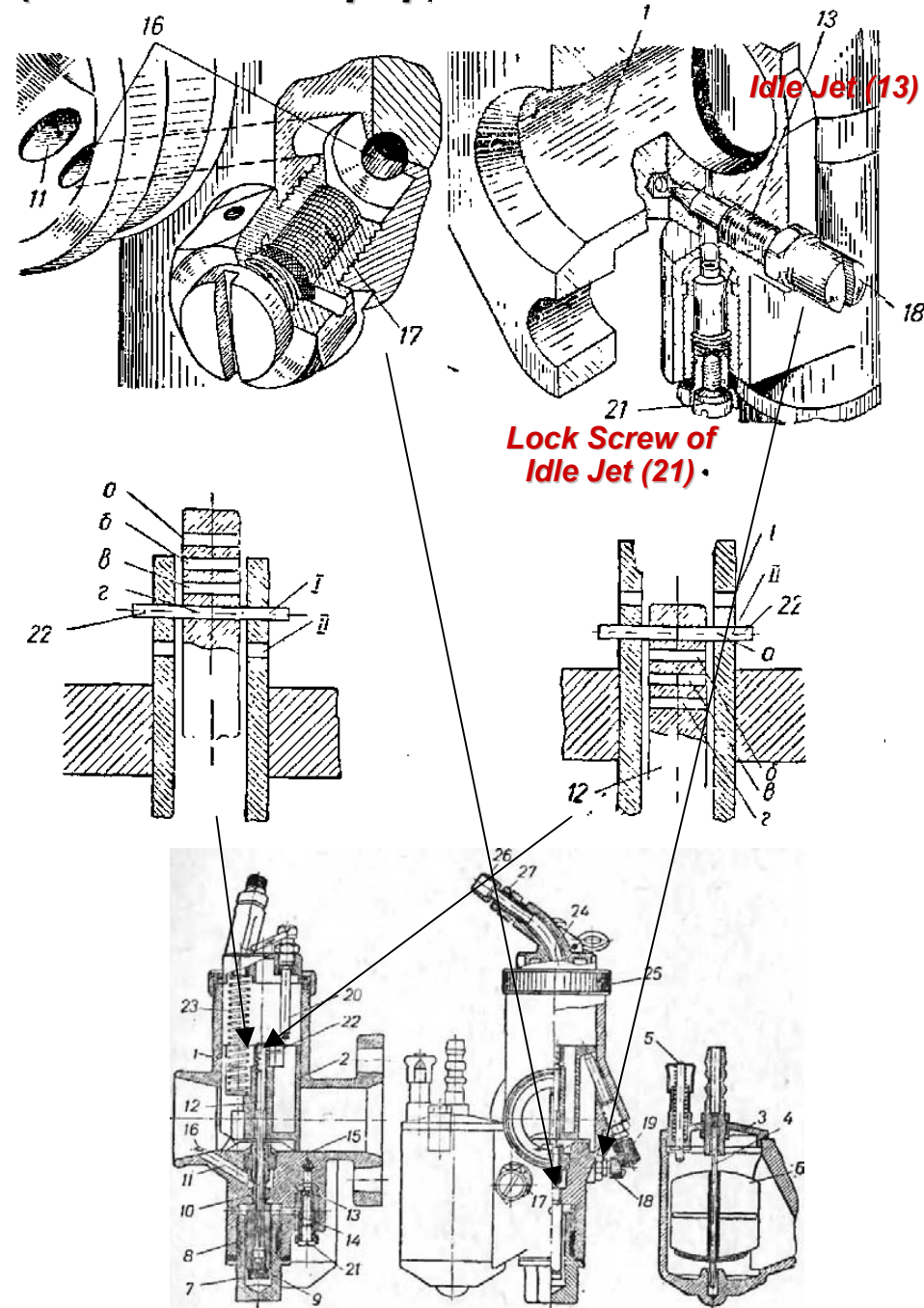
Fuel Flow and Tickler (5mv.ru/article.php)

- **Float Chamber Cast In One Piece with Carburetor Body**
 - Reservoir for Fuel
 - Fuel Enters Float Chamber thru Brass Fuel Inlet Nipple, Located in Cover (3)
 - Fuel Quantity Entering Float Chamber Automatically Regulated by Fuel Shut-Off Needle (4), Connected to Hollow Brass Float (6)
 - Bottom of Float Chamber and Lid Have Guide Holes for Float Needle
 - When Filling Float Chamber, Brass Fuel Float Rises with Float Needle
 - Needle's Upper Conical End Fits Hole in Lid, Stopping Further Access of Fuel into Chamber
 - As Fuel Flow from Float Chamber of Float Falls, Needle Hole Opens and Fuel Starts Flowing Again into Fuel Cell
- **Tickler (5) In Float Chamber Cover**
 - Temporarily Pushes Down Float to Enrich Mixture when Starting Engine by Increasing Level of Fuel in the Float Chamber
- **From Float Chamber, Fuel Enters Bottom of Carburetor**
 - In Bottom of Carb Are Two Concentric Threaded Holes
 - In Smaller, Upper Hole Is Screwed Atomizer (10), which Is Screwed into Main Jet (9), Sealed with Fiber Washer
 - In Larger, Bottom Hole Is Screwed Fitting Hole (7) with Screen Filter (8), Also Sealed with Fiber Washers
- **Fuel Passes from Float Chamber thru Filter Strainer (8) and Chamber of Main Jet**



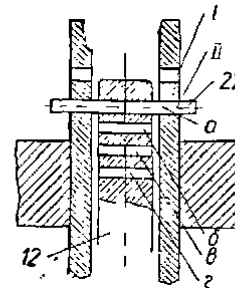
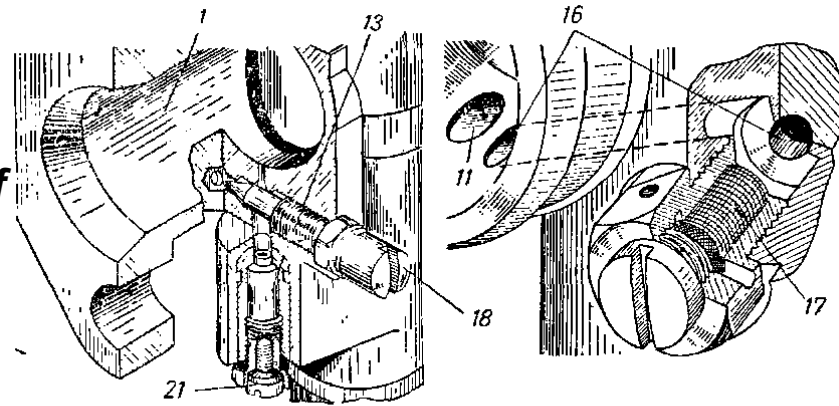
Idle-Speed [\(5mv.ru/article.php\)](http://5mv.ru/article.php)

- At Bottom of Carburetor Is Low-Speed (Idle) Jet (13), which Is Screwed into Carb and Has at Top of Calibrated Hole (15) and Two Transverse Holes
- From the Bottom, Locking Screw of Idle Jet (21), which Is Unscrewed for Blowing-Out Nozzle
- Fuel to Idle System Comes from Float Chamber thru Channel (14)
- Chamber Connected to Main Jet nozzle of small revolutions through the holes in the carburetor body. Air to the low speed jet is supplied from an air nozzle through the air channel (16) by an additional channel connected to the reticulated air filter (17)
- Air channel orifice is covered by low speed Idle Speed Adjustment Screw (18) with Lock Nut
- Over spray in the vertical guide housing carburetor throttle valve is set 2 mounted thereon by means of cotter pins (22) Jet Needle (12) and Spring (23)
- Throttle Needle Enters Inner Channel of Main Jet
- Fuel Supplied to Jet by Annular Gap between Channel Wall Nozzle (Needle Jet) and Jet Needle
- Lower Part of Jet Needle Has Conical Shape
–Raising Jet Needle, Annular Gap Increases, and Fuel Supplied to Atomizer Increases (Mixture is Enriched)

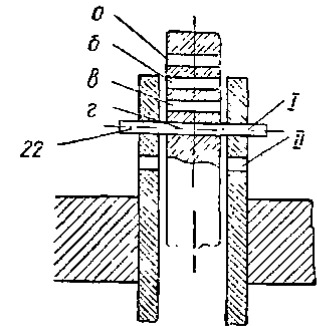


Jet Needle [\(5mv.ru/article.php\)](http://5mv.ru/article.php)

- Jet Needle (12) Connected to Throttle Slide Valve (2)
- Jet Needle Goes into Internal Channel of Main Atomizing Nozzle
- Fuel Arrives at Atomizer by Circular Gap between Channel Wall of Atomizer and Conical Needle Itself
- Cotter Clip Pin (2) at Head of Jet Needle
 - Four Openings in Jet Needle
 - Two Holes in Slide
 - Eight Different Provisions of the Needle
 - When Tip is Lower: Leaner Mixture, Higher: Richer
 - Leanest Mixture Obtained Using Upper Hole in Jet Needle with Bottom Hole in Slide Valve
 - Richest Mixture Coincides with Lower Hole in Jet Needle with the Upper Hole in Slide Valve
- Idling Speed
 - Fed by Small Orifice (13) from Air Supply to Valve (16) thru Filter (17)
- Cross-Section of Air Duct, and Hence Amount of Air Reaching Low-Speed (Idle) Jet Can Be Changed by Idle Mixture Adjustment Screw (18)



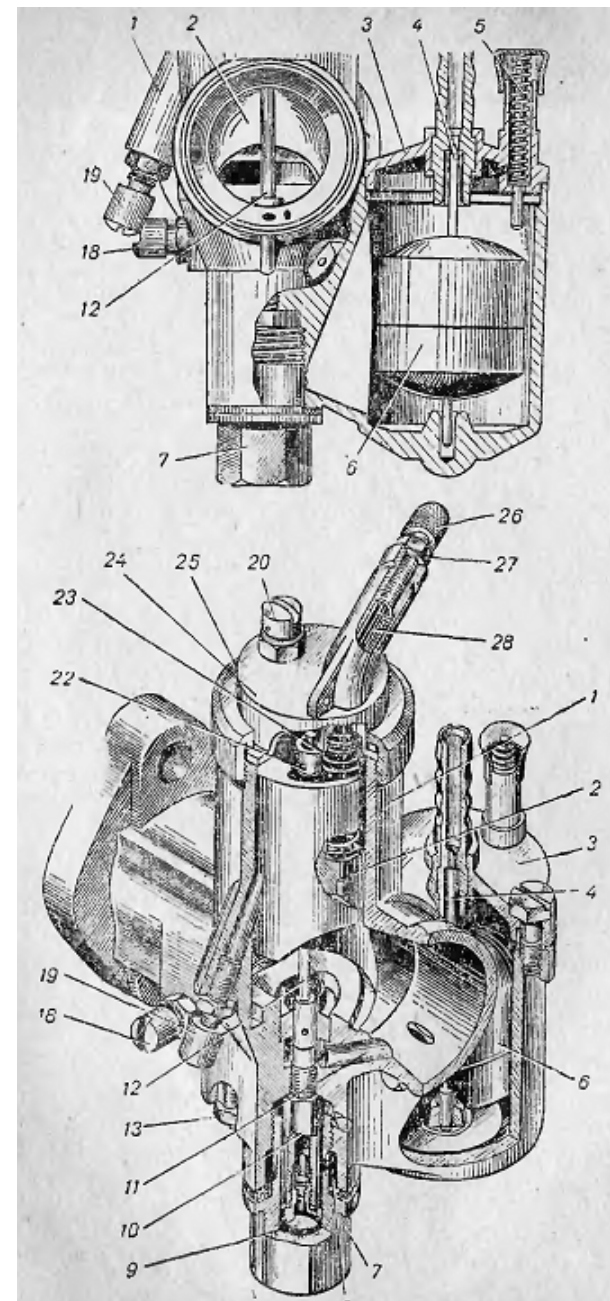
Lowest Position of Jet Needle (Lowest Casing Hole and Highest Needle Hole)



Highest Position of Jet Needle (Highest Casing Hole and Lowest Needle Hole)

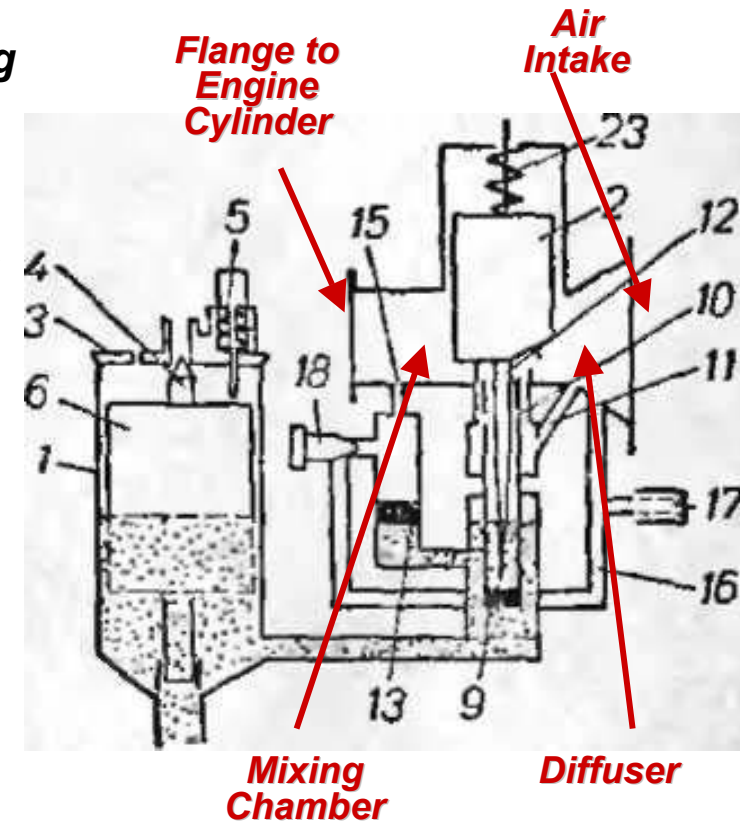
Idle Mixture Adjustment Screw [\(5mv.ru/article.php\)](http://5mv.ru/article.php)

- As Throttle Valve Is Raised, Low-Speed Operation Orifice Gradually Shuts Down and Fuel Starts Spraying thru Main Jet (9)
- Throttle Valve Has Slant for Outlet Air, and on the Side, Two Longitudinal Grooves
 - One Locking Groove, Eliminating Rotation of Throttle Valve in the Guide
 - other Groove makes it interchangeable for Left and Right Carbs
- Upper bevel groove rests against Stop Screw (19) with Lock-Nut, designed for installation at low speed carburetor adjustment
- Spring (23) Presses Down on Throttle Valve
- Rise of Throttle Valve Limited by Stroke Limiter (20), which Is Screwed into Housing Cover (24)
 - Prevents Excessive Increase engine speed and overloading it.
- Throttle Valve Connected by Cables with Swivel-Handle Mounted on Right-Side Handle-Bar
- Essence of Control Is to Eliminate Dead Transitions as You Roll-On the Throttle, Achieved by Installing the Cable Stop (26) Shells into Position and Subsequent Tightening of Lock-Nuts (27)



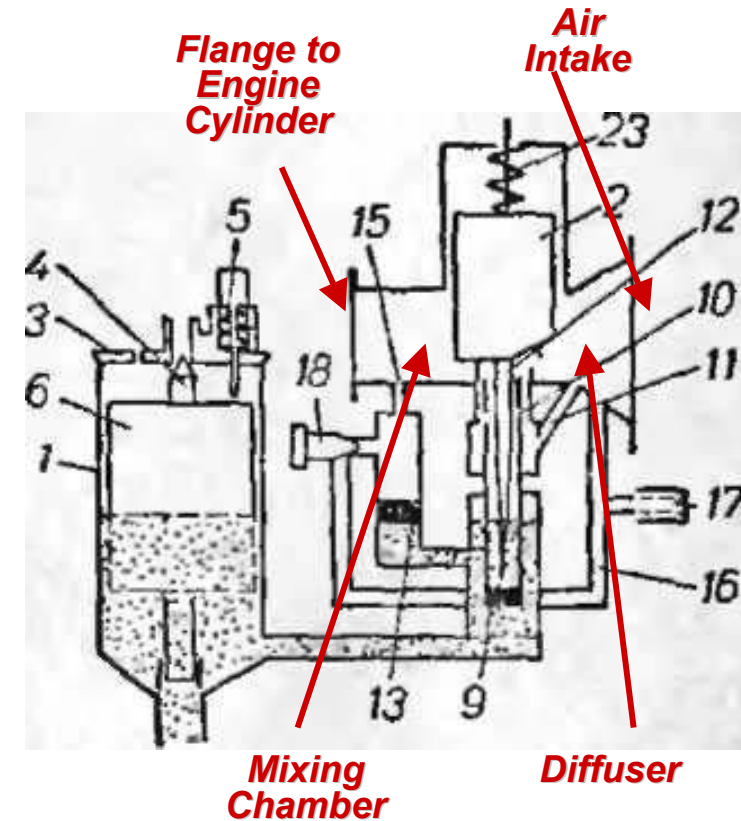
Carburetor Operation at Idle (5mv.ru/article.php)

- As Throttle Valve Is Lifted, It Varies the Cross-Section of the Diffuser (funnel of incoming air), while the Annular Area between the Jet Needle and the Needle Jet (incoming fuel)
- Inhibition of Fuel with Air Is Carried Out by Supplying Additional Air to the Atomizer, which Reduces the Vacuum Nozzle Due to the Air Outlet of the Spray Along with the Fuel
- Additional Air Is Channeled thru Auxiliary Air Duct (16) and thru Air Filter (17)
- When Raising the Throttle Valve Up, the Hole for the Idling Jet (15) Creates a Significant Vacuum that Sucks Air thru the Channels, Providing Engine Power at Low Speeds and Fuel thru the Nozzle (13)
- Formed in this Emulsion thru Hole (15) Comes into the Air Nozzle Carburetor, which Produces the Mixture Flowing into the Engine Cylinder
- In This Case, the Main Spray Nozzle Doesn't Work, because It Creates a Minor Vacuum
- As Throttle Valve Is Lifted, Vacuum in Hole (15) Decreases, and Overspray Increases
- Because of This, Low-Speed (Idle) Jet Begins to Work Less, and Main Spray Nozzle Gradually Takes Over



Carburetor at Medium and Full Speeds [\(5mv.ru/article.php\)](http://5mv.ru/article.php)

- **Carburetor at Medium Engine Speeds**
 - In the Range of Lifting the Throttle Valve from 1/4 -to- 1/2 Travel
 - Corresponding Increase in Cross-Section of Diffuser Nozzle
 - Low-Speed Gradually Ceases and Main Nozzle Takes Over
 - Dilution Air Decreases Due to Lifting of Slide Valve, Causing Impoverishment of the Working Mixture
 - Conical Jet Needle (12) Rises Simultaneously with Slide Valve, Resulting in Increased Ring Section between Dispenser and Jet Needle
 - Fuel Flow from the Nozzle becomes More Intense, and Mixture Begins to Enrich
 - At Approximately 3/4 Throttle Slide Valve Lifting, Mixture Is Regulated by Throttle Slide Valve and Jet Needle
- **Carb at Full Throttle**
 - Opening between the Jet Needle and Dispenser Ring Cross-Section Is So Large that the Amount of Fuel Supplied to the Spray Is No Longer Dependent on Position of Jet Needle, but Determined Only by Size of Main Jet



Setting K-301 / K-302 / K-37 Carbs (FoilHeadz Home)

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 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. Loosen the jam-nuts on the **HORIZONTAL** (mixture) and **DIAGONAL** (slide lift) adjustments.
4. Screw the **HORIZONTAL** screw all the way in.
5. Set the **DIAGONAL** screw for minimum steady operation.
6. Adjust the **HORIZONTAL** screw for maximum engine speed.
7. Set the **DIAGONAL** screw for minimum steady operation again by backing it out
8. Tighten jam-nuts.
9. Repeat for the other side.
10. Note differences in engine speeds when operating on single cylinders.
Plug up both cylinders.
Adjust the **DIAGONAL** screws equally for final low-speed idle operation.
11. Tighten jam-nuts.
12. Put it on the center stand (or jack up the drive wheels on an MT-16).
13. Fire it up.
14. Put it in 4th gear (might wanna chock it).
15. Rev it up to 30-40 km/hr.
16. Clamp/hold the throttle in place, AND DO NOT CHANGE UNTIL THE PROCEDURE IS OVER.
17. Disconnect (or ground) one cylinder wire.
18. Note exactly what the speedometer settles down to after 10 seconds.
19. Now quickly re-connect that side disconnect the other (don't move the throttle even though it'll rev up some).
20. Adjust the carb cable ferrule on the running side to match the exact speed you noted while the first side was running.
21. Now let off the throttle and reconnect your supercharger.

Adjusting K-37 Carbs (www.goodkarmaproductions.com)

- **Three adjustments: Throttle Cable Adjustment (26) which Controls Depth of Slide Valve, a Throttle Slide-Stop Screw (19) that More or Less "fine tunes" the Slide Valve, and Idle Mixture Adjustment Screw (18) that Sets Air / Fuel Ratio**
- **Cautions:**
 - **Spare Needles and Other Parts are Hard to Find**
 - **Parts DO Fall Off If Lock Nuts Aren't Tight. Also, they do require pretty regular tweaking to keep things running smooth.**
- **Suspect Carb Problems, Indicated by Excessive Backfiring, Difficulty Starting Even with Good Spark, or Having Boots Soaked with Gasoline... There Are Few Things to Check before Tearing Things Apart**
 - **Ensure Good Spark and Points and Plugs Are Gapped Properly**
 - **Check Color of Spark Plugs**
 - **Should Be a Nice Brown Color**
 - **Realistically Usually Dark, but Shouldn't Be Caked with Carbon**
 - **Check Floats**
 - **Cut Fuel Off and Drain Bowls by Loosening the Lower Filter (7)**
 - **Pull Float Covers and Make Sure Float Is Seated Correctly with Plenty of Free Travel**
 - **Check Air Intake Tubes for Leaks**
 - **Check Nuts Holding Carb Body to Cylinder Head**
 - **Check for Good Fuel Flow from Tank, Even on Both Sides**
- **Determine Running Rich or Lean, As Indicated by Spark Plug Color**
- **Two Screen Filters Need to Be Checked If You're Lean:**
 - **In Petcock (fuel tap) under Tank at Top of Bowl and / or Another Inside Bowl**
 - **In Carburetor: Wrapped around Fuel Port in Lower Filter Plug (7)**
- **If Filters are clean and Idle / Throttle Adjustments Are Good, then Mixture Should Be Adjusted**
 - **Fuel Control Mixture Screw; so CCW (out) Is Rich and CW (in) Is Lean**
 - **Rule of Thumb Is that If Mix Adjustment Is On Outflow Side (next to the cylinder), Then It's a Fuel Control Screw and CCW = Rich and CW = Lean**

Balancing Carbs & Setting Idle Adjustment

(www.goodkarmaproductions.com)

- **Remove Breathers to Access the Bottom of the Round Throttle Slide (2)**
- **Loosen Lock Nuts on Cable Adjustment Screws (27) and Slide Stop Adjustments (19)**
- **Turn Out Stop Adjustments (19) until They're Loose**
- **Insert a 6mm Drill Bit into Bottom of Breather Intake**
- **Adjust Cable Screw until Base of Throttle Slide Resting on Top of the 6 mm Bit**
- **Tighten Down Lock Nuts on Cables and Turn Stop Adjustments Back In until They Just Make Contact with Throttle Slide**
- **Assuming Your Mixture Screws Are Original and Both The Same Size, Back Them Out about Halfway and Use a Set of Dividers to Measure the Thread Distance from Carb Body, Setting Them Both the Same**
- **Fire Up the Bike, Set the Spark Advance Lever Forward**
- **Pull One Plug Wire and Adjust Stop Screw until That Cylinder Is Running Smooth**
- **Turn the Mixture Screw In until the Cylinder Starts to Choke Out, then Back It Off Slowly until Everything Sounds Right**
- **Plug in Other Cylinder, Unplug First One, and Repeat Process Tuning It by Ear to Match First Cylinder as Closely as Possible**
- **Now Shut It Off and Let Engine Cool Down**
- **Block Front and Hack Wheels and Jack-Up Back of Bike so Pusher (rear wheel) Is Free**
- **Crank It Up Again and Work It to 4th gear. (You need somebody to hold the throttle open now at a good RPM unless it stays in place by itself as most of the older ones do.)**
- **Readjust Mixture Screws Using Same procedure as Before, One Cylinder at a Time.**
 - **Do This Quick to Prevent Excessive Strain on the Engine**
- **If Problems Persist, then Likelihood Is a Clogged Port Somewhere**
 - **Carefully Take Carbs Apart and Blow Everything Out with a Compressor, Then Start Over**

Carburetor Balancing (FoilHeadz Home)

- **Method is Idiot-Proof and Has Been in Use for Generations**
 - **Bet There's Not a Single Twin Max in China or Former Soviet Union**
- **If You Can Tell When Engine Is at Maximum and Minimum Rev's, You Can Easily and Accurately Set Idle and Balance on Your Carbs**
- **Relies on Rev Balancing and Not on Vacuum Measurements (mm Hg/vacuum)**
- **Using a Balancer Assumes There are Equal Conditions in Both Cylinders**
 - **Just Too Many Variables: Spark Plugs, HT Wires, Hot Spots in Cylinders, Compression Variance, Crud on Jets, Valve Leakage, etc**
- **Setting Carbs Properly Is a Two-Step Process**
 - **First, Set Idle Using Adjustment Screw (18)**
 - **The Adjustment Screw Only Affect the Idle Speed!**
 - **Then, Sync the Throttle Slides to Make Sure Both Cylinders Are Running at the Same Speed for the Same Throttle Position**
 - **Basically Want to Ensure that One Jug Is Not Running at 30 mph, while Other Jug Is Running at 50 mph**
 - **May Want to Set-Up a Fan to Keep Engine Cool**
 - **Once You Understand, the Whole Process Can Be Done in Less than 10 minutes**

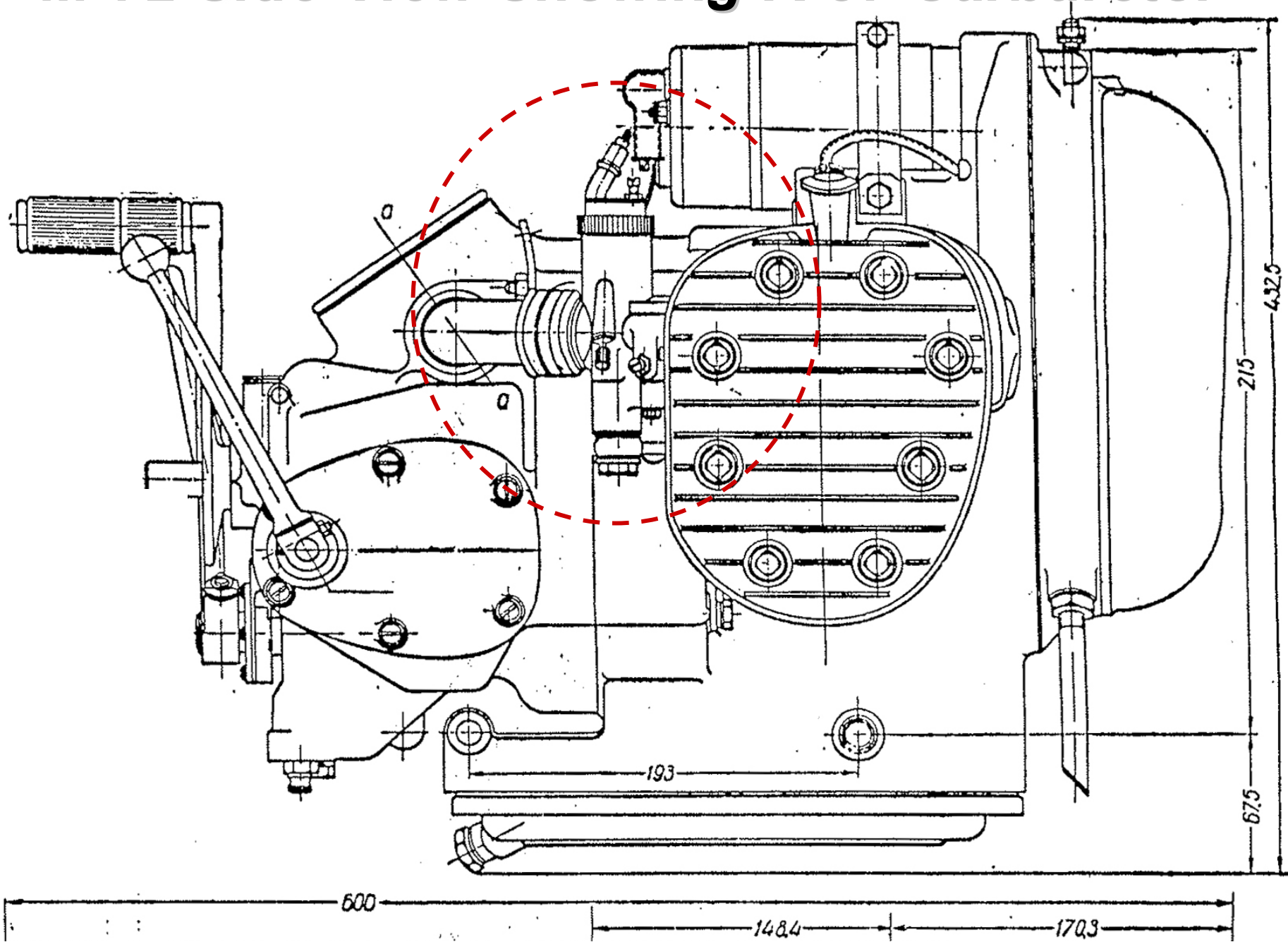
Some folks prefer to match rpm's of cylinders, which takes into account the total performance of each cylinder.

Balancing Carbs

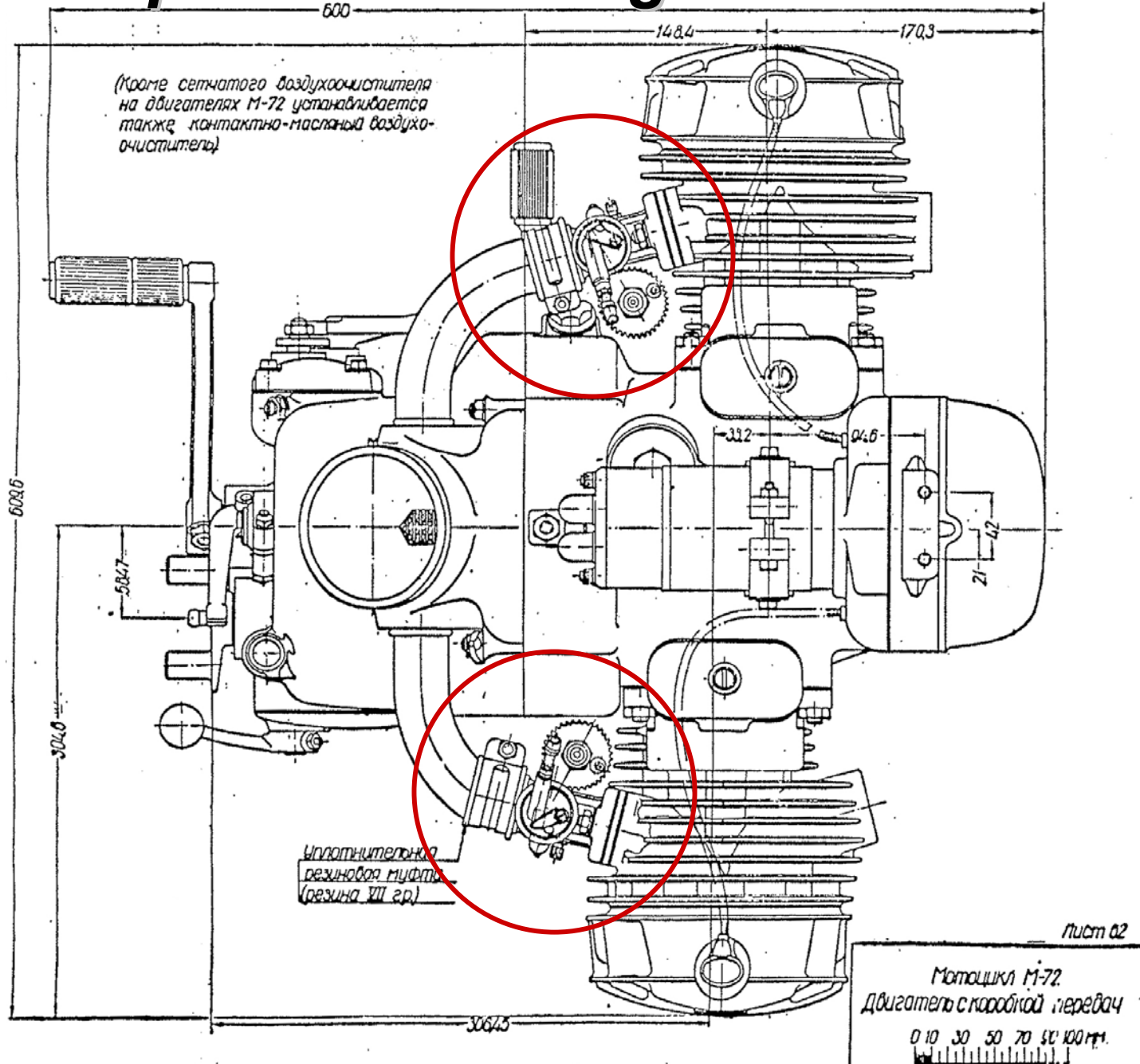
(Manual for Motorcycle with Sidecar M-72, City of Irbit, 1954)

- **Desired Equal Effort of Two Engine Cylinders Ensured by Simultaneous Function of Carbs**
- **Each Carburetor Separately Tuned in Following Order:**
 - **1. Clean Carburetor**
 - **2. Start and Warm-Up Engine**
 - **3. Set Ignition Setting Lever to Idle Retard**
 - **4. Loosen Lock Nut and Throttle Slide-Stop Screw (19)**
 - **Loosen and adjust so far tighten that Round-Slide (2) is easily lifted and the engine makes increase RPM**
 - **5. Firmly Tighten Idle Mixture Adjustment Screw (18) for Adjustment of Mixture after the engine rpm's Decrease, by loosening Screw (19)**
 - **6. No-load operation-nozzle-attentively the work of the engine adjust, the screw 18 for the adjustment of the mixture loosen and such a position give, at which the engine with highest number of revolutions works evenly. Then the screw 19 unscrew and the number of revolutions to the extreme reduce. As soon as the adjustment has been completed one must secure the screws (18) and (19) by lock nuts**
 - **7. Raise Slide of Carburetor which can be adjusted by hand in place of the cable, if thereby an increase of the number of revolutions is reached. Thus the attitude is terminated. Adjust the second carburetor in the same manner**
- **Balancing or Synchronizing Carburetors**
 - **Jack Up the Motorcycle**
 - **Start Engine and Shift into 4th gear**
 - **Then switch a cylinder off (Remove Ignition Cable)**
 - **Increase number of revolutions of Engine, until Speedometer Indicates 30 km/hr**
 - **Some minutes with this function wait, then the working cylinder off switch and the other cylinder on switch.**
 - **If one opens or closes the butterfly valve somewhat, one achieves the same tachometer stand with the help of the cable delimitation.**
 - **Since such an adjustment lasts a long time, one must be careful not to overheat the engine.**

M-72 Side-View Showing K-37 Carburetor



M-72 Top-View Showing K-37 Carburetors



Individual Parts



Idle Mixture Adjust Screw



Rubber Cover



Many carb parts, such as the rubber cover and metering pin, are interchangeable between the K-37 and the PZ-28.