

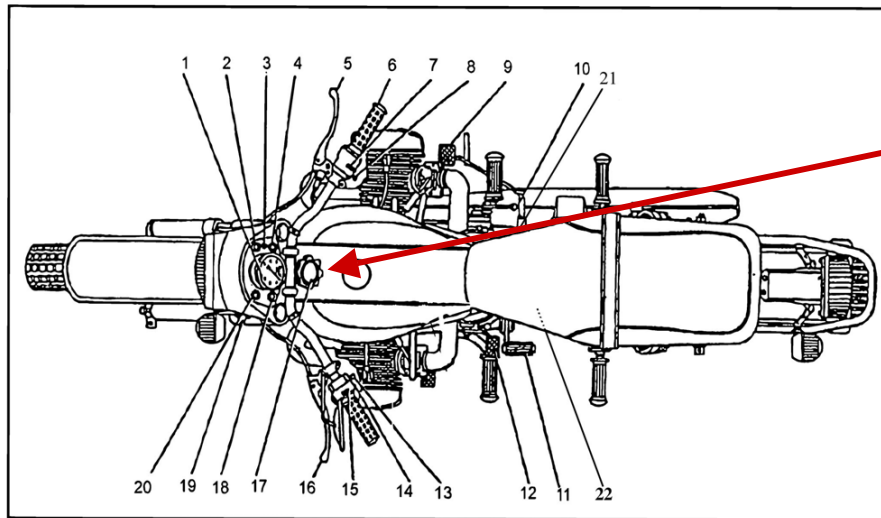
# ***Russian Motorcycle Steering Dampers***

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February 2012***



# **Sorting Out the Steering Damper**

- **Order of Presentation**
  - **Function of the Steering Damper**
  - **Sort by Manufacturer: Ural (Урал) or Dnepr (Днепр)**
  - **Evolution of the Steering Damper**
    - **Little Change, Except for Tapered Steering Head Bearings**
      - **Last Longer with Less Need for Adjustment and/or Replacement**
      - **Tapered Roller Bearing Set for Steering Head up to 07: 'Sch775-01**
      - **Tapered Roller Bearing for Steering Head from 2008: 32006X/Q**
  - **Order-of-Assembly Is Important**
    - **Need to Know How to Re-Assemble the Steering Damper**
    - **Need to Order Replacement Parts**
  - **Adjustment of the Steering Damper**
  - **Alternatives to the Friction Steering Damper**



*The steering damper adjustment twist-knob is centered between the handlebars.*

**The steering damper on the Ural / Dnepr motorcycle has remained relatively unchanged over the last 60 years.**

# ***Function of Steering Damper (Wikipedia)***

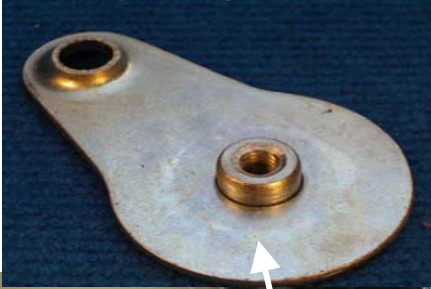
- ***Damping Device Designed to Inhibit an Undesirable, Uncontrolled Movement or Oscillation of Motorcycle Steering Mechanism, known as Wobble or in Extreme Cases, a Tank-Slapper***
- ***For Motorcycles with Sidecars, where the Front Wheel Geometry, or “Trail”, Steering Damper Prevents Low-Speed Wobble at 10 to 20 mph***
- ***Ural and Dnepr Use Adjustable-Friction Dampers***
  - ***Composed of Two Steel Washers, Moving and Fixed, Two Fiber Washers and Tightening Bolt with Knob***
  - ***Friction between Steel and Fiber Washers Makes Turning of Front Fork More Difficult***
  - ***One End of Damper Mounted to Steering Yoke or Triple Tree***
  - ***Other End Connected to Frame***
- ***Hydraulically-Operated Steering Dampers May Be Retro-Fitted***
- ***Scientific Background***
  - ***When driving on rough road, side impacts deflect the fork from a straight position***
  - ***Due to stabilizing moment, the fork tends to revert to its original position, but because it and the wheel are of considerable weight, the force of inertia is the neutral position and rotated in the opposite direction.***
  - ***Torsional oscillations occur around the axis of rotation of the fork. At high speed, the nature of the alternation of these forces can match the natural frequency of the fork from the resonance amplitude begins to increase and the bike becomes unstable and breaks. Moreover, efforts are increasing to such an extent that it is impossible to hold the wheel with his hands.***
  - ***To reduce the likelihood of torsional vibration damper mounted on the fork. The damper has a set of friction washers, one of which is connected to the fork, the other - with the frame. Washers are pressed together under the Belleville spring force which is regulated by the draw bolt. When you rotate the fork between the motorcycle washers, frictional forces prevent the buildup of oscillations.***

***Urals and Dneprs have the old-school, friction-type steering damper that twists to increase or decrease pressure on the steering column.***



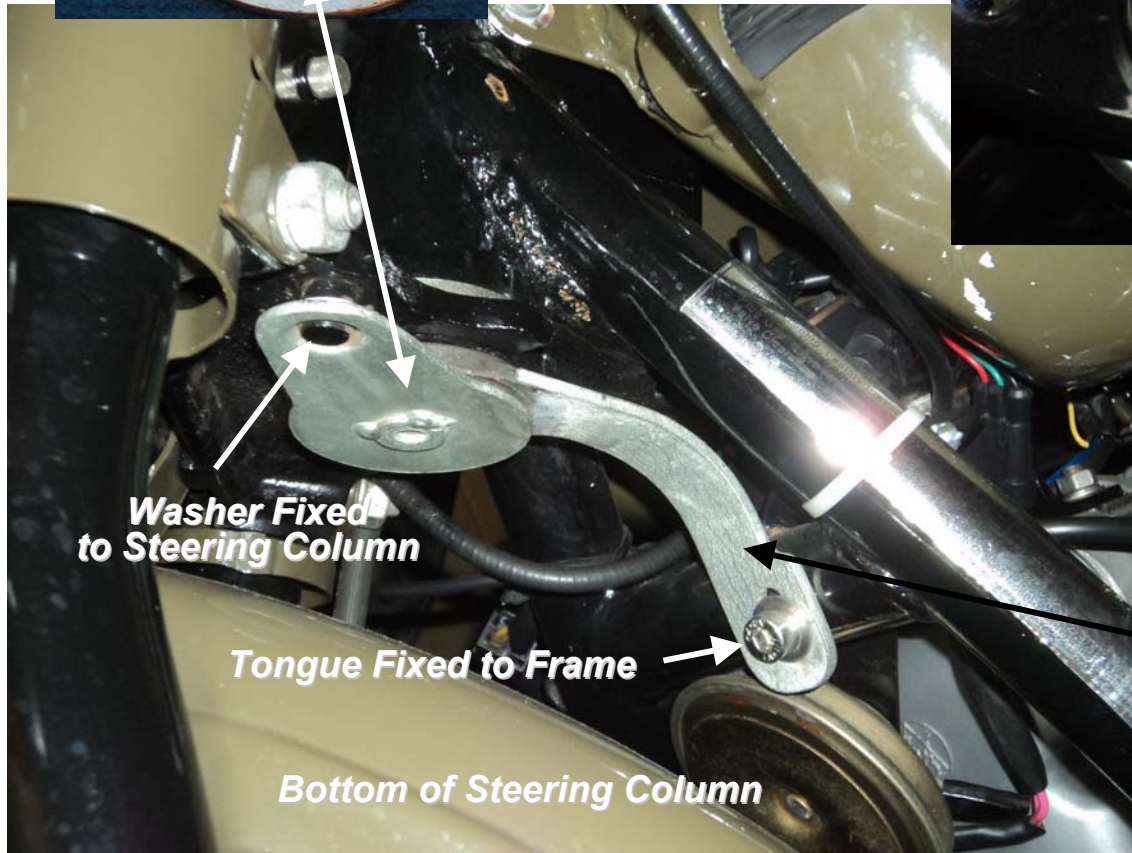
# 2003 Ural Patrol Steering Damper

**Sliding Damper Washer**



**Spring**

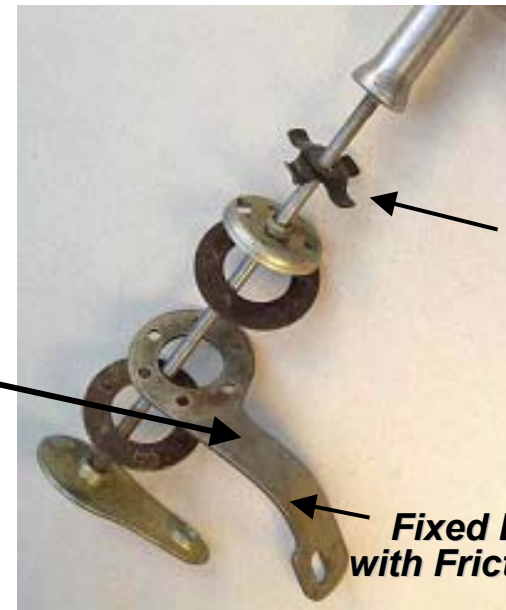
**Damper Adjustment Knob**



**Washer Fixed to Steering Column**

**Tongue Fixed to Frame**

**Bottom of Steering Column**



**Spring**

**Fixed Damper with Friction Discs**

# ***Steering Damper Adjustment***

- ***If the Steering Is So Stiff that When You Turn Left or Right, It Stays That Way, Rather than Self-Centering, You Need to Slack Off on the Damper***
  - ***On rough surfaces you can screw down (clockwise) the big steering damper knob to take out the worst of the feedback, as long as you remember to unscrew it a bit to lighten the steering when the going gets smooth again.***
- ***WARNING: DO NOT OVER TIGHTEN THE STEERING DAMPER SINCE THE MOTORCYCLE WILL BECOME VERY DIFFICULT TO HANDLE.***
- ***Before Adjusting the Steering Damper, Check:***
  - ***Steering Head Bearings (snugged down too tight?)***
    - ***Check to see how freely the steering turns with the front wheel off the ground***
    - ***Use the Center-Stand; else a jack would be needed***
  - ***Tire Pressure***
  - ***Spokes***
  - ***Loose Mounts***
  - ***Wheel Bearings***
  - ***Excessive Toe-In / Toe-Out***
  - ***Rear Suspension Bushings***
- ***Lubrication Service from Maintenance Manuals***
  - ***Ural M-72 (1954)***
    - ***Grease Thrust Bearing of Steering Column (2 points) every 1,000 km***
    - ***Remove Yearly or Every 8,000 km; Wash and Grease (re-pack)***
  - ***2000 650 Ural Shop Manual Elect Start***
    - ***Steering Column Bearings: Grease Every 20,000 km***

***Some folks don't understand the function of that big, black knob in the center of the handlebars.***

# Steering Damper Adjustment Knob

([sovietsteeds.com/forums/viewtopic.php?p=31299](http://sovietsteeds.com/forums/viewtopic.php?p=31299))

- Primary purpose of damper is for rough roads...tighten it down to dampen the swing of the bars whilst sailing down wash-board roads.
- How you adjust it for daily driving will depend on your personal preference and how your rig handles.
- If I give my handlebars a quick left then quick right when going in a straight line the steering feels loose. The bike responds very quick to this. Is that loose or is that the way it should be?
- If you do a quick left then quick right then back to center and the handlebars aren't wobbling away then you're in good shape. If you go over small potholes or grooved sections in the road and the bars want to twist out of your hands you should give it a tighten
- If your handlebars shake at low speed, i.e. less than 30 mph, you can tighten up on the damper a bit until the shaking stops.  
If the handlebars don't shake, don't do anything with the damper.  
Some sidecar rigs do it, some don't, the damper allows for a little fine tuning
- If the rig is hard to turn and wants to go its own way the damper is probably too tight. So wants to be between that and the wobble at low speeds
- Probably varies from bike to bike. you may need to just play with it in a parking lot and feel how it drives as you change it. Best answer.....BTW, careful on the too loose side...things will fall off from under the steering head if you turn it too far out. No biggie, but you have to put it back together. Chris
- So if I turn down where it's pretty snug, how many turns back would anyone guess would be enough with out, making it too loose. When I made it loose I could wiggle the handle forward and backward real easy.
- I believe you are looking at it backwards. Start with is very loose and then just barely tighten it up. If you still get a head shake then tighten it another quarter turn. Don't over tighten or you will pay for it at highway speeds.  
I loosened mine two turns and noticed an improvement. After another ride, I loosened it one more turn, and now it rides great (on paved roads at 50mph or so).  
I have no idea how much it was cranked up to begin with though.
- If mine's too loose, it'll shake it's head even coming to a stop. Mine's tightened up so as to not have this. Too tight and when you move the bars the steering head will not want come back to center, and the rig will drift and become REALLY squirrely. Chris



# Evolution of the Steering Damper

- **Steering Damper Adjustment Knob**
  - Wing-Nut
  - Aluminum or Stainless Steel Knob
  - Bakelite Knob
  - Triangular Knob
  - Decorative Wooden
- **Steering Head (Thrust) Bearings**
  - Original Thrust Ball bearings:
  - Tapered Steering Head Bearings
    - Last Longer with Less Need for Adjust
    - Tapered Roller Bearing Set for Steel
    - Tapered Roller Bearing for Steering

Wing-Nut Damper Rod



Aluminum Damper Knob



Sch775-01  
2006X/Q

Bakelite Damper Knob



Triangular Damper Knob



Ural Wood-Capped Steering Damper Rod



Tapered Steering Head Bearings



Original (72081-2): Bearing complete with lower and upper shell and balls



**The steering damper on the Ural / Dnepr motorcycle has remained relatively unchanged over the last 60 years.**

# Ural Steering Dampers



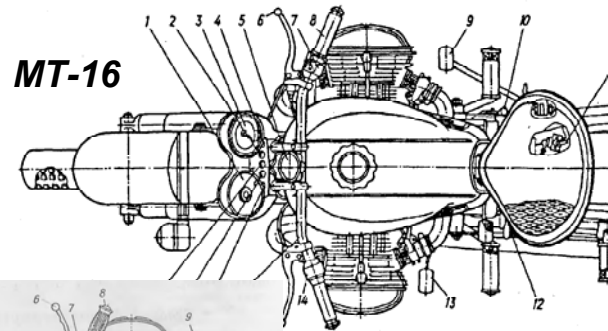
**Stiffening Ural steering damper makes it easier to ride over uneven surfaces.**



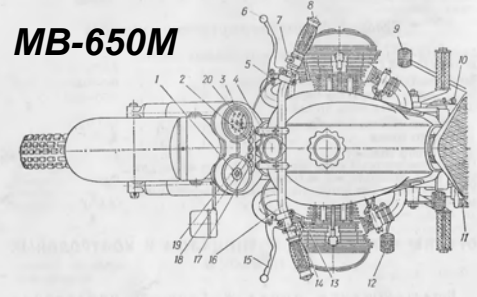
# More Steering Dampers

Dnepr MB-650  
([www.russianiron.com](http://www.russianiron.com))

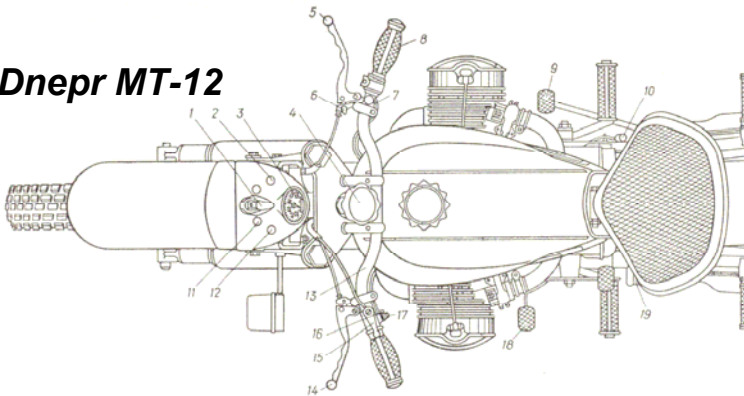
MT-16



MB-650M



Dnepr MT-12



2011 Ural M-70

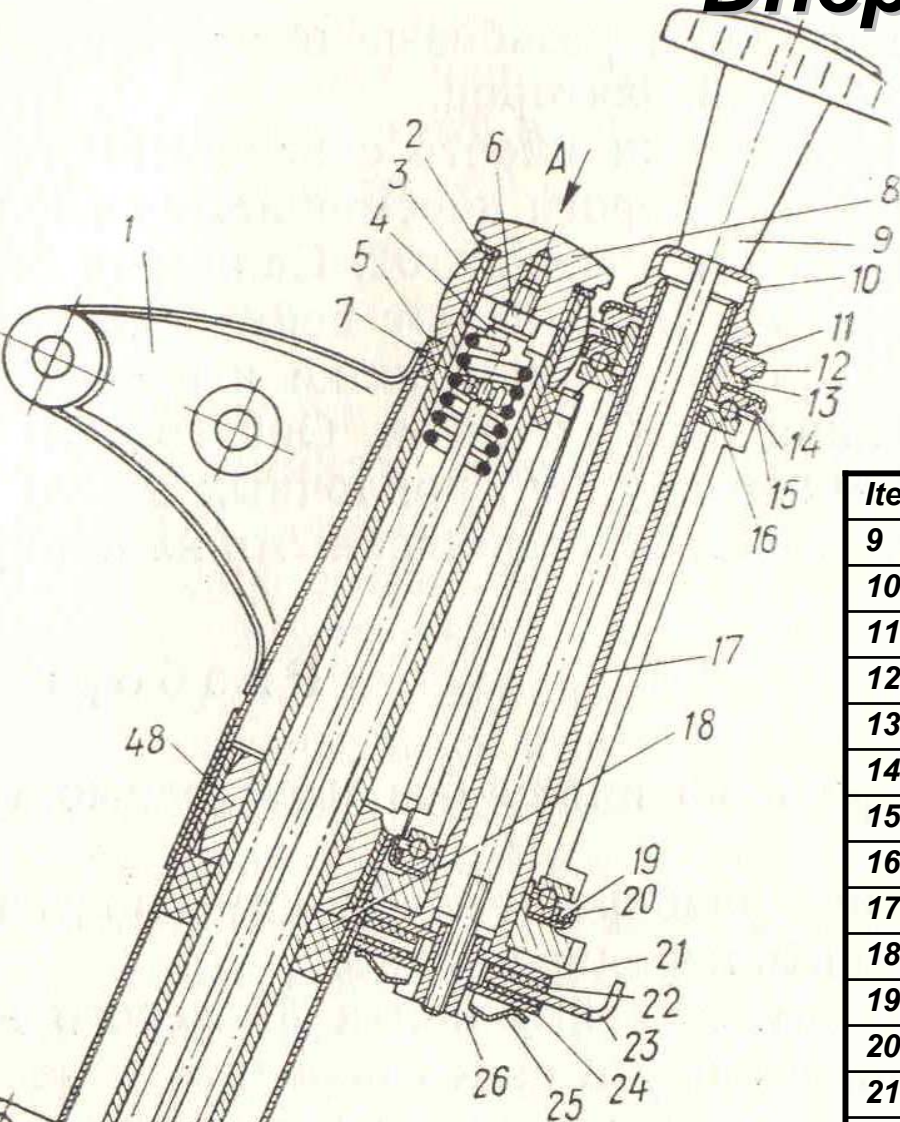


**Even the latest Ural off the line, the M-70, has a frictional steering damper.**

# ***Part Numbering***

- ***Parts Catalog Number***
  - ***Consists of 7 or 8 Figures***
  - ***First Two Figures of a 7-Digit Number, or First Three Figures of 8-Digit Number, Show the Type of Motorcycle***
    - ***Example: 7208313 (Bearing Nut)***
      - ***72 (first two digits) Give the Type of Motorcycle (Type M-72)***
      - ***Next Two Figures (08) Indicate the Number of the Group (Front Fork on K-750)***
      - ***Last Three Figures (313) Indicate the Number of the Part in the Group***
  - ***Another Example: 65020201 (Axle for Sidecar Wheel)***
    - ***650 (first three digits) Give the Type of Motorcycle (Type K-650)***
    - ***Next Two Figures (20) Indicate the Number of the Group (Sidecar Chassis Group)***
    - ***Last Three Figures (201) Indicate the Number of the Part in the Group (Axle for Sidecar Wheel)***

# Днепр МТ-12

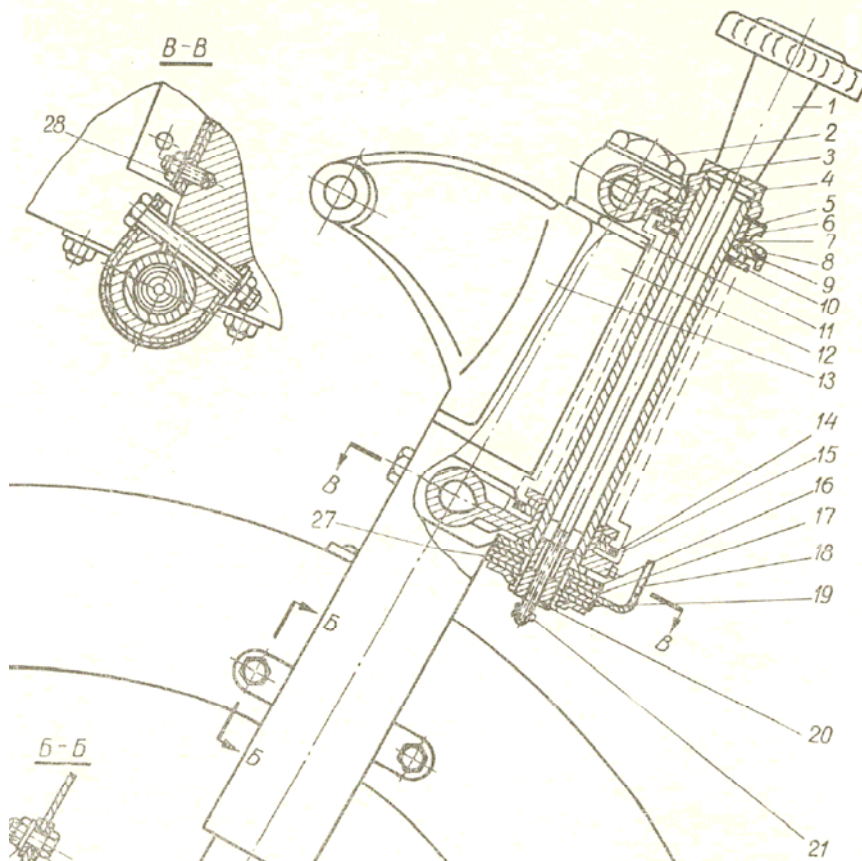


Item #	Description
9	Барашек амортизатораруля: <b>Damper Rod</b>
10	Специальные гайка: <b>Special Nut</b>
11	замочная шайба: <b>Key Washer</b>
12	Траверса: <b>Crossmember</b>
13	гайка подшипников: <b>Bearing Nut</b>
14	Сальник: <b>Seal (gland)</b>
15	Защитная шайба: <b>Protective Washer</b>
16	Шарикоподшипник: <b>Ball Bearing</b>
17	стержень рулевой колонки: <b>Steering Column Rod</b>
18	направляющая Муфта: <b>Guide Coupling</b>
19	Сальник: <b>Seal (gland)</b>
20	Защитная шайба: <b>Protective Washer</b>
21	шайба амортизатора руля: <b>Steering Damper Washer</b>
22	шайба фрикционная: <b>Friction Washer</b>
23	шайба с хвостовиком: <b>Washer with Stem</b>
24	Нижняя шайба: <b>Bottom Washer</b>
25	пружинная шайба: <b>Spring Washer</b>
26	Специальные гайка: <b>Special Nut</b>








# K-650 Steering Damper

- **Steering Damper Absorbs Lateral Jolts while Riding on Rough Roads**
- **Damper Consists of Two Movable Washers (16, 27), Stationary Washer (18) and Nut (1) with Baklite Head**
- **Upper Movable Washer (16) Pressed to Lower Part of Fork Bridge Tube Butt End**
- **Stationary Washer (18) End Attached to the Frame**
- **Spring Washer (19) Located between Butt End of the Nut of Damper and Movable Washer (27)**
- **When Clamp Nut (1) of Damper Rod Is Screwed In, Spring Washer (19) Builds Up Pressure, Yielding Friction to Turning, Vibrations Are Damped**



Item #	Description
1	Steering Damper Rod
4	Special Nut
5	Lock Washer
6	Traverse
7	Bearing Nut
8	Protective Washer for Bearing
9	Seal (gland)
10	Ball Bearing
13	Head Light Bracket
14	Seal (gland)
15	Seal Shell
16	Upper Movable Washer
17	Friction Washer
18	Stationary Washer with Lug
19	Spring washer
20	Special Nut
21	Cotter Pin
27	Lower Movable Washer
28	Nut

# Ural (Урал) / Dnepr (Днепр) Steering Damper Parts

Ural (Урал) Model	Tightening Rod	Damper Arm	Fixed Plate	Spring Plate	Steering Head Thrust Bearing
M-72 (1941+)	7208310	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
M-72M	7208310	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
M-72K	7208310	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
M-61	7208310	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
M-62	IMZ-8.101-08031	6308304	62808039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm)
M-63 (Ural-2)	IMZ-8.101-08031	6308304	62808039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm)
M-66 (Ural-3)	IMZ-8.101-08031	6308304	62808039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm)
M-67	IMZ-8.101-08031	6308304	62808039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm)
M-67.36	IMZ-8.101-08031	6308304	62808039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm)
8.103 and 8.107 Series "650"	IMZ-8.101-08031	6308304	6208039	IMZ-8.101-08317 (top)	2X 72081-2 (34x51x14mm) / 778707
"750"Series	IMZ-8.101-08031 	IMZ-8.1037-08032 	62-08039 	IMZ-8.101-08317 (top)   Top Bottom	Bearing Set up to 2007 (Russian) 72081-2 650cc Tapered Set up to 2007 (650cc) 'Sch775-01 (Japan) Bearing Unit from 2008 (Russian) (750cc) '2007106 Tapered Bearing from 2008 (FAG) per unit 750cc '32006X.

Dnepr (Днепр) Model	Tightening Rod	Damper Arm	Fixed Plate	Spring Plate	Thrust Bearing
M-72 (1954+)	72083-1	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
M-72N (H)	72083-1	7208307	7208306	7208317 (top)	2X 72081-2 (34x51x14mm)
K-750	5308300-П	5308321-Б	7208301	5308328 (bottom)	2X 72081-2 (34x51x14mm)
K-750M	75008300	75008322	7208301	5308328 (bottom)	2X 72081-2 (34x51x14mm)
MT-12 (Dnepr-12)	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MB-750	75008300	65008323	7208301	5308328-A (bottom)	2X 72081-2 (34x51x14mm)
MB-750M	75008300	65008323	7208301	5308328-A (bottom)	2X 72081-2 (34x51x14mm)
K-650/MT-8	75008300	65008323	7208301	5308328-A (bottom)	2X 72081-2 (34x51x14mm)
K-650/MT-9	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MB-650	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MT-10	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MT-10.36	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MT-11 (Dnepr-11)	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)
MT-16 (Dnepr-16)	75008300	65008323	7208301	5308328-A (bottom)	2X 778707 (34/35x51x12.1mm)

# Damper Steering Components *(moto-boxer.com)*



**Steering Damper Rod with Aluminum Knob (N.O.S.)**  
List Price: €23.60  
Product ID: 1146



**Steering Damper Rod with Bakelite Knob**  
List Price: €21.24  
Product ID: 1150



**Steering Head Bearing Dust Washer, Rubber Seal**  
List Price: €1.00  
Product ID: 839



**Steering Head Bearing Dust Washer with Rubber Seal**  
List Price: €2.36  
Product ID: 1157



**Friction Plate Facings**  
List Price: €18.88  
Product ID: 1760



**Set of Two Steering Head Bearing Dust Washers (N.O.S.)**  
List Price: €5.90  
Product ID: 1471



**Friction Plate Facing for M-72, M-61 and M-62**  
List Price: €11.80  
Product ID: 1857

**N.O.S = New old stock, referring to obsolete equipment, or original parts for obsolete equipment, that have never been sold. Merchandise being offered for sale which was manufactured long ago but that has never been used.**



# More Damper Steering Components (moto-boxer.com)



**Steering Damper Rod  
for M-72 (Replica)**  
List Price: €16.52  
Product ID: 1149



**Steering Damper Rod  
with Aluminum Knob (N.O.S.)**  
List Price: €16.52  
Product ID: 1147



**Steering Damper Rod  
with Bakelite Knob**  
List Price: €14.16  
Product ID: 1151



**Steering Head Bearing Dust  
Washer with Rubber Seal (N.O.S.)**  
List Price: €3.54  
Product ID: 1158



**Set of Two Steering Head Bearing  
Dust Washers for M-72 (N.O.S.)**  
List Price: €5.90  
Product ID: 1909



**Set of Two Steering Head Bearings  
( 51mm OD, 34/35mm ID, 12.1mm HT)**  
Part #: 778707  
List Price: €12.98  
Product ID: 974

**N.O.S = New old stock, referring to obsolete equipment, or original parts for obsolete equipment, that have never been sold. Merchandise being offered for sale which was manufactured long ago but that has never been used.**

# More Damper Steering Components (moto-boxer.com)



**Upper Plate for Ural Steering Damper  
with Spring Plate**  
Product ID: 1678  
List Price: €7.08



**Steering Damper Adjuster Nut**  
List Price: €7.08  
Product ID: 1169



**Steering Column Nut  
for M-72 and Ural**  
List Price: €7.08  
Product ID: 1191



**Steering Column Nut  
for K-750 and MB-750**  
List Price: €7.08  
Product ID: 1189



**Steering Column Nut Tab Washer**  
List Price: €2.01  
Product ID: 1190



**Steering Damper Plate  
for M-72 (Replica)**  
List Price: €20.06  
Product ID: 1743

# Damper Steering Components (oldtimergarage.eu)



**Steering Damper Arm  
for M-72**  
Product ID: 002.329  
List Price: €30.25



**Steering Damper Friction Plate  
for M-72**  
d=31, D=60mm, pair  
Product ID: 003.039  
List Price: €8.07



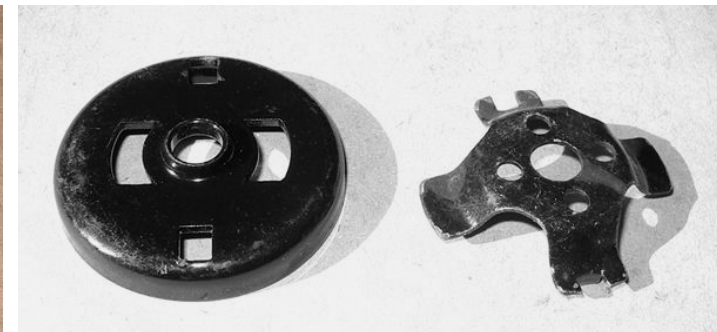
**Complete Steering Damper**  
Part #: IMZ101-08031 Ural  
Product ID: 000.472  
List Price: €48.39



**Steering Damper Screw  
for K-750/MB-750**  
Part #: 75008300  
Product ID: 000.471  
List Price: €22.18



**Steering Damper Friction Plate  
(inner 21 mm, outer 60 mm)**  
Product ID: 002.301  
List Price: €2.52



**Steering Damper Washer and Spring  
for M-72, Ural, MB-750, K-750**  
Product ID: 002.302  
List Price: €12.10



# More Damper Steering Components (oldtimergarage.eu)



**Steering Damper Nut (Cr)**  
M-72 #: 75008175  
Product ID: 000.181  
List Price: €8.07



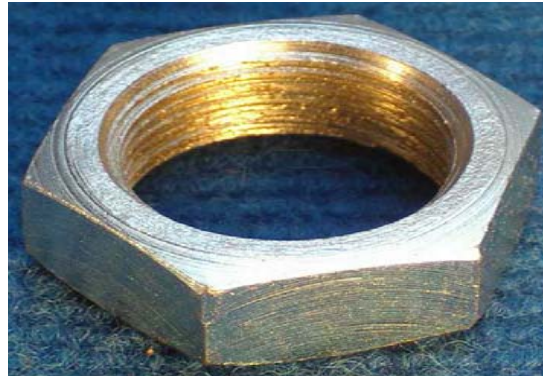
**Steering Damper Spring Washer**  
Dnepr #: 5308328-A  
Product ID: 000.177  
List Price: €3.02



**Steering Damper Washer, Fixed**  
M-72 #: 72-08301  
Product ID: 000.176  
List Price: €6.05

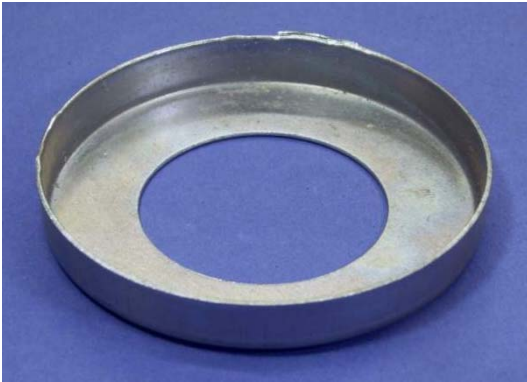


**Steering Damper Bearing Nut**  
M-72 #: 72-08313  
Product ID: 000.201  
List Price: €4.54



**Steering Damper Nut (Zn)**  
M-72 #: 72-08314  
Product ID: 000.203  
List Price: €4.03

# Damper Steering Components (ural-zentrale.de)



**Steering Head Bearing Cover**  
Steel, zinc-plated for steering head bearing S878 and S4017  
To fit together with part S878-G  
Product ID: S878-A  
List Price: €2.49



**Steering Head Bearing Nut**  
Product ID: S2111  
List Price: €2.99



**Steering Stem Cap Nut, zinc-coated**  
Product ID: S2112  
List Price: €2.99



**Steering Head Bearing**  
for Dnepr /Ural / K-750 / M-72, etc.  
original design, 1 bearing complete with lower and upper shell and balls  
Product ID: S878  
List Price: €8.49



**Steering Stem Cap Nut, chrome-plated, for all models**  
Product ID: S2094  
List Price: €6.99



**Nut Steering Head Nut for M-72**  
Product ID: S2248  
List Price: €2.99



# More Damper Steering Components (ural-zentrale.de)



**Top Spring Plate  
for M-72**  
Product ID: S880-FO  
List Price: €4.90



**Spring Holder Top  
(fits under steering  
damper handle)**  
Product ID: S880-FT  
List Price: €4.50



**Wing Nut Steering Damper Rod  
for M-72**  
Product ID: S2008  
List Price: €9.99



**Stainless Steel Knob for  
Steering Damper**  
Copy of the original alloy knob  
in heavy duty stainless steel  
finish (250 g)  
With 8 mm fine pitch thread.  
Diameter knob: 63 mm, overall  
height: 65 mm  
Surface brightly polished  
Product ID: S880-VA  
List Price: €17.99



**Steering Damper including  
bolts and washers (Dnepr)**  
Knob black ( not Aluminum)  
Notice also our polished Inox-  
steel steering-damper knob  
Product ID: S880  
List Price: €24.55



**Sealing Set for Telescopic  
Forks K-750, Ural and Dnepr**  
Not for M-72!  
Product ID: S2007  
List Price: €8.99



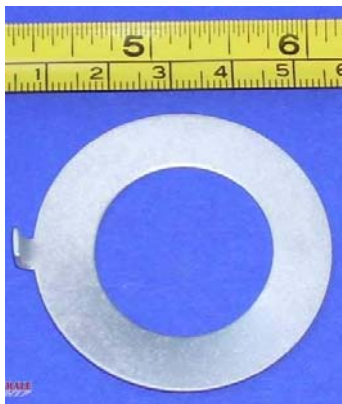
**Rubber Sealing Ring of Steering  
Head Bearings S878 and S4017**  
Product ID: S878-G  
List Price: €1.99



# More Damper Steering Components *(ural-zentrale.de)*



**Counter Nut**  
Product ID: S880-Mu  
List Price: €1.99



**Lock Washer for Steering Head Bearing Nut**  
Product ID: S2111-Si  
List Price: €1.79



**Steering Damper Slide Plate**  
Product ID: S880-Gb  
List Price: €2.99



**Retaining Plate Steering Damper**  
Product ID: S880-Hb  
List Price: €3.99



**Steering Damper Shim Washer**  
Product ID: S880-ZS  
List Price: €3.99



**Bottom Spring Plate**  
Product ID: S880-Fb  
List Price: €2.99



**Steering Damper Friction Pad**  
Bond or Rivet to Original damper S8080  
Product ID: S3838  
List Price: €1.99

**Improved Headset Bearing:  
Cone / Taper Bearing for all  
Ural, Dnepr, Chang Jiang  
Bikes. Fits M-72, Simply  
exchange with original  
bearing!**  
Gauge: 34-51-12 mm  
Needed quantity for one  
motorcycle: Two pieces  
Product ID: S4017  
List Price: €15.99



# **Damper Steering Components** ([www.henriksson.ee](http://www.henriksson.ee))



**Set of Two Bearings**  
**Part #: 72081-2 / 778707**  
**List Price: 210 kr new**



**Friction Washer**  
**Part #: 5308316**  
**List Price: 24 kr new**



**Steering Stem Cap, chrome**  
**Part #: 75008175/ 5308174**  
**List Price: 69 kr new**



**Complete Steering Damper**  
**for K-750M**  
**List Price: 295 kr new**



**Steering Head Bearing Nut**  
**Part #: 7208313**  
**List Price: 63 kr new**

# ***Damper Steering Components*** (shop.ural.cz)



***Rubber Seal  
for M-72/K-750/Dněpr/Ural  
Part #: IMZ-8101-08159  
List Price: 67 Kč (CZK)***



***Steering Column Bearing  
Replacement of the Russian Thrust Bearing  
(tapered roller, replacement, set of 2)  
Part #: 778707/NEW/SET  
List Price: 1,620 Kč (CZK)***



# Complete Steering Dampers



**Steering Damper**  
for Ural M-61, -63, -65, -66, M-67.63  
([www.ebay.com.au](http://www.ebay.com.au))



**Steering Damper**  
for Dnepr K-750, MB-650\750  
List Price: €12.00 (new)  
[www.ebay.at](http://www.ebay.at)



**Steering Damper**  
Dnepr / Ural K-750  
List Price: €9.0 (new)  
[www.ebay.at](http://www.ebay.at)



**Steering Damper**  
for Dnepr / Ural K-750  
List Price: €14.0  
[www.ebay.co.uk](http://www.ebay.co.uk)

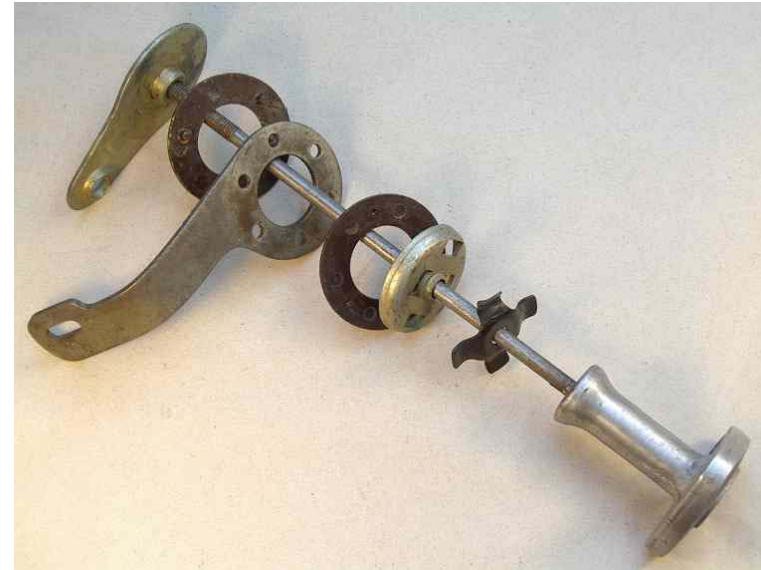


**Steering Damper**  
for Dnepr  
Part #: 75008300  
Product ID: 75008300  
List Price: 515 Kč  
[shop.ural.cz](http://shop.ural.cz)

# More Complete Steering Dampers



Steering damper including bolts and washers (Dnepr) Knob black ( not Aluminum)  
Product ID: S880  
List Price: €24.55  
[ural-zentrale.de](http://ural-zentrale.de)



Complete Steering Damper  
Part #: IMZ-8.101-08031 URAL  
Product ID: 000.472  
List Price: €48.39  
[oldtimergarage.eu](http://oldtimergarage.eu)



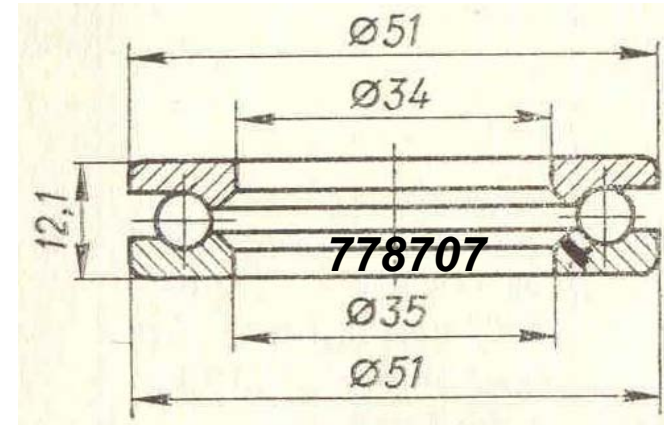
Steering Damper  
for Dnepr K-750, MB-650/750  
List Price: €12.0  
[www.ebay.at](http://www.ebay.at)



Steering Damper  
for Dnepr  
List Price: \$17.99  
[www.ebay.com](http://www.ebay.com)

# 778707 K Thrust Bearing

- **Ural / Dnepr Maintenance / Repair Manuals States 778707 = 72081-2**
  - 778707 Is the Number from the Bearing Factory
  - 72081-2 Is the Same IMZ Bearing from the IMZ Motorcycle Works
- **Height or Thickness of Bearing**
  - 778707: 12.1 mm thick
  - 72081-2: 14 mm thick
- **Thrust Ball Bearing**
  - Single Thrust with Seating Rings
  - Main dimensions:
    - $d = 34 / 35 \text{ mm}$
    - $D = 51 \text{ mm}$
    - $H = 12.1 \text{ mm}$
    - Weight = 0.085 kg



Set of Two Steering Head Bearings  
( 51mm OD 34/35mm ID 12.1mm HT)  
Part #: 778707  
List Price: €12.98  
Product ID: 974

A set includes two steering bearings.



Steering column bearing (axial, ball, 1 pc)  
Part #: 778707  
List Price: 185 Kč (CZK)  
(shop.ural.cz)



# ***Ural Steering Head Bearings***

- ***Steering Bearing Set up to 2007 (Russian) '72081-2 (650 / 750cc)***
- ***Tapered roller bearing set for steering head up to 2007 (650 / 750cc)***  
***'Sch775-01 (Japan)***
- ***Steering bearing from 2008 (Russian) per unit (750cc) '2007106***
- ***Tapered roller bearing for steering head from 2008 (FAG) per unit 750cc***  
***'32006X.***



**Part #: 778707**  
**(shop.ural.cz)**



**Sch775-01**  
**(www.ural.cc)**



**SKF 32006X/Q**  
**(www.shkdbearings.com)**

- ***Tapered Roller Bearings (Single-Row, Metric)***

- ***d: 30 mm***
- ***D: 55 mm***
- ***t: 17 mm***

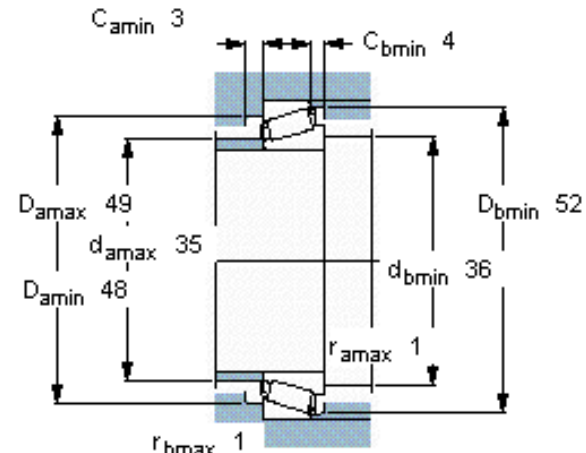
- $C: 35.8 \text{ kN}$
- $C_o: 44 \text{ kN}$

- $P_u = 4.55 \text{ kN}$

- **Reference Speed: 9,000 rpm**
- **Limiting Speed: 12,000 rpm**

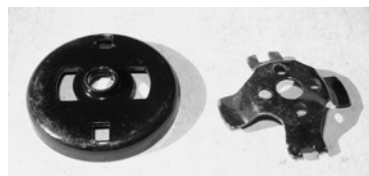
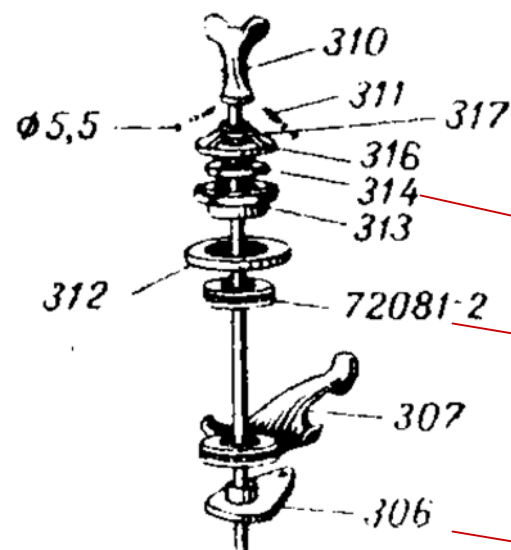
Technical drawing of a vertical shaft with the following dimensions and labels:

- Top Section:**
  - $T$  17 (Top diameter)
  - $C$  13 (Top shoulder diameter)
  - $r_{1,2min}$  1 (Top fillet radius)
- Shaft Body:**
  - $B$  17 (Main shaft diameter)
  - $d$  30 (Internal thread diameter)
  - $d_1$  43 (Outer diameter of the lower part)
  - $r_{3,4min}$  1 (Bottom fillet radius)
  - $a$  13 (Bottom shoulder diameter)
- Total Height:**  $D$  55



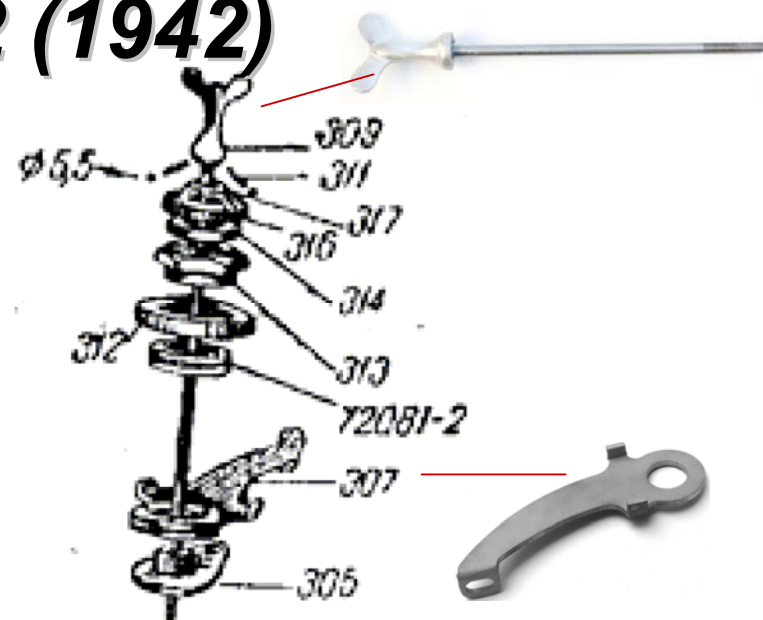
***Modern Urals use improved, tapered roller-bearings.***

# Ural (Урал) M-72 (1942)



Listed in "Order of Assembly"

Part #	Description
72-08310	Rod with Wing Nut
72-08311	Spring
72-08317	Spring Washer
72-08316	Support Washer
72-08314	Steering Column Stem Nut
72-08313	Bearing Nut
72-08312	Ball Bearing Upper Guard Washer
72081-2	Bearing (34x51x14)
72-08307	Steering Damper Fixed Washer
72-08306	Friction Washer



Listed in "Order of Assembly"

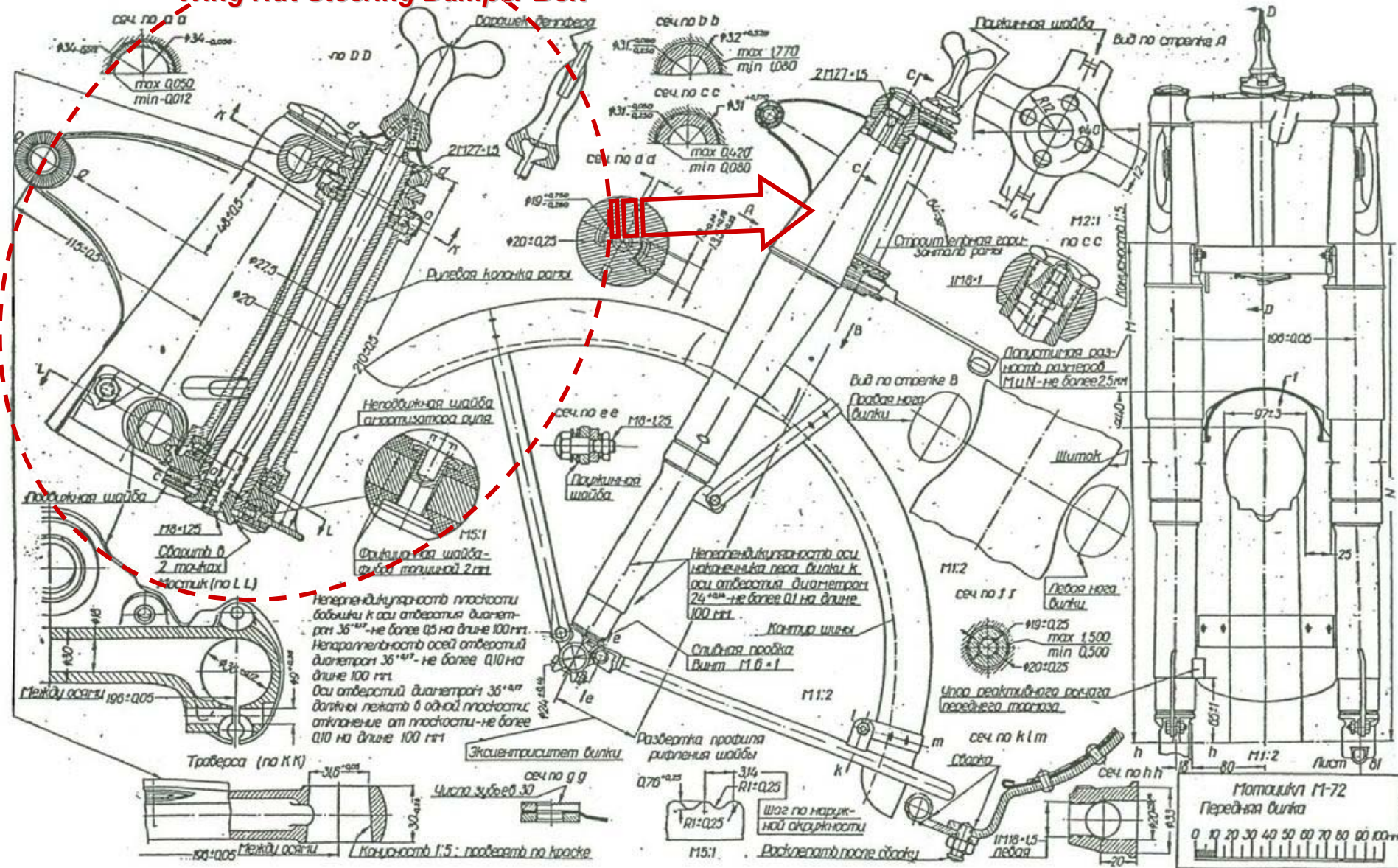
Part #	Description
72-08309	Rod with Wing Nut
72-08311	Spring
72-08317	Spring Washer
72-08316	Support Washer
72-08314	Steering Column Stem Nut
72-08313	Bearing Nut
72-08312	Ball Bearing Upper Guard Washer
72081-2	Bearing (34x51x14)
72-08307	Steering Damper Fixed Washer
72-08306	Friction Washer

A part prefix of 7208 indicates *Передней Вилка* (front fork components).



# Ural (Урал) M-72 Blueprints (bcozz.multiply.com)

## Wing Nut Steering Damper Bolt

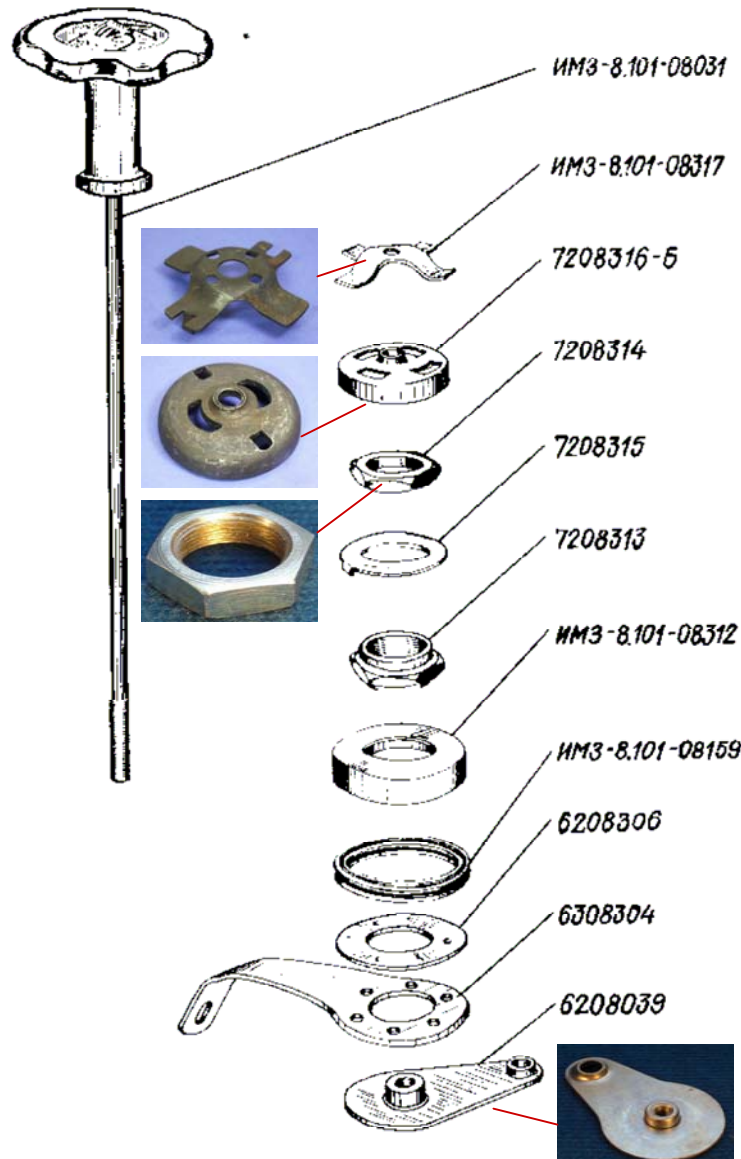


It all started with the M-72 Wing-Nut Adjustment Damper Bolt.

# Ural (Урал) Steering Dampers for M-62, -63, -66 and -67

Listed in "Order of Assembly"

Part #	Description	Quantity per Model			
		M-62	M-63	M-66	M-67
IMZ-8.101-08031	Steering Damper Clamping Rod	1	1	1	1
IMZ-8.101-08317	Spring Washer	1	1	1	1
72-08316-B	Supporting Washer	1	1	1	1
72-08314	Steering Column Stem Nut	1	1	1	1
72-08315	Steering Column Lock Washer	1	1	1	1
72-08313	Bearing Nut	1	1	1	1
IMZ-8.101-08312	Top Ball Bearing Shield	1	1	1	2
IMZ-8.101-08159	Steering Column Packing Ring	-	-	-	2
6208306	Friction Plate	2	2	2	2
6308304	Steering Damper Fixed Plate	1	1	1	1
6208039	Damper Plate with Bushing	1	1	1	1



**Ural's M-67 added two extra steering column packing rings to the stack.**



# Ural (Урал) Front Forks (1998-2011 Shop Manuals)

## • Front Fork

– Two different types of front suspension are available. The telescopic fork and the leading link type ("lever type"). Both types are carried in the steering head on ball bearings.

– Leading Link: Tourist/Sportsman/Patrol/Gear-Up

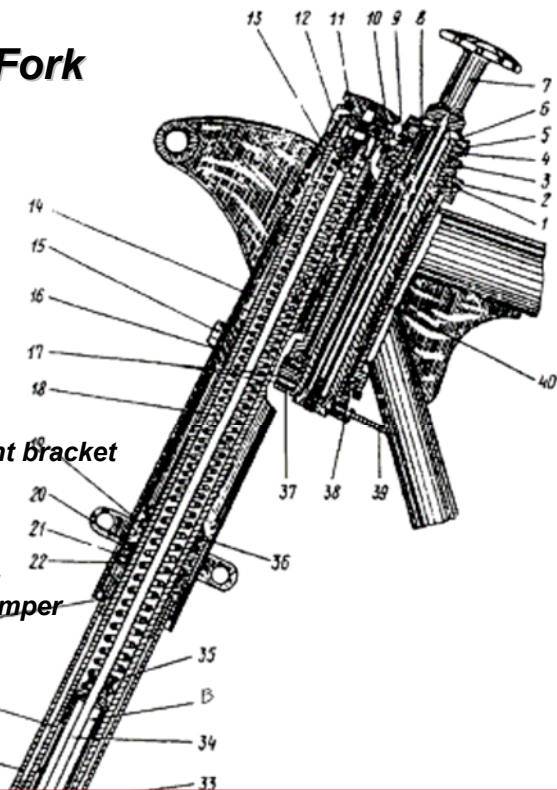
– Telescopic Spring: Solo/Retro

## • Steering Damper

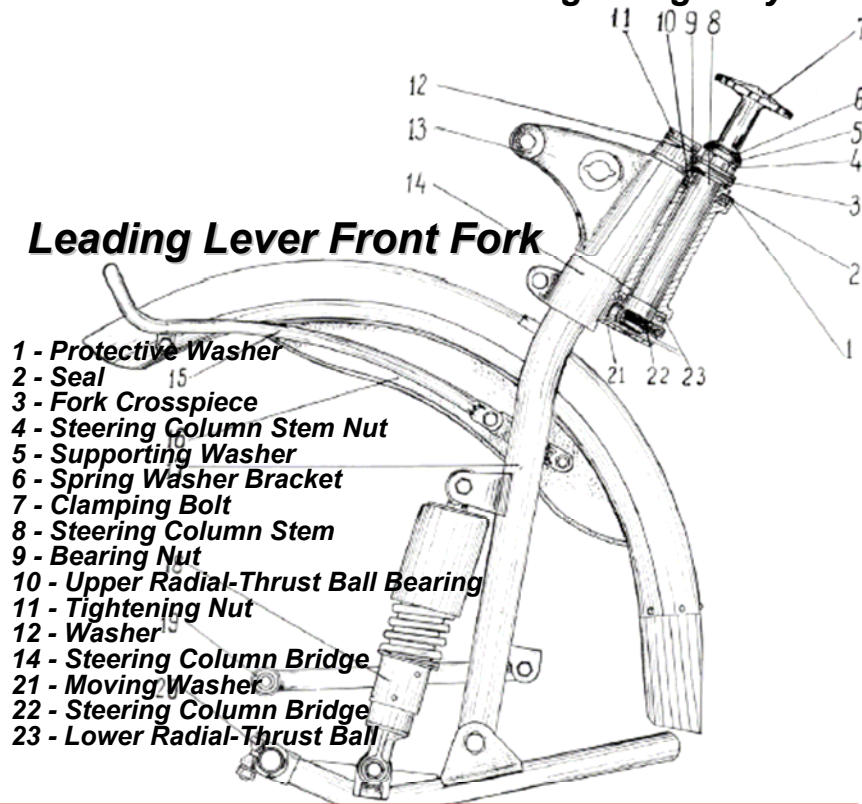
– Friction Type Steering Damper Made of Two Steel Washers, Moving (#37 / #21) and Fixed (#39), Two Fiber Washers (#17) and Tightening Bolt (#7) with Handle. Friction between Steel and Fiber Washers Makes Turning of Front Fork More Difficult.

– **WARNING:** Over tightening the steering damper can make it very difficult to steer. Over tightening the damper on the sidecar motorcycle may cause the operator to initiate sudden weaving at highway speeds.

## Telescoping Front Fork

- 
- 1 - Safety washer
  - 2 - Seal
  - 3 - Fork cross piece
  - 4 - Steering column stem nut
  - 5 - Supporting washer
  - 6 - Spring washer
  - 7 - Tightening bolt
  - 8 - Steering column stem
  - 9 - Bearing nut
  - 10 - Top angular ball
  - 11 - Tightening nut
  - 12 - Top end of spring
  - 13 - Packing ring of cover
  - 14 - Fork leg cover with headlight bracket
  - 15 - Union bolt
  - 16 - Steering column bridge
  - 17 - Friction washers
  - 37 - Moving washer
  - 38 - Bottom angular ball bearing
  - 39 - Fixed washer of steering damper
  - 40 - Head tube of frame

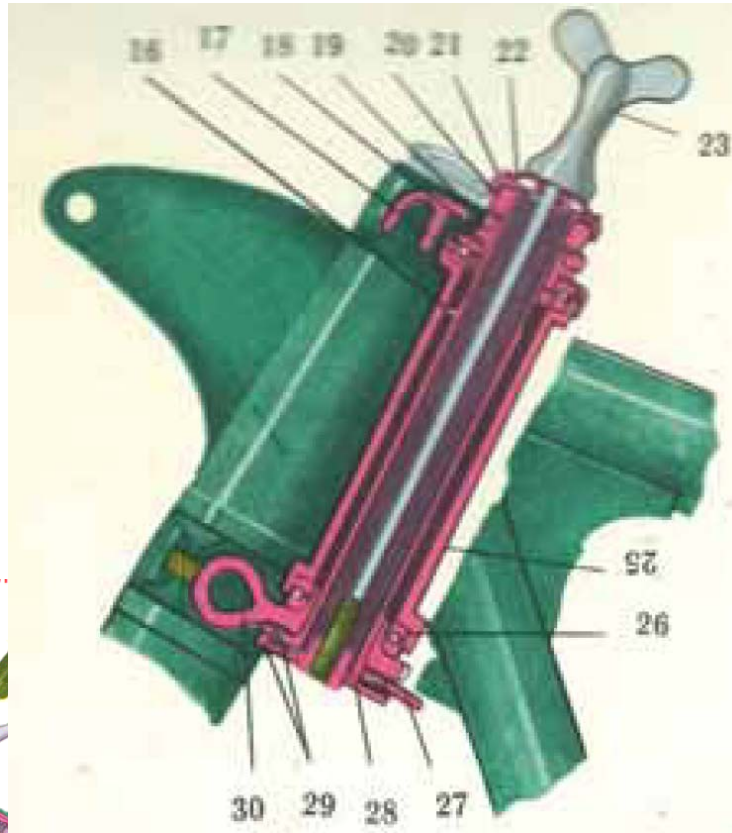
## Leading Lever Front Fork

- 
- 1 - Protective Washer
  - 2 - Seal
  - 3 - Fork Crosspiece
  - 4 - Steering Column Stem Nut
  - 5 - Supporting Washer
  - 6 - Spring Washer Bracket
  - 7 - Clamping Bolt
  - 8 - Steering Column Stem
  - 9 - Bearing Nut
  - 10 - Upper Radial-Thrust Ball Bearing
  - 11 - Tightening Nut
  - 12 - Washer
  - 14 - Steering Column Bridge
  - 21 - Moving Washer
  - 22 - Steering Column Bridge
  - 23 - Lower Radial-Thrust Ball

**The leading link fork is used on Patrol, Tourist and Gear-Up models.**



# ***(Ural-2) M-63***

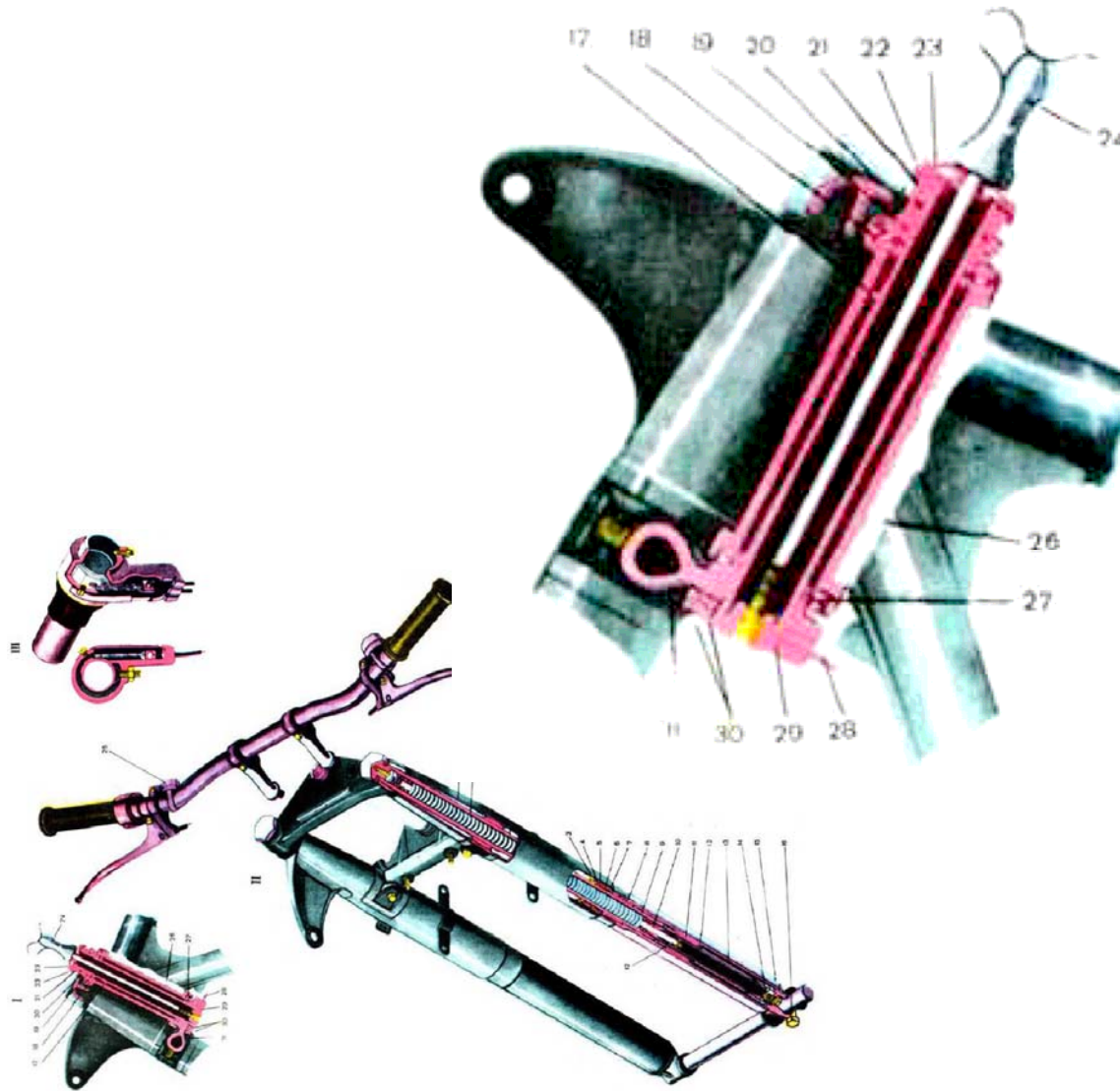


***Listed in “Order of Assembly”***

<b><i>Item #</i></b>	<b><i>Description</i></b>
<b><i>23</i></b>	<b><i>Steering Damper bolt</i></b>
<b><i>22</i></b>	<b><i>Spring Washer</i></b>
<b><i>21</i></b>	<b><i>Supporting Washer</i></b>
<b><i>20</i></b>	<b><i>Steering Column Stem Nut</i></b>
<b><i>19</i></b>	<b><i>Cross-Piece</i></b>
<b><i>18</i></b>	<b><i>Bearing Nut</i></b>
<b><i>17</i></b>	<b><i>Upper Radial-Thrust Ball Bearing</i></b>
<b><i>16</i></b>	<b><i>Steering Column Stem</i></b>
<b><i>25</i></b>	<b><i>Frame Head</i></b>
<b><i>26</i></b>	<b><i>Lower Bearing</i></b>
<b><i>27</i></b>	<b><i>Fixed Plate</i></b>
<b><i>28</i></b>	<b><i>Movable Plate</i></b>
<b><i>29</i></b>	<b><i>Friction Washers</i></b>
<b><i>30</i></b>	<b><i>Steering Column Bridge</i></b>

***The steering damper on the Ural-3 (M-66) is similar to that of the Ural-2 (M-63)***

# M-66 (Ural-3) Front Fork and Handlebar



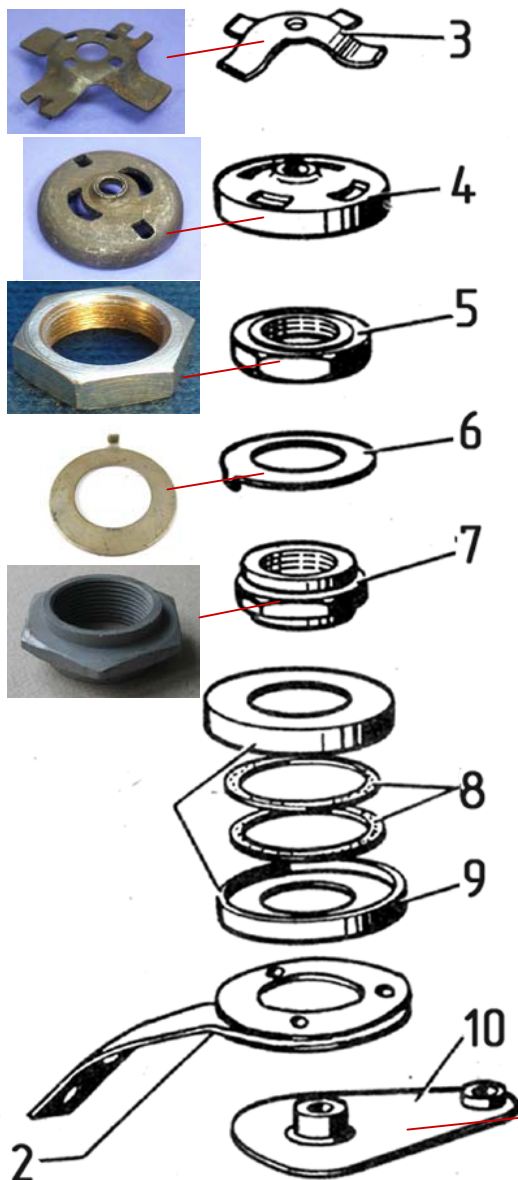
*Listed in "Order of Assembly"*

17	Steering column stem
18	Radial-thrust ball bearing, upper
19	Bearing nut
20	Cross-piece
21	Steering column stem nut
22	Supporting washer
23	Spring washer
24	Damper bolt
26	Frame head
27	Lower bearing
28	Fixed plate
29	Movable plate
30	Friction washers
31	Steering column bridge

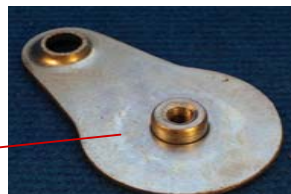
***The steering damper on the Ural-3 (M-66) is similar to that of the Ural-2 (M-63)***

# Ural (Урал) Steering Damper 650 / 750cc to 2008

Listed in "Order of Assembly"



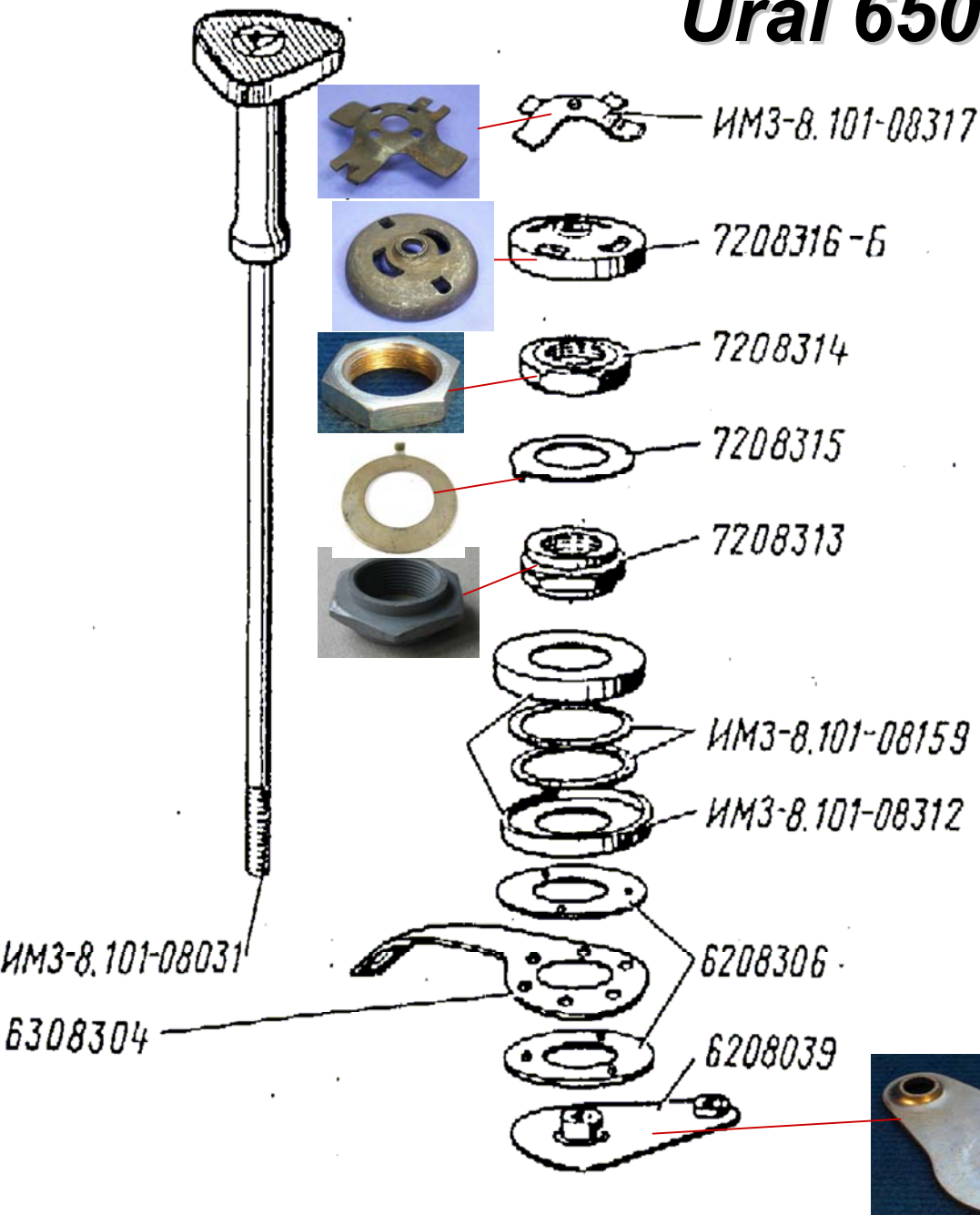
Item #	Part #	Description
1	IMZ-8.101-08031	Tightening Bolt
3	IMZ-8.101-08317	Spring Washer
4	72-08316-B	Thrust-Bearing Washer
5	72-08314	Steering Column Stem (Rod) Nut
6	72-08315	Steering Column Stem (Rod) Washer
7	72-08313	Bearing Nut (up to 2007)
7	IMZ-8.1236-08313	Bearing Nut (from 2008)
9	IMZ-8.101-08312	Dust Cap (Puck Protection) up to 2007
9	IMZ-8.125-08312	Dust Cap (Puck Protection) from 2008
8	IMZ-8.101-08159	Steering Column Seal (Gland)
Not Shown	72081-2	Bearing
Not Shown	72081-2	Bearing
8	IMZ-8.101-08159	Steering Column Seal (Gland)
9	IMZ-8.101-08312	Dust Cap (Puck Protection) up to 2007
9	IMZ-8.125-08312	Dust Cap (Puck Protection) from 2008
2	IMZ-8.103-08032	Steering Damper Washer, Fixed
10	6208039	Steering Damper Washer with Bushing



If first two figures of part # is "72," the parts come from Ural M-72.



# Ural 650cc



Part #	Description
IMZ-8.101-08031	Tightening Bolt
IMZ-8.101-08317	Spring Washer
72-08316-B	Thrust-Bearing Washer
72-08314	Steering Column Stem (Rod) Nut
72-08315	Steering Column Stem (Rod) Washer
72-08313	Bearing Nut (up to 2007)
IMZ-8.1236-08313	Bearing Nut (from 2008)
IMZ-8.101-08312	Dust Cap (Puck Protection)
IMZ-8.101-08159	Steering Column Seal (Gland)
72081-2	Bearing
72081-2	Bearing
IMZ-8.101-08159	Steering Column Seal (Gland)
IMZ-8.101-08312	Dust Cap (Puck Protection) up to 2007
IMZ-8.125-08312	Dust Cap (Puck Protection) from 2008
6208306	Friction Washer
6308304	Steering Damper Washer, Fixed
6208306	Friction Washer
6208039	Steering Damper Washer with Bushing

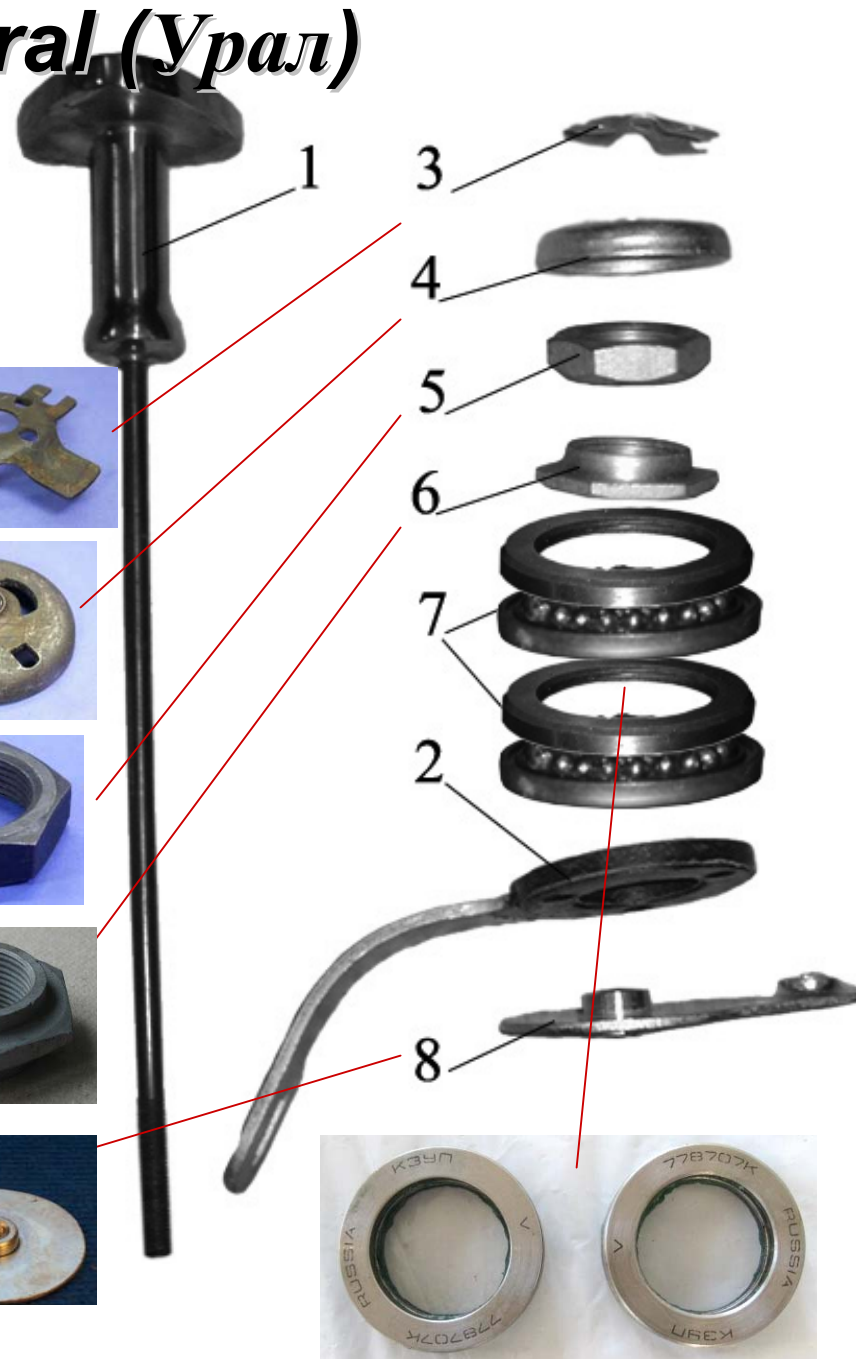
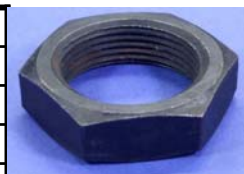


# 2006 - 2007 Ural (Урал)



'06 Ural Steering ([www.advriders.com](http://www.advriders.com))

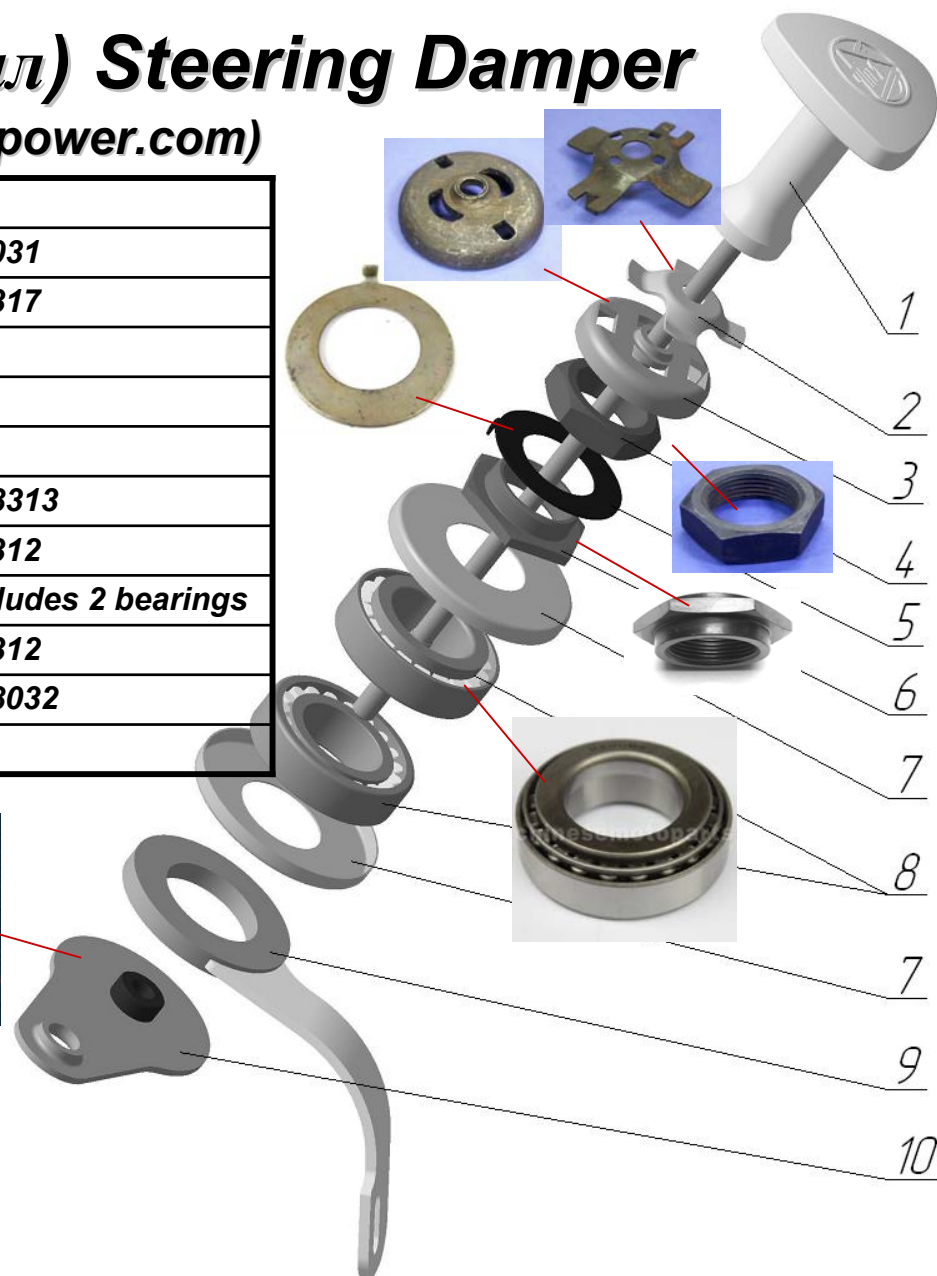
Item #	Description	Ural Part#
1	Tightening Bolt	IMZ-8.101-08031
3	Spring Washer	IMZ-8.101-08317
4	Thrust Washer	72-08316-B
5	Steering Column Stem Nut	72-08314
6	Bearing Nut	72-08313
7	Two Handlebar Bearing	72-0812-08 (from 2008)
2	Steering Damper Washer, Fixed	IMZ-8.1037-08032
8	Steering Damper Washer with Bushing	6208039
9	Two Quad Seal (not pictured)	IMZ-8.101-08159
10	Two Dust Caps (not pictured)	IMZ-8.101-08312



# 2009-2010 Ural (Урал) Steering Damper

(uralnwco.ipower.com)

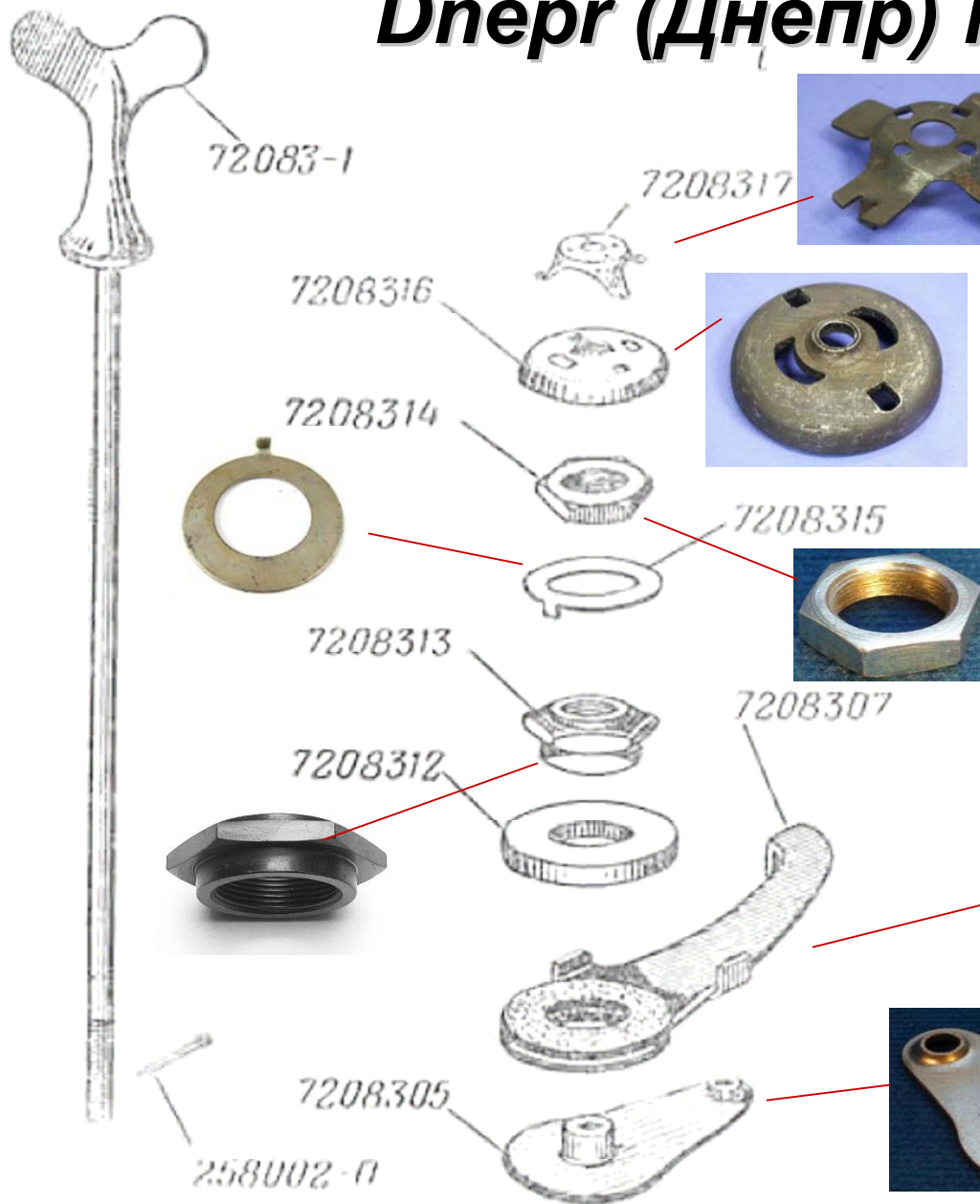
Item #	Description	Ural Part#
1	Tightening Bolt	IMZ-8.101-08031
2	Spring Washer	IMZ-8.101-08317
3	Thrust Washer	72-08316-B
4	Steering Column Stem Nut	72-08314
5	Steering Column Stem Lock Ring	72-08135
6	Bearing Nut	IMZ-8.1037-08313
7	Protective Washer	IMZ-8.125-08312
8	Tapered Roller Bearing Single Row	32006X/Q Includes 2 bearings
7	Protective Washer	IMZ-8.125-08312
9	Steering Damper Washer	IMZ-8.1037-08032
10	Damper Washer with Bushing	62-08039



**Modern Urals retain the old-school friction steering damper, with improved, tapered roller-bearings.**



# Днепр (Днепр) М-72 (1955)



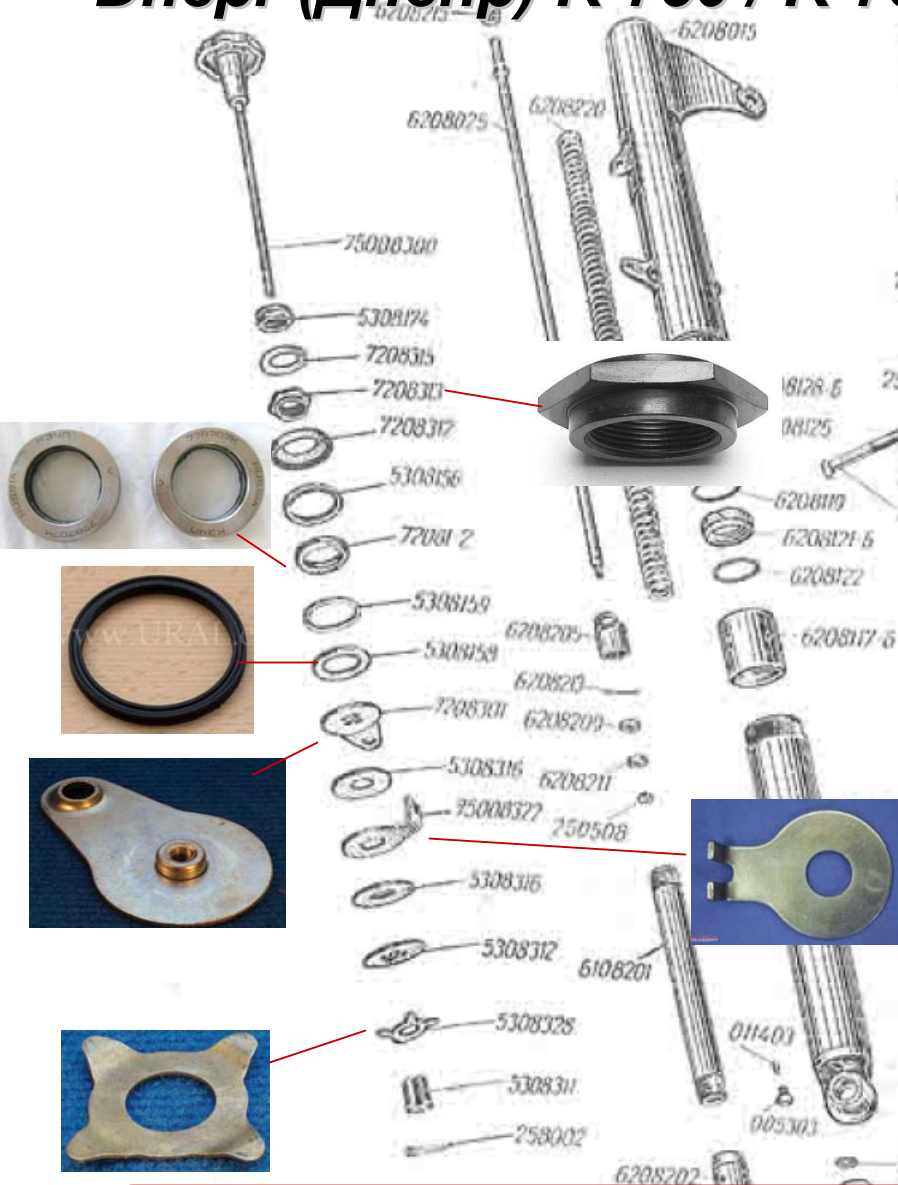
Part #	Description
72083-1	Steering Damper with Wing Nut
72-08317	Spring Washer
72-08316	Thrust Washer
72-08314	Steering Column Stem (Rod) Nut
72-08315	Steering Column Stem (Rod) Washer
72-08313	Bearing Nut
72-08312	Upper Ball Bearing Guard Washer
72-08307	Steering Damper Fixed Washer
72-08305	Friction Washer
258002-A	Cotter Pin

**If first two figures of part # is "72," the parts come from Ural M-72.**

# Днепр (Днепр) K-750 / K-750M / MB-750 Steering Damper

Listed in "Order of Assembly"

K-750	K-750M	MB-750	Description
5308300-B (Wing Nut) "or" 5308300-П	75008300	75008300	Rod with Round Knob
5308174	5308174	75008175	Steering Column Rod Special Nut (2M27)
72-08315	72-08315	72-08315	Lock Washer
72-08313	72-08313	72-08313	Bearing Nut
72-08312	72-08312	72-08312	Upper Ball Bearing Guard Washer
5308158	5308158	5308156-A	Steering Column Lower Oil Seal Follower
72081-2	72081-2	72081-2	Radial-Thrust Ball Bearing (34x51x14)
5308159	5308159	5308159	Steering Column Lower Oil Seal
5308158	5308158	5308158	Steering Column Lower Oil Seal Follower
72-08301	72-08301	72-08301	Steering Damper Washer
5308316	5308316	5308316	Damper Friction washer
5308321-B	75008322	75008323	Lower Washer with Tongue
5308316	5308316	5308316	Damper Friction Washer
5308312	5308312	5308312	Damper Lower Washer
5308328	5308328-A	5308328-A	Spring
5308311	5308311	5308311	Damper Special Nut
258002	258002	258002	Cotter Pin



**The first four digits of the part number "5308" or "7208" indicate that the parts are for the front fork.**

# Re-Assembling a K-750 Steering Damper (sovietsteeds.com)



*Order of Assembly: from bottom to top;  
D, C, B, FIBER WASHER, A, FIBER WASHER,  
YOU ARE MISSING 7208301.*



*Fingers on A go around a protrusion on the frame (center behind neck)*

*7208301 has a hole that corresponds to a protrusion on the lower fork clamp on left side*

*"D washer" in picture is homemade - does not belong*

*There should be a dustcover at top and bottom of neck protecting bearings - I only see one in your picture*

*Also, there is a fold-over-washer that goes on top of the upper fork clamp between the clamp and the large top nut*

*IIRC, it has a small tab that inserts into a slot on top of clamp so it will not move. Then you fold against the top nut to secure.*

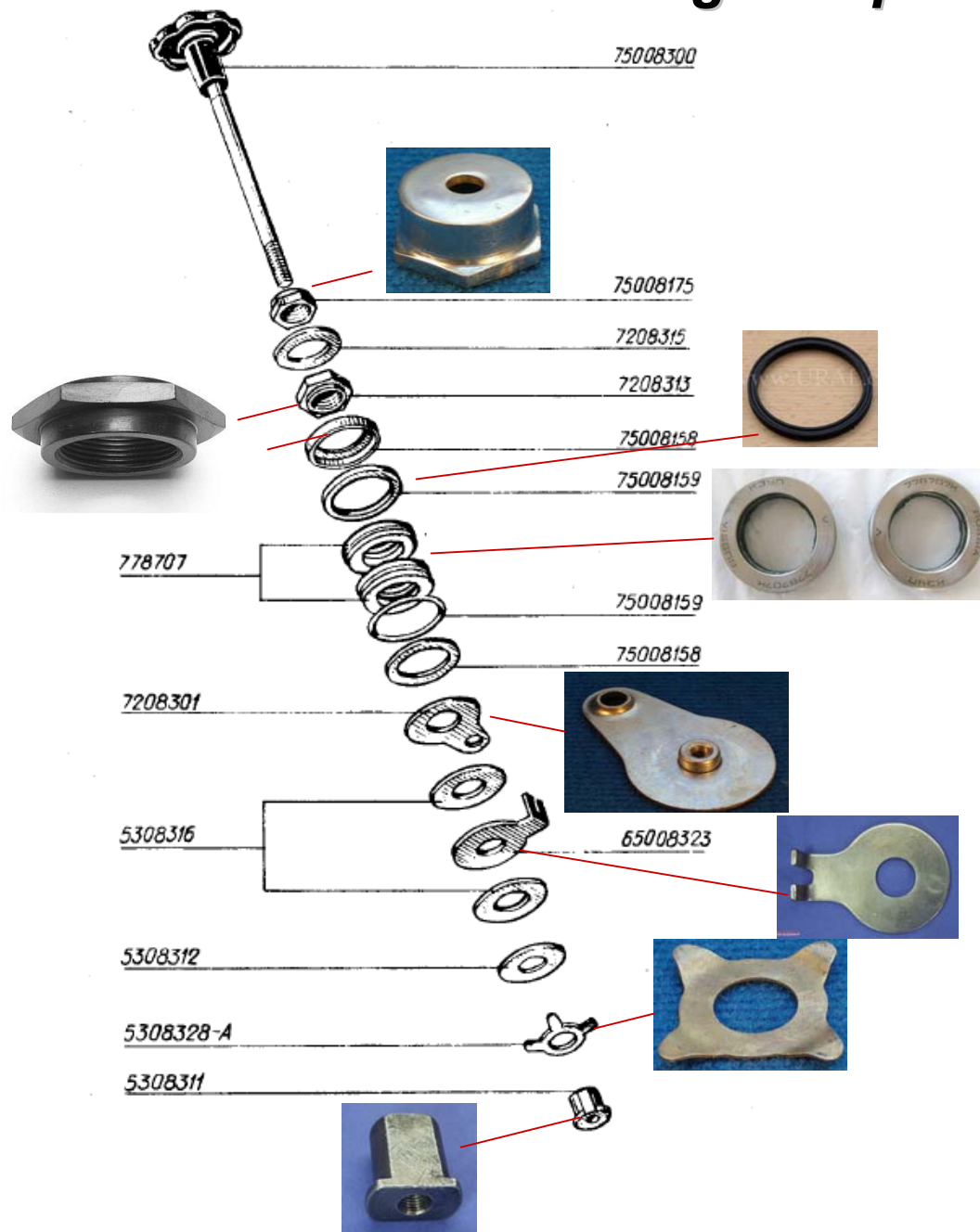


# Днепр (Днепр) MT-9 / MT-10 / MT-11 / MT-16 Steering Damper

## Front Fork Damper (Демпфер Передней Вилка)

Listed in "Order of Assembly"

Part #	Description
75008300	Rod with Round Knob
75008175	Nut
7208315	Lock Washer
7208313	Bearing Nut
75008158	Protective Washer
75008159	Seal (Gland)
778707	Ball Bearing
778707	Ball Bearing
75008159	Seal (Gland)
75008158	Protective Washer
72-08301	Steering Damper Washer
5308316	Friction washer
72-08315 / 65008323	Keyhole Washer
5308316	Friction washer
5308312	Lower Washer
5308328-A	Spring
5308311	Damper Special Nut



# **Ural (Урал) Steering Head Bearings Adjustment**

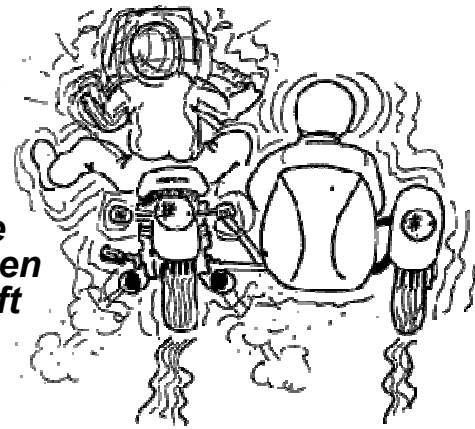
## **(1998 Manual, Telescopic Fork and 2000 650 Ural Shop Manual Elect Start)**

- **Steering Head Bearings Adjustment**
  - Adjust Periodically to Avoid Excessive play which might cause steering instability
  - When properly adjusted the front fork should turn with just a hint of bearing drag, but not free play or obvious resistance to turning.
  - **WARNING:** Improper adjustment of the steering head (e.g. too tight) will make the motorcycle very difficult to steer. This adjustment is critical for proper handling of all models. Loose steering head bearings can contribute to sudden front end oscillations. Tight bearing adjustment makes it difficult to control the motorcycle.
- **Adjust Bearings:**
  - Jack up the motorcycle front so that the front wheel does not contact the ground.
  - Undo Tightening Bolt of Steering damper, remove the spring and the supporting washers, holding the damper washers by hand.
  - Rotate the front end, determine if there is excessive resistance at any point of rotation, or notching of bearings.
  - While rocking the front fork up and down with the handle bar or with the fork leg tips, determine if there is any play.
  - If play in bearings is evident, remove the handlebars and lay towel on gas tank to protect paint; lay bars on tank.
  - Unlock and slacken off nut (#4) of the steering column stem, remove tightening nuts (11) of the fork legs
  - move up cross-piece (#3) with the nut, having first released tightening nuts (#11) of the fork legs.
  - Tighten bearing nut (#9) and release it 1/8 - 1/6 of revolution.
  - Check the play in the bearings once again. The front fork must freely turn.
  - Reinstall the cross piece, tighten the nuts including lock nut (#4) and reinstall all other parts of the steering damper and check once again that bearing clearance is now acceptable.
  - Tighten bearing nut (9) until snug, release it 1/8 - 1/6 of revolution, and check bearing clearance. The front fork should rotate freely with no perceptible play. Reinstall the cross-piece in place, tighten up the nuts including lock nut (4), and recheck clearance again. When clearance is acceptable, reinstall the steering damper.
  - **Note:** If the front end tends to "stick" in several positions, that indicates notched bearing races which should be replaced. Replacement of steering head bearings and races requires removal of the front fork.

# **"The Big Wobble" the Cause, Cure and Mounting Instructions by Bob Loberg ([sidestrider.com/steering.htm](http://sidestrider.com/steering.htm))**

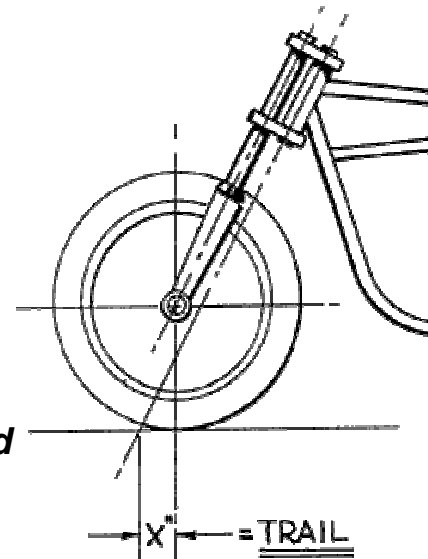
## **• Cause:**

- Let's assume that your bike is properly maintained; good tires, straight and true wheels, suspension and steering head bearings are snug
- Chances are your bike will travel down the highway straight and true, hands off!!!
- Let's add the sidecar. Now the bike has changed its habits. Especially on deceleration at 30-35 mph. It never shook its head before, why now?
- Adding a sidecar is adding a non-powered, off-centered mass of weight. The weight very simply is trying to pass you on deceleration and drip behind when you accelerate. These actions also will try to turn you right (on takeoff) or left (on breaking). Both of these actions are directly transmitted to your front wheel and its TRAIL. Think of trail as a caster or the ability to center the steering when rolling. The more trail, the more self-centering action. Road bikes generally have more trail because they don't have to be maneuvered quickly between trees or on a wood trail.



## **• "Trail" on a Motorcycle**

- Increased Trail Makes Motorcycle Less Sensitive to Cross Winds and Turbulence from Passing Trucks
  - Dirt Bikes Usually Have Less Trail for Quicker Woodsy Type steering
- If You Sit on Your Bike and Turn the Handlebars Full Lock (left-to-right), You Will Find that the Front Rises and Falls Very Slightly
  - Witness Some Guy on a Long-Forked Chopper
  - Highest When Bars Are Straight and Low on Either Side
  - This Action, Although Very Slight, with the Mass Offset Weight of the Sidecar, Will Produce an Oscillation from Side-to-Side: the "Wobble".... (combined with the weight transfer to the front wheel) on deceleration.
- Very Few Bike/Sidecar Combinations Are without a Low-Speed Oscillation and Usually Can Be Overridden by a Reasonably Tight Grip on the Handlebars



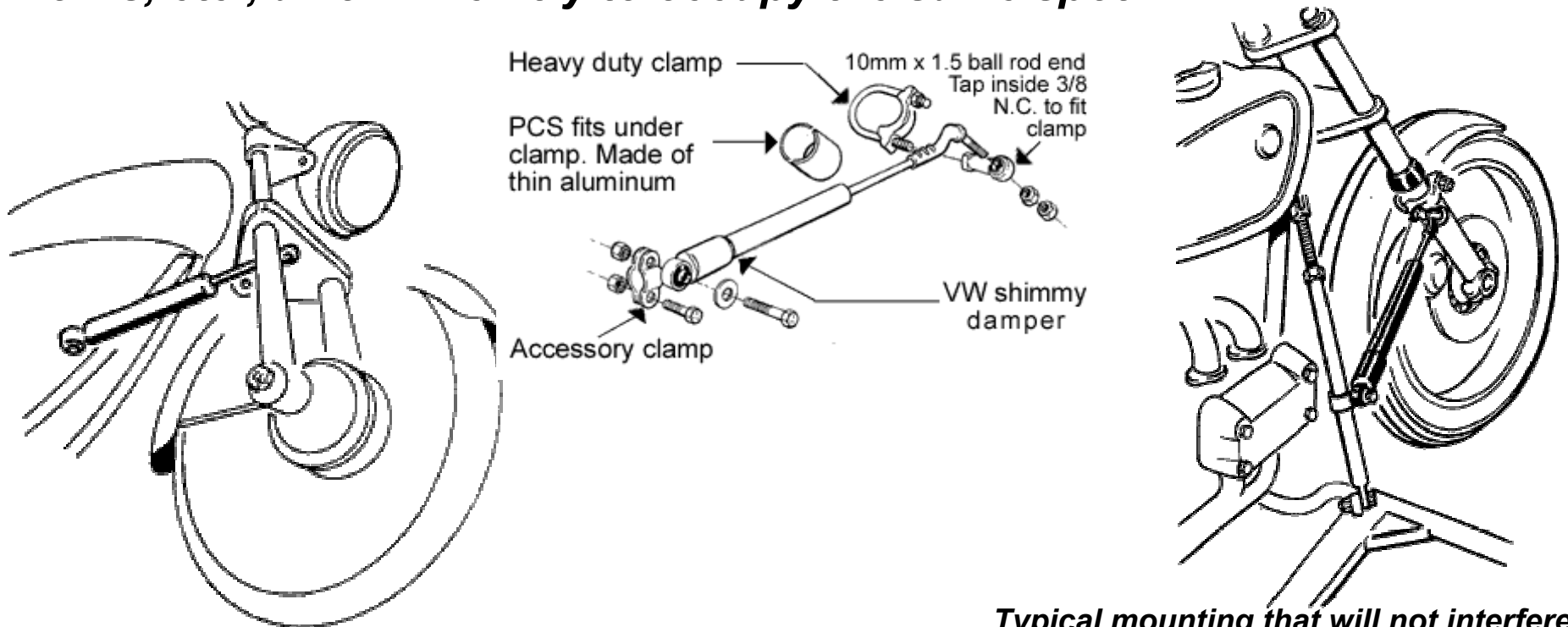
**A steering damper can help a non-strong type person hanging there helplessly flopping from side-to-side.**



# **Some Alternate Methods of Mounting Steering Dampers**

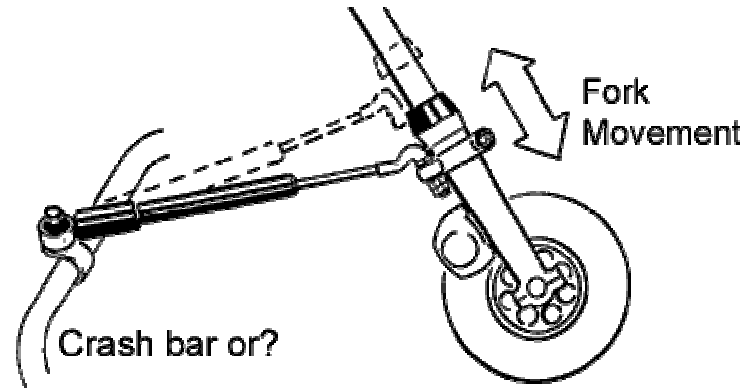
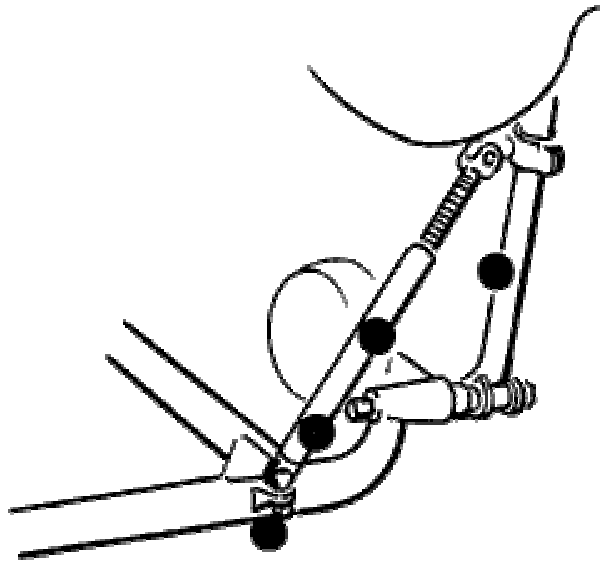
**([sidestrider.com/steering.htm](http://sidestrider.com/steering.htm))**

- **After Ensuring All Bearings Are Snug, Add a Steering Damper**
- **Best Combination Is a Standard Volkswagen Shimmy Damper**
  - **Readily Available from Local Auto Parts Store**
  - **Have a Long Enough Stroke and Made in Several Mounting Designs**
- **Many Ways to Mount a Steering Damper**
  - **Most Ideal Anchors the Base End on Bike Frame and Rod End on Lower Triple Tree**
- **In about 99% reality, this cannot happen. Somewhere down the road we have acquired a frame-mounted fairing, crashbars, driving lights, air horns, etc., all of which try to occupy the same spot.**



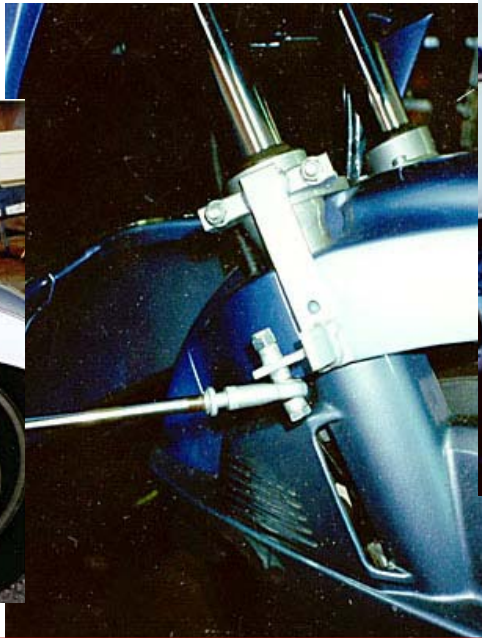
**Typical mounting that will not interfere with fairings and other add-on's.**

# Alternate Hydraulic Damper *(sidedrider.com/steering.htm)*



*If you mount the damper anywhere on the fork leg, it **MUST** move freely up and down and let you turn full lock side to side.*

*The bottom of damper could be mounted in any of these places*



***Bob Loberg shows a hydraulic damper for his Honda sidecar.***



# ***Alternate Hydraulic Damper*** ([www.cj750.net](http://www.cj750.net))



***www.cj750.net offers a hydraulic damper for a Russian sidecar.***