

МОТОЦИКЛ
MOTORCYCLE
MOTOSYCLETTE
MOTOSICLETA

Урал-3



АВТОЭКСПОРТ СССР МОСКВА

МОТОЦИКЛ

Урал-3



МOTORCYCLE - MOTOCYCLETTA - MOTOCICLETA

**АЛЬБОМ ИЛЛЮСТРАЦИЙ
ALBUM OF ILLUSTRATIONS
ALBUM DE PLANCHES
ALBUM DE ILUSTRACIONES**

AVTOEXPORT SSSR MOSKVA



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ЧРАЛ-3



Riders, mechanics and engineers!

The set of pictorial posters is a very attractive illustration for every owner and rider of motorcycle <ЧРАЛ-3>, as it demonstrates mechanical construction of the principal component units of the motorcycle. It is hoped that the collection will prove a very useful supplement to the Service Manual.

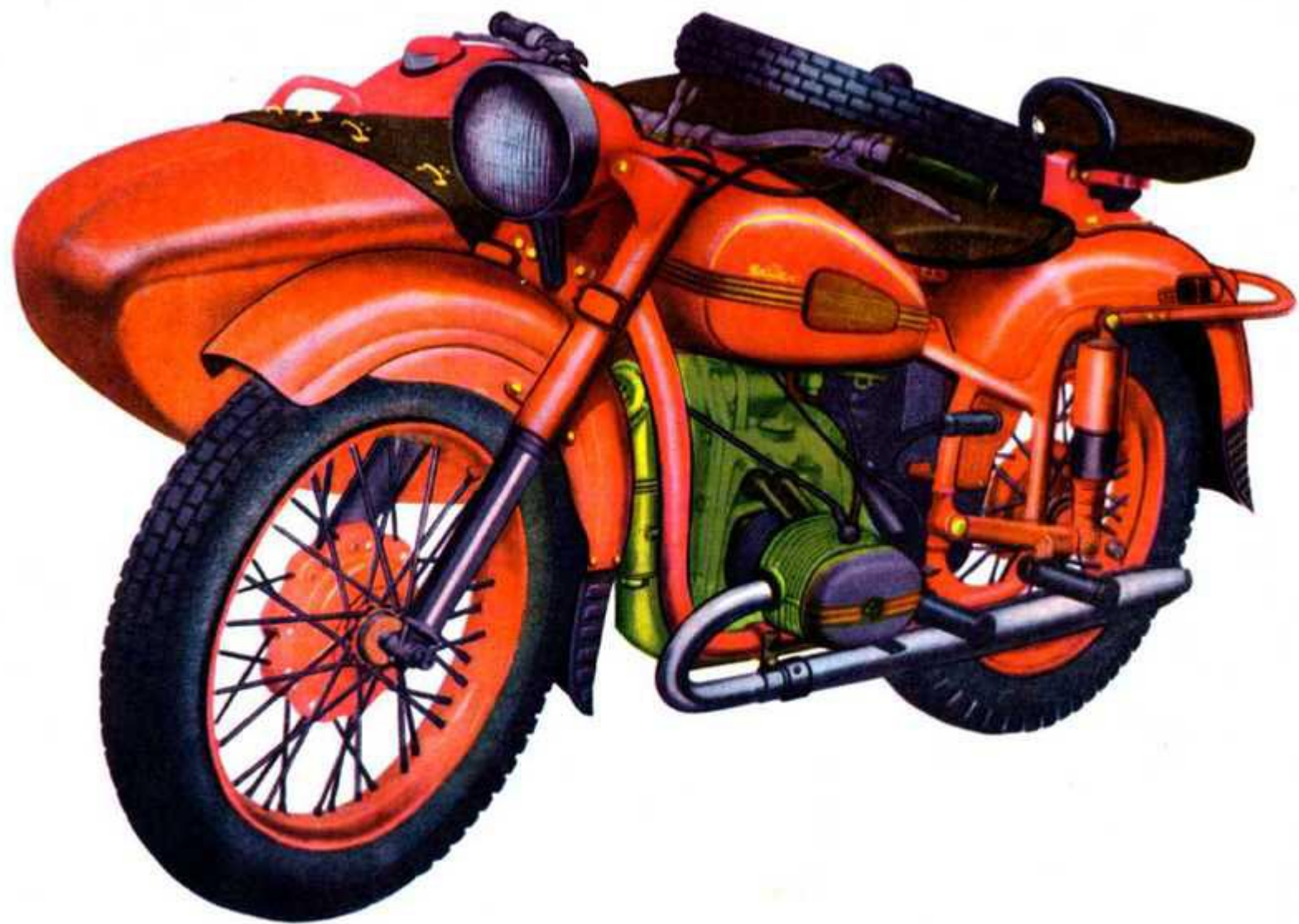
Although the posters show only the main parts, they can be used, if necessary, as a visual aid for all those, who wish to gain knowledge of the motorcycle design. For the benefit of all owners, riders and service personnel of motorcycle <ЧРАЛ-3> model M-66, it seems very opportune to mention here that this motorcycle is one of the most sturdy and dependable machines in the world and, if properly cared for and handled with due knowledge of its design, will render a long and satisfactory service.

ЧРАЛ-3

GENERAL VIEW OF MOTORCYCLE

Technical Data

Displacement of engine cylinders, cu.cm	649
Rated power of 4800-5300l r.p.m., hp	32
Rated torque, kgm	4.5
Dry weight of motorcycle with side-car, kg	320
Maximum speed of motorcycle with side-car, km/hr	105
Fuel consumption per 100 km, litres	5.8
Holding capacity of gasoline tank, litres	20
Oil priming capacities, litres:	
engine crankcase	2.3
gearbox	0.8
final drive casing	0.130
front fork	0.135
shock absorber	0.105



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SIDE VIEW



FRONT VIEW

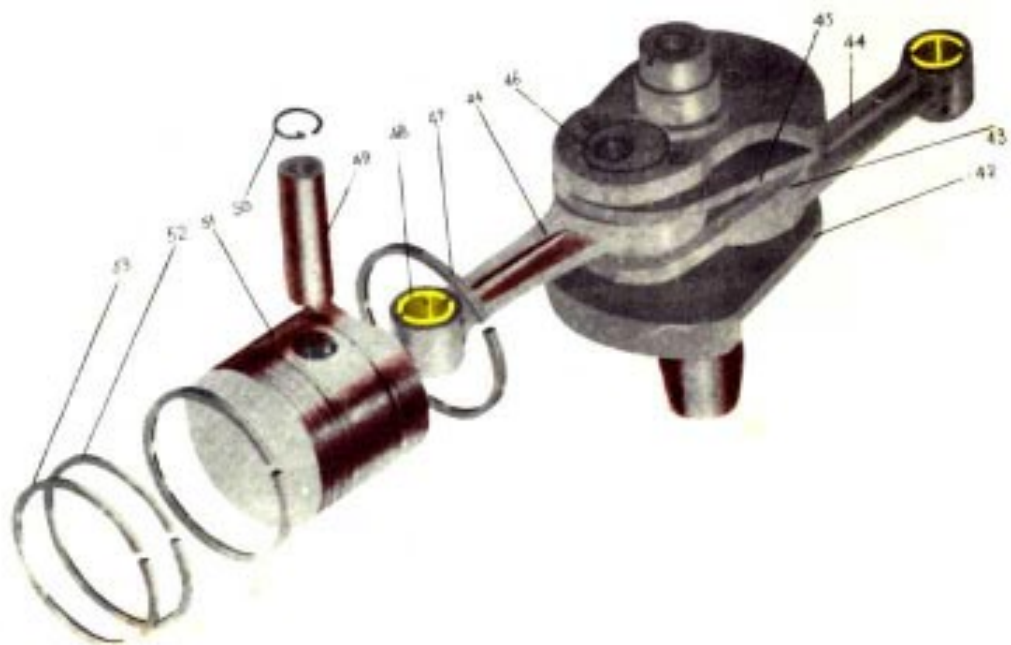
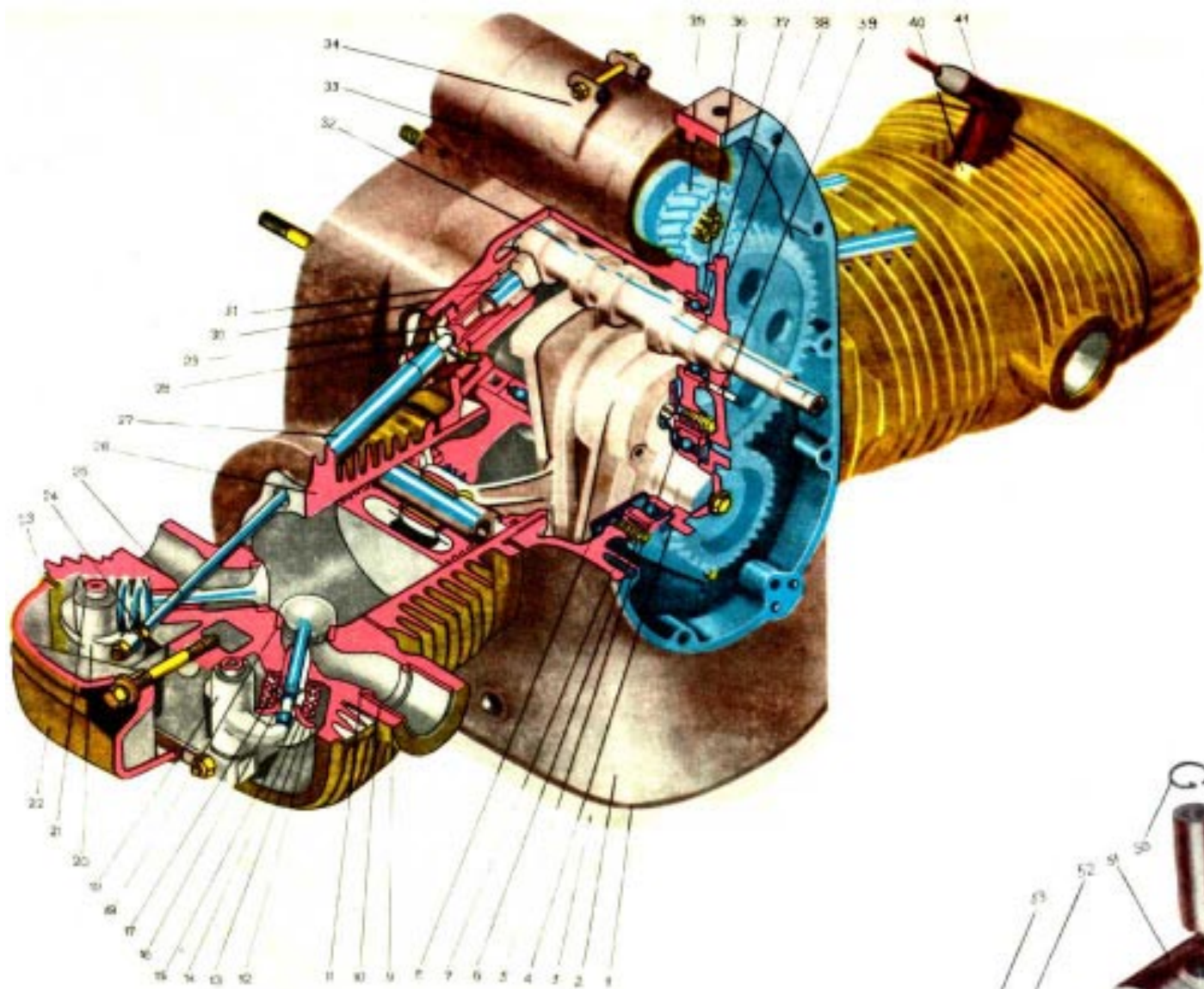


Total length of motorcycle	2420 mm
Height to ignition key	1100 mm
Width of motorcycle	1640 mm

ЧРАЛ-3

ENGINE

1	sump gasket	28	sealing collar
2	crankcase	29	tappet tip
3	sump	30	tappet
4	camshaft driving gear	31	tappet guide
5	front bearing housing	32	camshaft
6	front bearing housing cover	33	generator Г-414
7	crankshaft front bearing	34	generator strap
8	oil catcher	35	generator drive gear
9	right cylinder head	36	camshaft front bearing
10	cylinder head branch	37	camshaft flange
11	branch washer	38	camshaft gear
12	valve spring retainer	39	breather tenon
13	valve spring, outer	40	spark plug
14	valve spring, inner	41	spark plug terminal cap
15	valve spring seat	42	crankshaft rear journal
16	valve	43	crankshaft cheek
17	valve guide	44	connecting rod
18	valve seat	45	crankshaft front journal
19	rocking arm, right	46	crankpin
20	rocking arm, left	47	oil control ring
21	rockshaft	48	connecting rod small and bushing
22	cylinder head cover	49	piston pin
23	cylinder head cover gasket	50	piston pin circlip
24	adjusting bolt	51	piston
25	push rod tube	52	compression ring
26	cylinder	53	chrome plated compression ring
27	push rod tube		



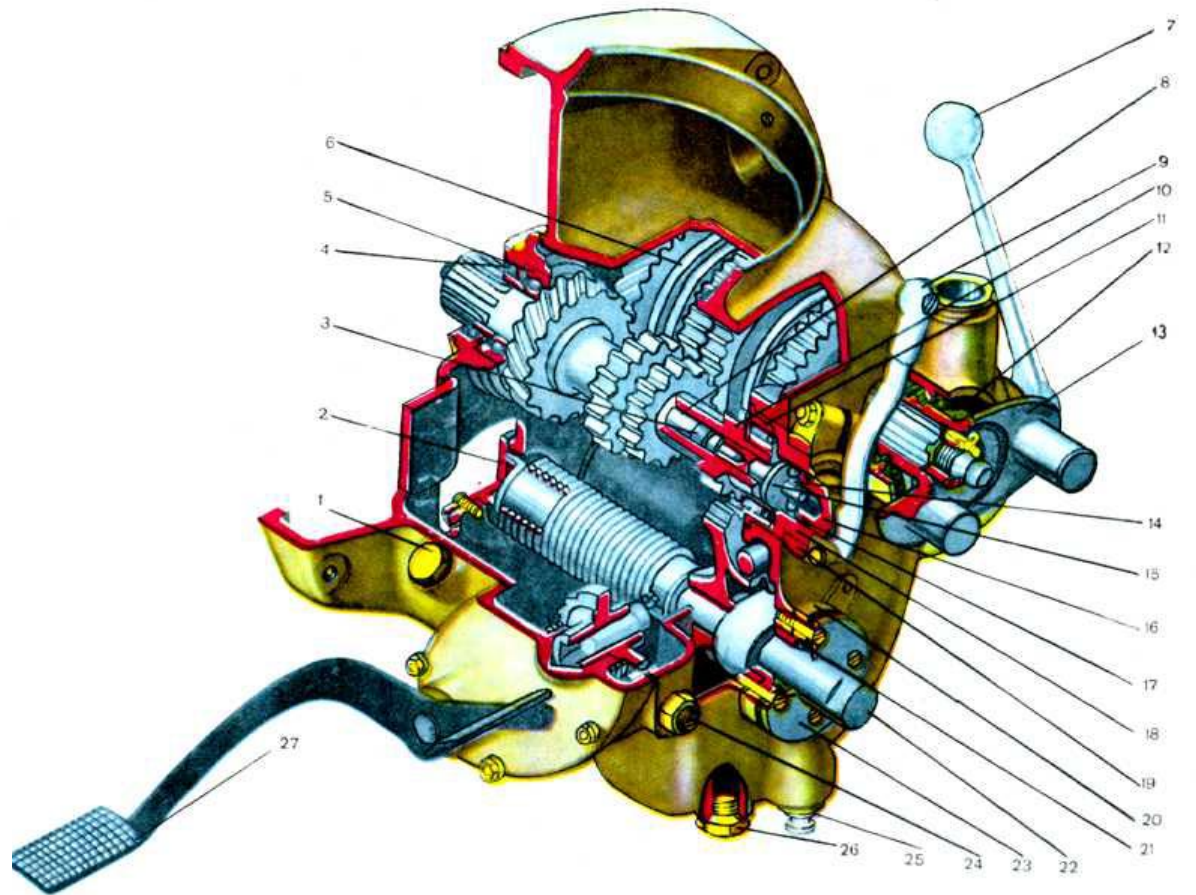
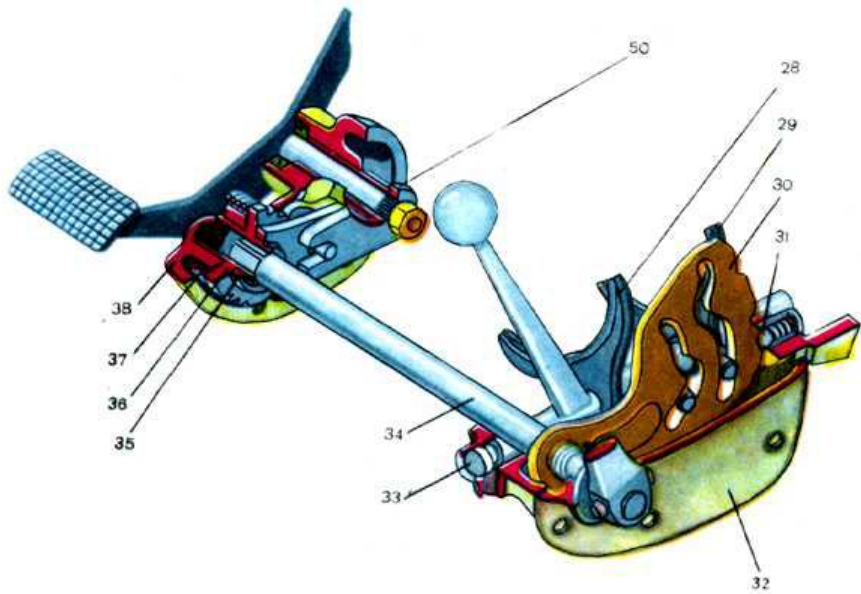
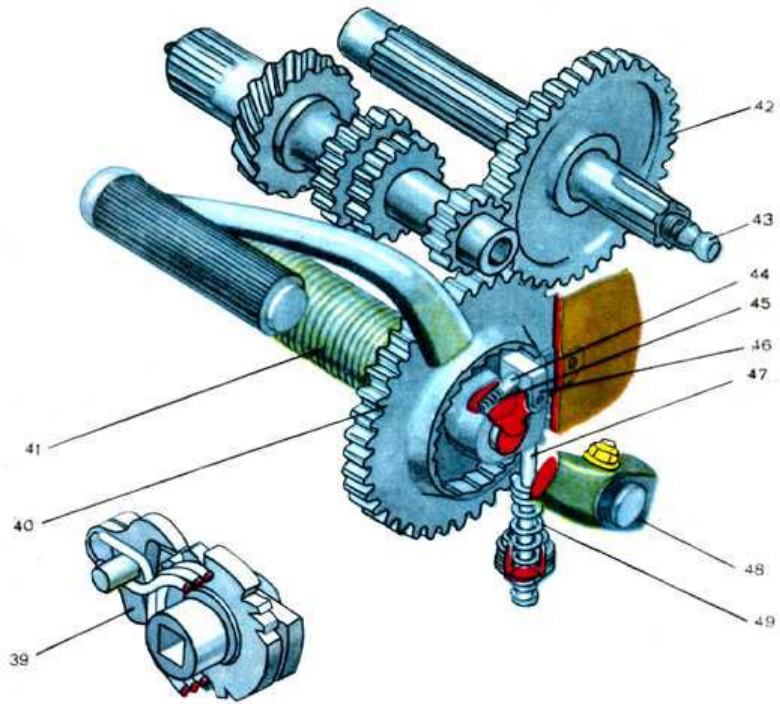
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- | | | | |
|----|--|----|--|
| 1 | crankcase | 28 | by-pass valve |
| 2 | sump | 29 | by-pass valve plug |
| 3 | sump gasket | 30 | oil filter |
| 4 | drain hole plug | 31 | camshaft |
| 5 | duct for oil flow into oil filter | 32 | connecting rod big end bearings |
| 6 | duct for oil flow into rear bearing housing | 33 | oil pump driven gear |
| 7 | calibrated hole for oil entrance into rear bearing housing | 34 | oil pump driving gear |
| 8 | rear oil catcher | 35 | camshaft rear bearings |
| 9 | oil pump | 36 | duct in cylinder head flange for oil drain |
| 10 | oil pump drive bar | 37 | duct for oil drain from cylinder head |
| 11 | main line | 38 | hole in piston for oil drain |
| 12 | hole in crankpin for lubricating connecting rod big end bearing | 39 | hole for lubricating piston pin |
| 13 | crankpin | 40 | duct for oil flow from oil line to front bearing housing |
| 14 | gauze filter | 41 | bore and hole for lubricating the left cylinder |
| 15 | duct for lubricating left cylinder | 42 | calibrated hole in bearing housing |
| 16 | oil control rings | 43 | hole for passing atomized oil to cylinder head |
| 17 | duct for oil drain from cylinder head | 44 | front oil catcher |
| 18 | lubricating hole in rockshaft | | |
| 19 | hole in rockshaft for collecting atomized oil | | |
| 20 | duct for passing of atomized oil from crankcase to cylinder head | | |
| 21 | tube for lubricating timing gears | | |
| 22 | drillhole in crankcase | | |
| 23 | camshaft drive gear | | |
| 24 | duct for oil flow into oil filter | | |
| 25 | by-pass valve duct | | |
| 26 | hole for oil outlet into main line | | |
| 27 | oil filter plug | | |

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GEARBOX

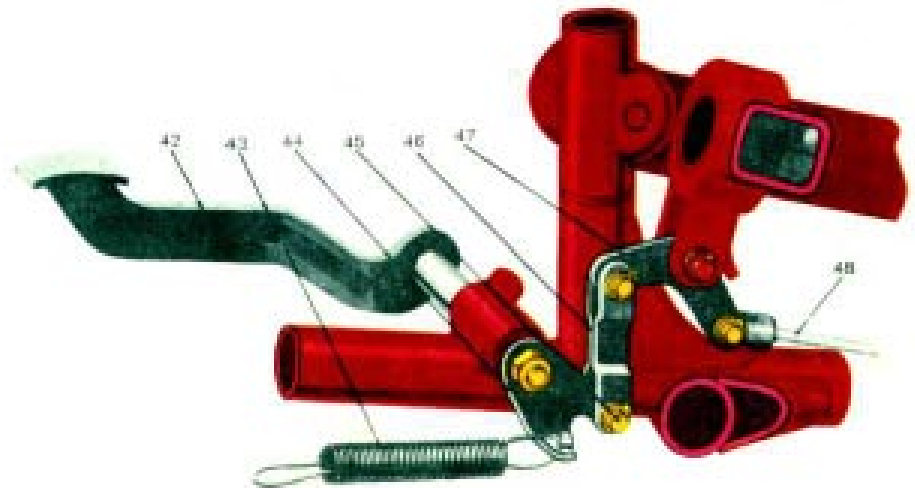
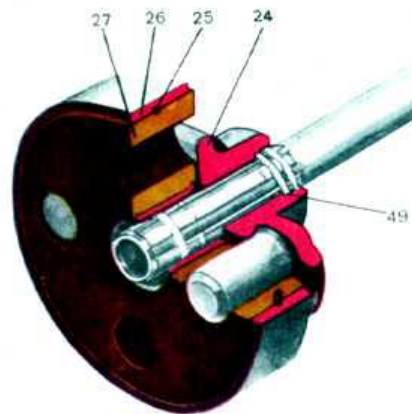
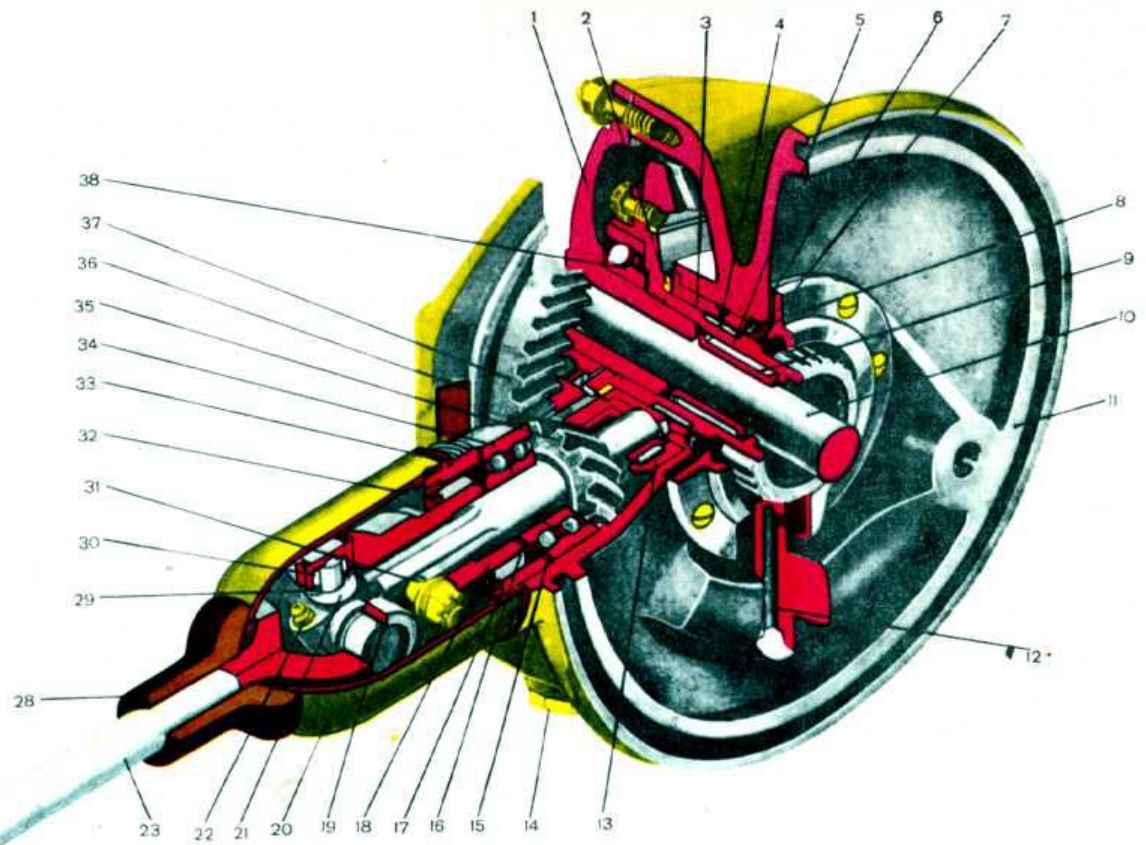
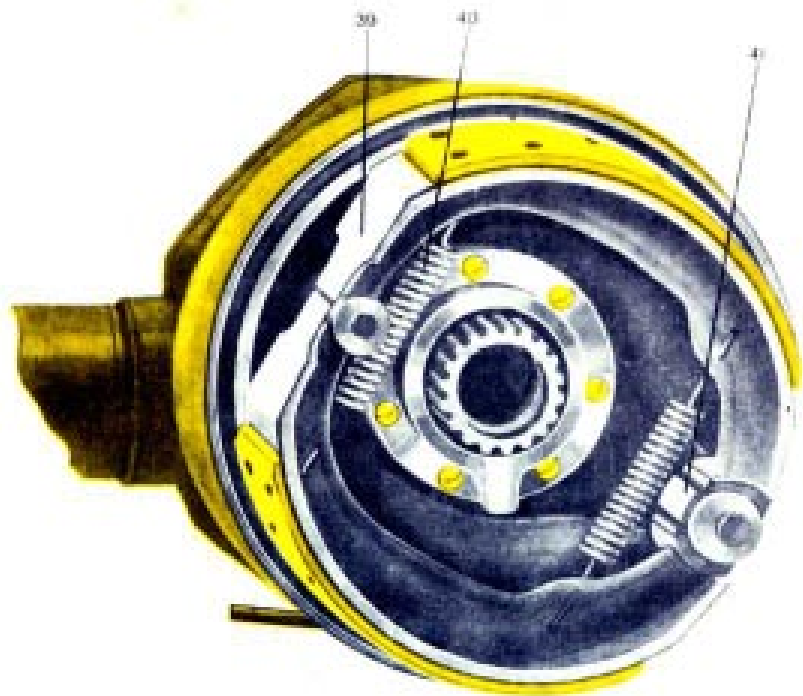
1	filler hole plug	28	I and II gear shift fork
2	kick starter shaft front bushing	30	III and IV gear shift fork
3	rod seal	31	lock
4	clutch shaft seal	32	gearbox right cover
5	clutch shaft front bearing	33	shift fork shaft
6	III and IV gear shift lever	34	quadrant shaft
7	gear change hand lever	35	crank
8	clutch release rod	36	ratchet of gear shift mechanism
9	clutch release arm	37	return spring of gear shift mechanism
10	clutch shaft	38	gear shift mechanism cover
11	clutch shaft rear bearing	39	pawl of gear shift mechanism
12	main shaft seal	40	kick starter gear
13	flexible coupling joint flange	41	return spring of kick starter
14	thrust ball bearing	42	I gear
15	release rod tip	43	main shaft
16	clutch release slider	44	pin
17	slider seal	45	spring
18	rear bearing housing	46	kick starter pawl
19	clutch release arm bracket	47	kick starter buffer
20	kick starter shaft rear bushing	48	spring
21	kick starter shaft seal	49	crank arm
22	kick starter shaft		
23	seal cover		
24	adjusting screw		
25	buffer plug		
26	drain hole plug		
27	gear change foot pedal		



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FINAL DRIVE

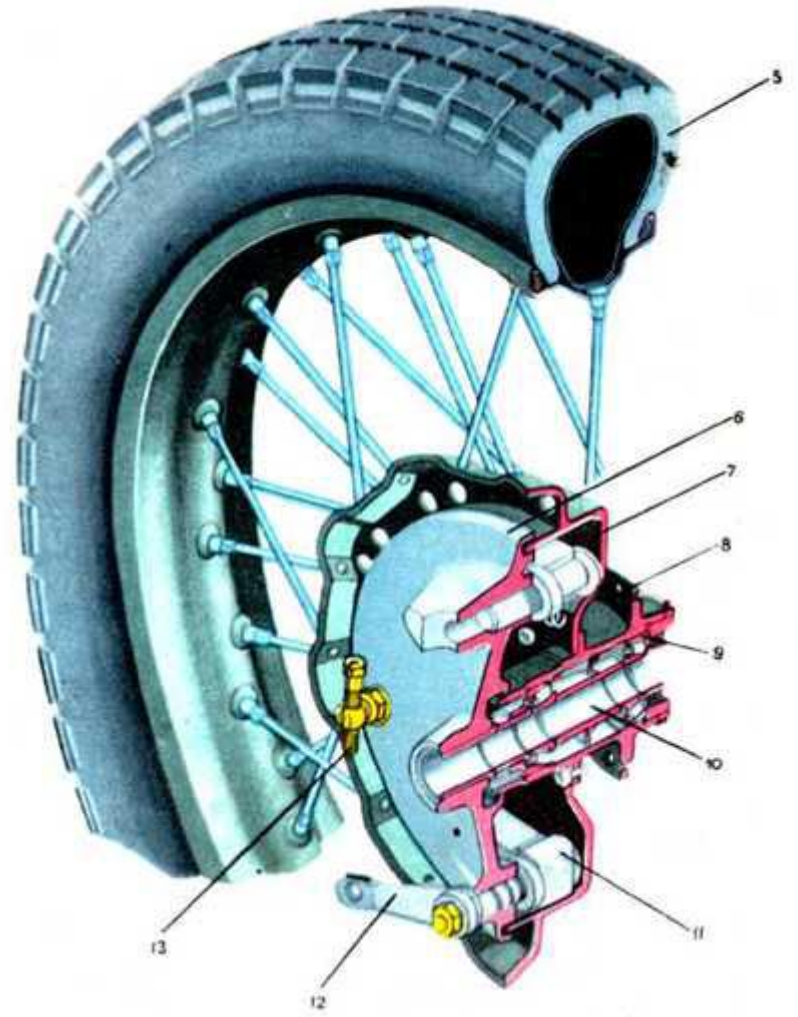
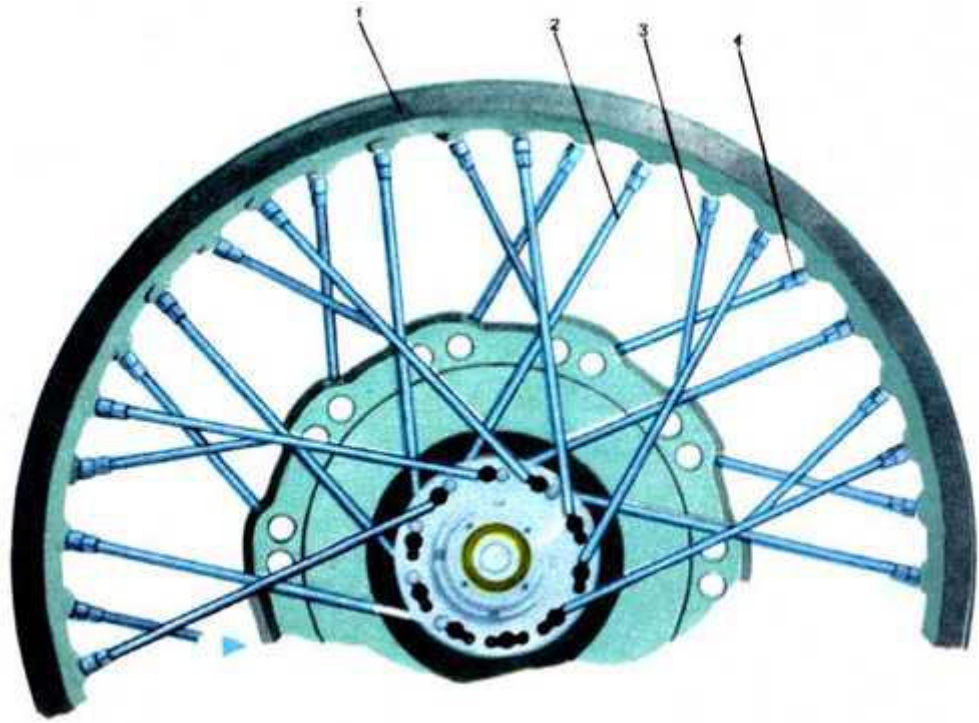
1	casing cover	28	propeller shaft sealing collar
2	distance ring	29	sealing ring with band
3	casing bushing	30	needle bearing
4	needle bearing	31	wedge
5	ring gear hub	32	seal
6	round seal	33	gasket
7	seal cover	34	double-row ball bearing
8	seal spring	35	pinion shaft
9	distance bushing	36	gasket
10	rear wheel axle	37	ring gear
11	casing	38	ball bearing
12	oil drain duct	39	brake show
13	needle bearing	40	spring
14	drain hole plug	41	brake cam
15	packing washer	42	brake pedal
16	shim	43	return spring
17	bearing nut	44	rear brake arm
18	universal-joint splined fork	45	pin
19	circlip	46	intermediate link
20	universal-joint hood	47	rear brake rod lever
21	universal-joint cross	48	rear brake rod
22	lubricator	49	lock ring
23	propeller shaft		
24	flexible joint driven flange		
25	circlip		
26	flexible joint band		
27	rubber disc		



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WHEEL WITH BRAKE DRUM COVER

- 1 rim
- 2 long spoke
- 3 short spoke
- 4 spoke nipple
- 5 tyre and tube
- 6 brake drum cover
- 7 brake drum
- 8 hub
- 9 roller bearing
- 10 intermediate bushing
- 11 front brake cam
- 12 brake lever
- 13 adjusting screw



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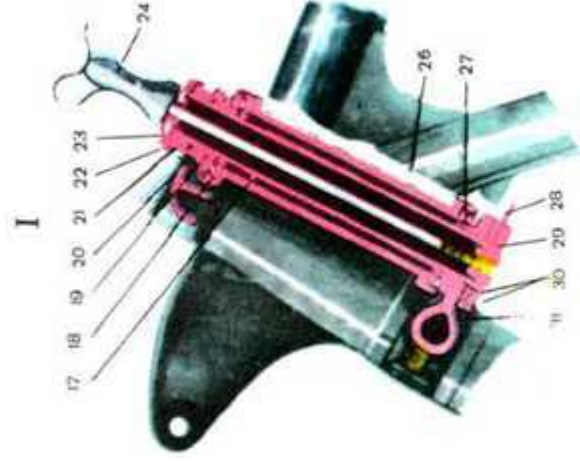
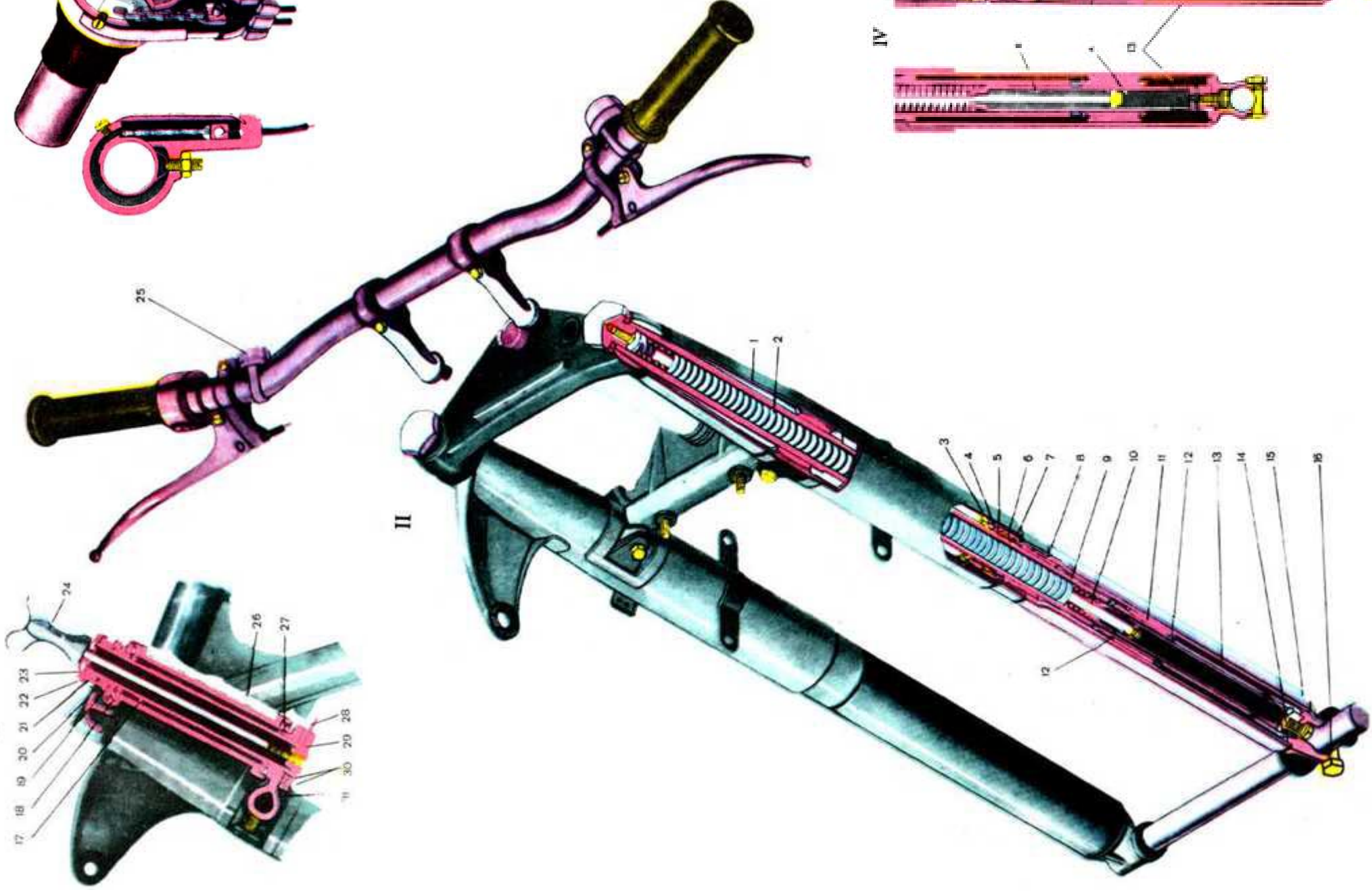
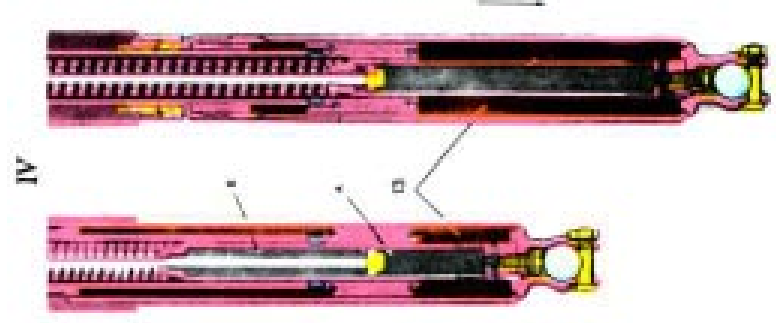
FRONT FORK AND HANDLEBAR

- I Steering column
- II Front fork
- III Throttle control twistgrip
- IV Working layout of shock absorber

- 1 fork leg cover
- 2 spring
- 3 rubber seal
- 4 seal nut
- 5 felt seal
- 6 rubber seal
- 7 seal body
- 8 upper bushing
- 9 fork leg tube
- 10 shock absorber, assy
- 11 lower bushing
- 12 lock ring
- 13 oil space
- 14 shock absorber bolt
- 15 fork leg tip
- 16 clamping bolt
- 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
- 25 turn indicator switch
- 26 frame head
- 27 lower bearing
- 28 fixed plate
- 29 movable plate
- 30 friction washers
- 31 steering column bridge

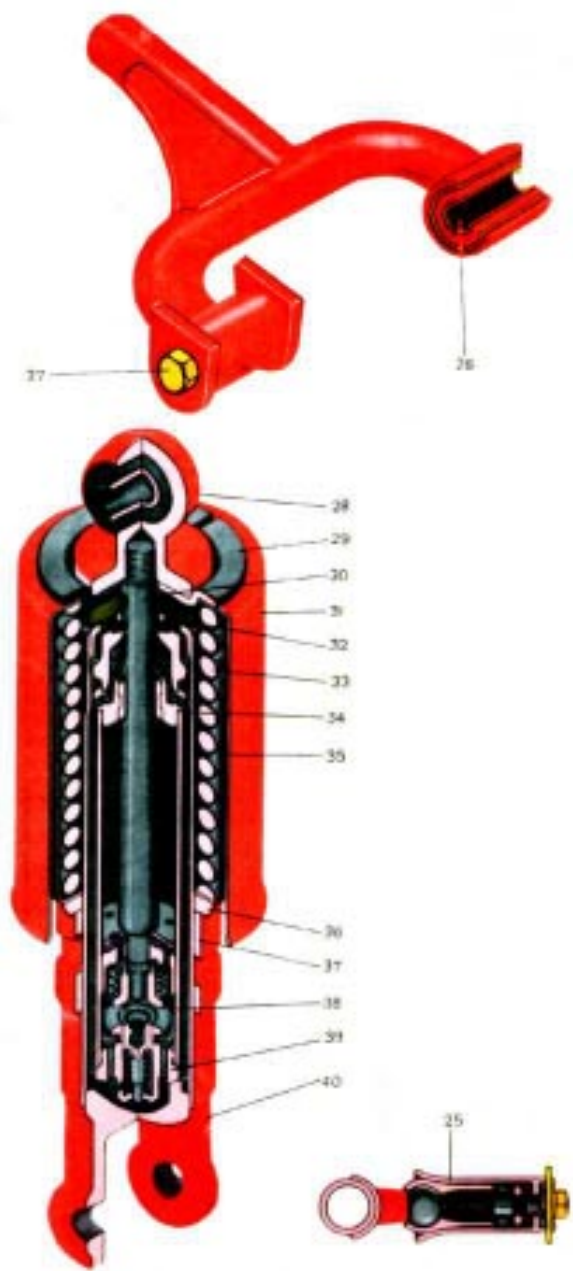
- A hollow under the piston
- B hollow above the piston



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FRAME OF MOTORCYCLE AND SIDE-CAR

1	side-car wheel axle	28	shock-absorber upper end
2	guard plate	29	retainer
3	wheel axle lever	30	rod, assy
4	shock absorber	31	upper barrel
5	side-car swing arrester	32	buffer
6	rubber element	33	spring
7	rear clamping holder	34	shock-absorber body
8	rear mudguard	35	lower barrel
9	passenger saddle	36	supporting ring
10	driver's saddle	37	slider lug
11	storage battery shelf	38	working cylinder
12	kick starter buffer	39	compression valve, assy
13	motorcycle frame	40	shock-absorber lower end
14	side-car front tie-rod bracket		
15	front tie-rod adjusting fork		
16	side-car frame front tie-rod		
17	front clamping holder		
18	motorcycle stand		
19	driver's footrest		
20	stand bumper		
21	rear suspension swinging fork arm		
22	side-car frame tie-rod		
23	passenger footrest		
24	side-car frame		
25	clamping holder (cross-section)		
26	silent block, assy		
27	pin		

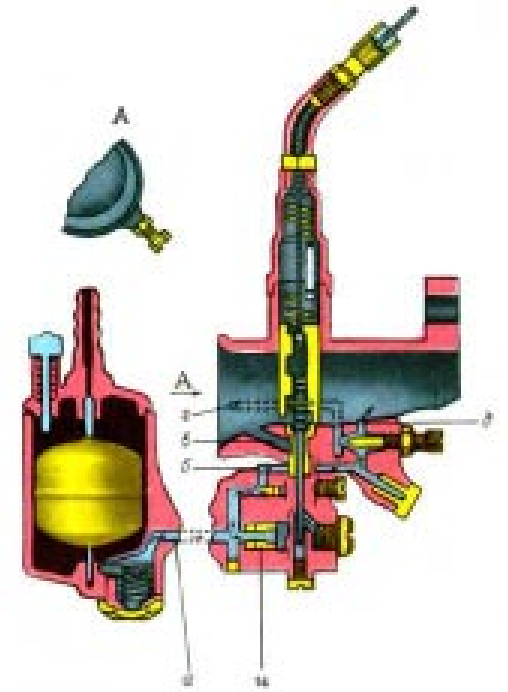
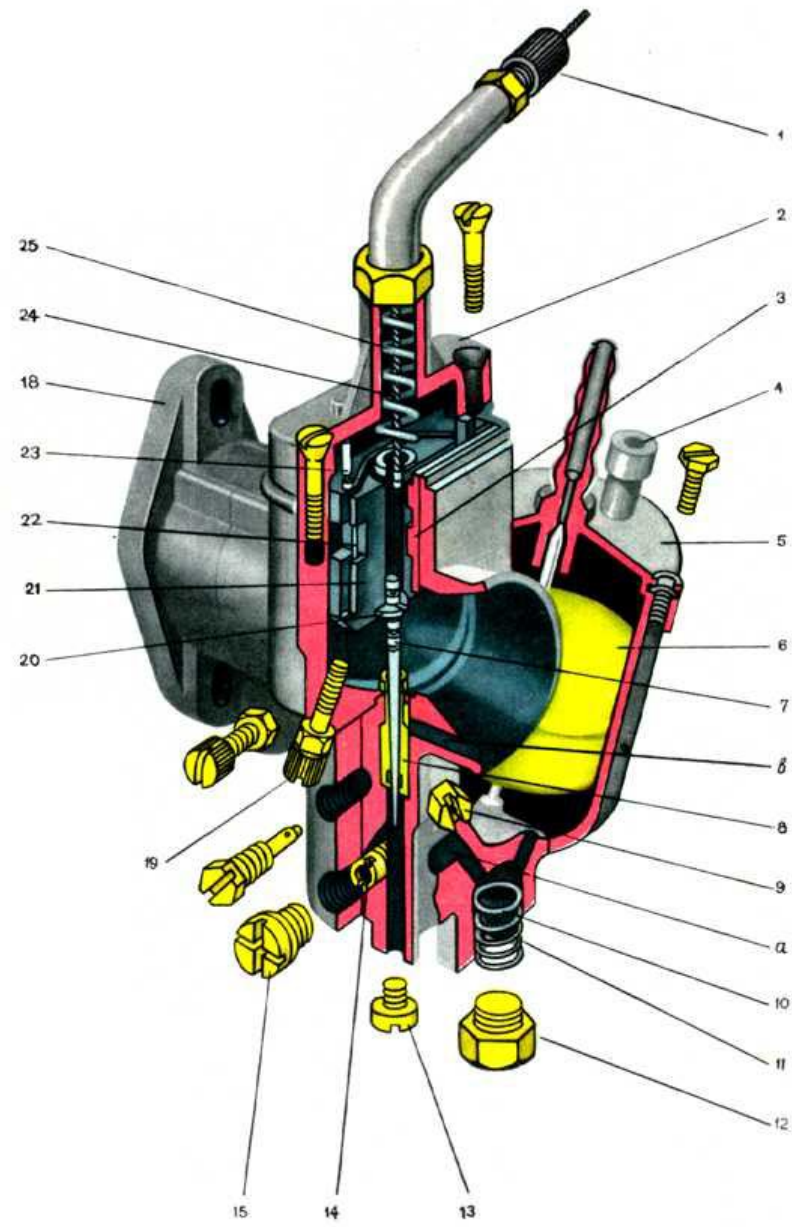
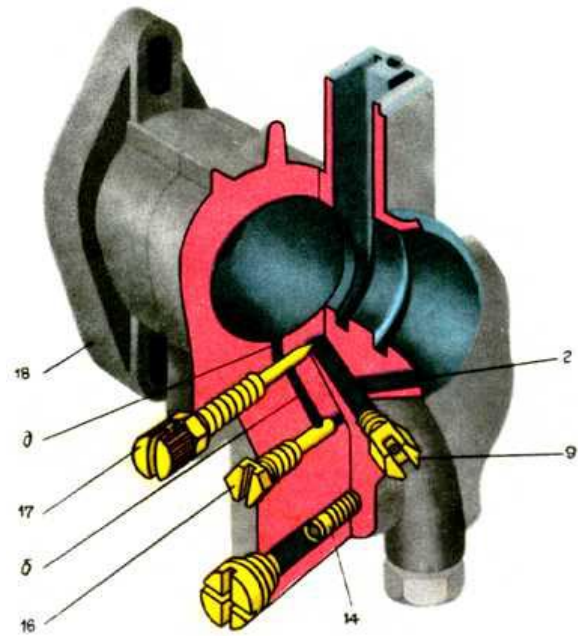


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CARBURETTOR K-301

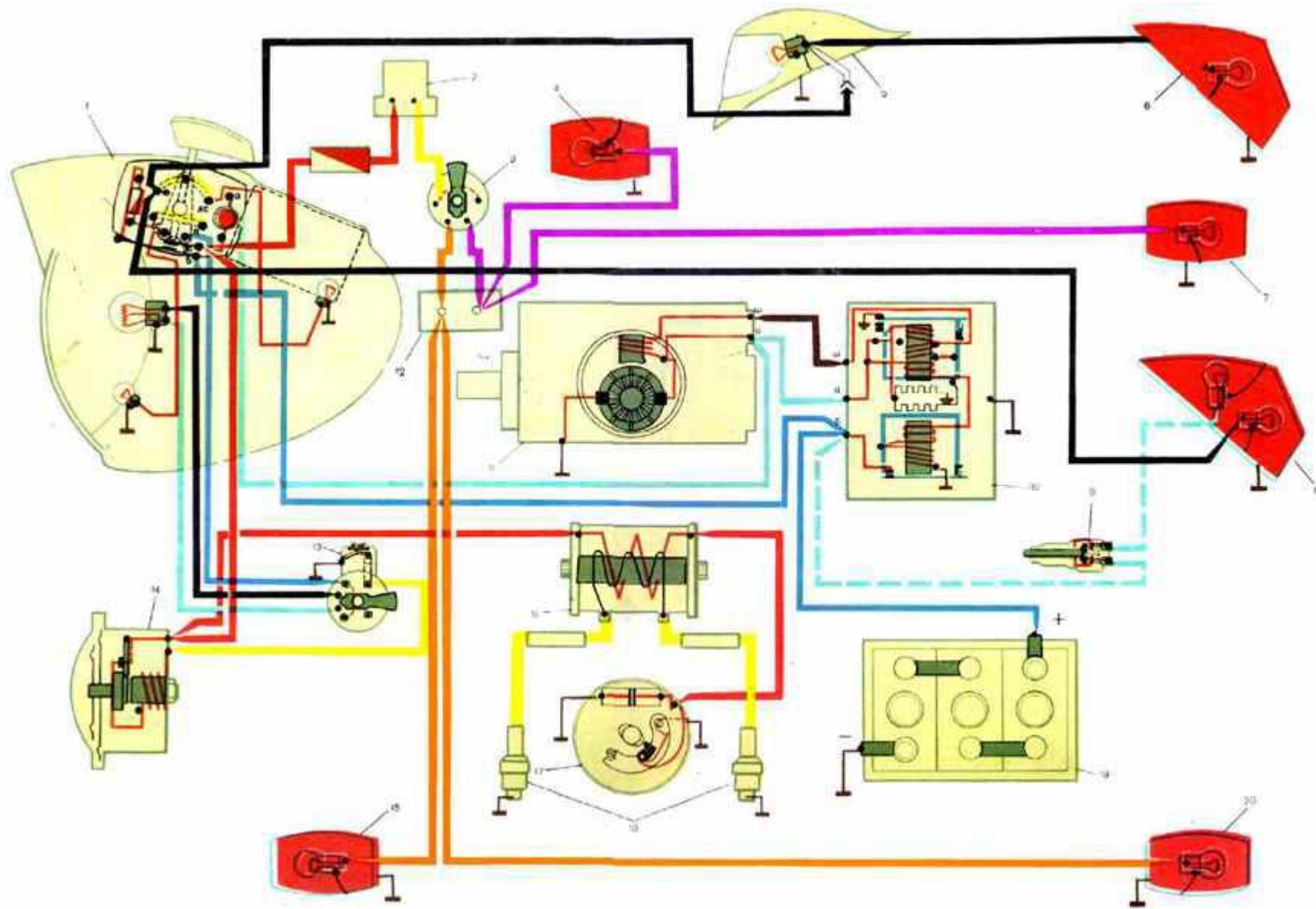
- 1 control cable armour thrust needle
- 2 carburettor cover
- 3 throttle cheek
- 4 depressor
- 5 float chamber cover
- 6 float with shut-off needle
- 7 throttle valve needle
- 8 atomizer
- 9 air filter
- 10 fuel filter
- 11 filter spring
- 12 filter plug
- 13 atomizer duct plug
- 14 main jet
- 15 main jet plug
- 16 low speed jet
- 17 idle speed screw
- 18 carburettor body
- 19 throttle valve screw
- 20 throttle needle lock
- 21 throttle body
- 22 throttle distance spring
- 23 throttle stop screw
- 24 throttle lift cable
- 25 throttle spring

- a fuel passage
- б idle speed system fuel passage
- в main metering system air passage
- г idle speed system air passage
- e idle speed system atomizer hole



ELECTRIC CIRCUIT

- 1 headlamp
- 2 turn indicator relay
- 3 turn indicator switch
- 4 front turn indicator, right-hand
- 5 side-car front lamp
- 6 side-car tail lamp
- 7 tail turn indicator, right-hand
- 8 tail turn
- 9 stop lamp switch
- 10 regulating relay PP-302
- 11 generator Г-414
- 12 wire adapter
- 13 head lights turn-knob and horn button
- 14 horn
- 15 front turn indicator, left hand
- 16 ignition coil
- 17 distributor with automatic advance timer
- 18 spark plug
- 19 storage battery
- 20 tail turn indicator, left hand



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CONTROLS

- 1 ignition coil
- 2 speedometer and odometer
- 3 front brake lever
- 4 throttle control twistgrip
- 5 turn indicator switch
- 6 rear brake pedal
- 7 gear change hand lever
- 8 kick starter
- 9 gear change floor pedal
- 10 clutch lever

