Printed in Yugoslavia by GDO Tiskarna Jadran Koper 4/1986 N

AT 50
ATX 50

maintenance manual & instruction book

TOMOS

Dear TOMOS Owner

On behalf of Tomos, we personally welcome you into the growing ranks of riders who enjoy trouble-free motoring with the TOMOS motorcycle.

To gain full advantage and benefit from your TOMOS, may we ask you to read this booklet carefully and thus ensure that you are conversant with all aspects of ownership of a TOMOS motorcycle.

This book should be considered a permanent part of the motorcycle and should remain with the motorcycle at the time of re-sale.

TOVARNA MOTORNIH VOZIL
TOMOS KOPER
YUGOSLAVIA

WARNING!

BEFORE YOU ATTEMPT TO RIDE THIS MOTORCYCLE, PLEASE NOTE THE FOLLOWING POINTS:

DON'T ride the motorcycle without the number plate and road fund licence being securely fitted.
DO fuel your machine correctly. Please see fuelling instructions.
DON'T fuel your machine with neat petrol.
DO ensure that you have your motorcycle regularly serviced with an authorised dealer.
DO follow the starting procedure as described in this booklet correctly.
DON'T ride the moped without L-plates if you posses a provisional driving licence.

FOREWORD

Motorcycles AT-50 and ATX-50 are the first from the family of motorcycles, designed on the base of contemporaneous tubular steel frames, furnished with equipment, which has been known only by heavy motorcycles. In spite of this our vehicle remain reliable, simple to drive, easy to maintain and of great endurance.
In this booklet you will find all necessary instructions and if you will follow them closely, you will save both, time and money and the motorcycle will give you permanent satisfaction.

TECHNICAL DATA

	AT 50	ATX 50
Engine	Single — cylinder, twostroke, air-cooled	Single — cylinder, twostroke, air-cooled
Piston displacement	49 ccm	49 ccm
Bore	38 mm	38 mm
Stroke	43 mm	43 mm
Compression ratio	9 : 1	9 : 1
Engine output	1.63 KW at 5500 R.P.M.	1.63 KW at 5500 R.P.M.
Torque	3.39 Nm at 3000 R.P.M.	3.39 Nm at 3000 R.P.M.
Fuel tank	9.5 l/reserve 0.5 litre	9.5 l/reserve 0.5 litre
Front fork play	90 mm	140 mm
Rear shock absorbers play	60 mm	95 mm
Tyre pressure:		
— front	1.7 bar	1.7 bar
— rear	1.9 bar	1.9 bar
Tyre dimensions:		
— front	2.5" × 17"	2.5" × 18"
— rear	2.75" × 17"	2.75" × 18"

TECHNICAL DATA

	AT 50	ATX 50
Ignition — magneto	12 V 90 W	12 V 90 W
Ignition advance	1.5 ± 0.1 mm before TDC	1.5 ± 0.1 mm before TDC
Spark plug points gap	0.5 mm	0.5 mm
Spark plug	BOSNA F 80 or suitable of other brand	BOSNA F 80 or suitable of other brand
Headlamp	CEV 25/25 W	CEV 25/25 W
Tail light	12 V 4 W, STOP 10 W	12 V 4 W, STOP 10 W
Trafficators	12 V 10 W BA 15 S	12 V 10 W BA 15 S
Wheel base	1225 mm	1235 mm
Overal lenght of motorcycle	1815 mm	1950 mm
Dry weight	68 kg	70 kg
Carryng capacity	150 kg	150 kg

TECHNICAL DESCRIPTION (Figs. 1, 2)

1. Headlamp
2. Trafficators
3. Lock
4. Headlamp cover
5. Filler cup
6. Fuel feed tap
7. Air filter
8. Seat
9. Seat lock
10. Tail light
11. Front brake
12. Gearshift lever
13. Carburettor (choke lever)
14. Rear brake lever
15. Engine starting lever
16. Stand
17. Chain tension adjuster
18. Rear brake adjuster

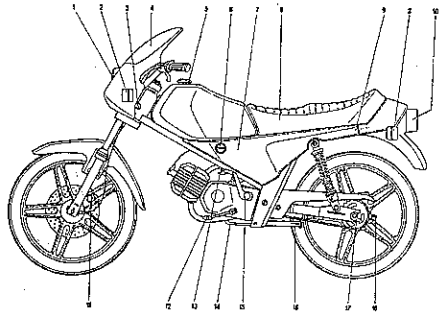


fig. 1

19. Clutch lever
20. Combined switch (beam — low A, horn B, trafficators C)
21. Clutch lever adjustment
22. Speedometer
23. Pilot lamp bulb
24. R.P.M. — meter
25. Brake fluid container
26. Switch (beam ON-D, short circuit button — E)
27. Front brake adjuster
28. Front brake lever
29. Throttle twist grip

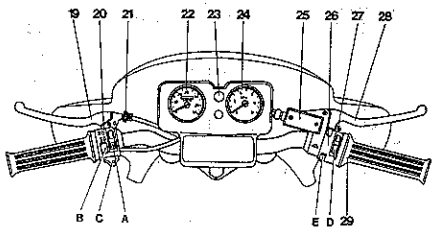


fig. 2

TECHNICAL DESCRIPTION (Figs. 3, 4)

1. Headlamp
2. Trafficators
3. Lock
4. Headlamp cover
5. Filler cup
6. Fuel feed tap
7. Air filter
8. Seat
9. Seat lock
10. Tail light
11. Front brake
12. Gearshift lever
13. Carburettor (choke lever)
14. Rear brake lever
15. Engine starting lever
16. Stand
17. Chain tension adjuster
18. Rear brake adjuster

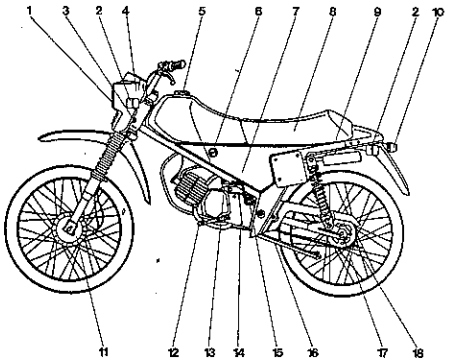


fig. 3

19. Clutch lever
20. Combined switch (beam — low A, horn B, trafficators C)
21. Clutch lever adjustment
22. Speedometer
23. Pilot lamp bulb
24. R.P.M. — meter (aditional equipment)
25. Handlebar brace
26. Switch (beam ON-D, short circuit button — E)
27. Front brake adjuster
28. Front brake lever
29. Throttle twist grip

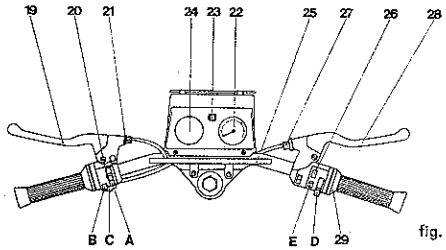


fig. 4

Fuelling

Incorrect fuelling may result in an engine failure affecting engine performance or in the long term, cause a latent defect.

Should a failure be diagnosed as being caused by incorrect fuel mixture, it will NOT be covered under the terms of warranty.

Therefore, please take extreme care, when fuelling your motorcycle.

Fuel is a mixture of good quality 2 stroke oil and 2 star petrol (98 octane).

The proportion of petrol to oil is 40 : 1 (2.5 % of oil), also in the running-in period.

Below is a table, showing how much oil must be added to a given amount of petrol (in litres).

Petrol (litres)	Oil (dl)	Petrol (litres)	Oil (dl)
10	2.50	5	1.25
9	2.25	4	1.00
8	2.00	3	0.75
7	1.75	2	0.50
6	1.50	1	0.25

Special note:

If you are unable to PREMIX a volume of petrol and oil in a petrol can, then simply add the oil directly into the petrol tank of your motorcycle. Please note, oil should always be added after the petrol to prevent oil blocking the fuel system. For further information regarding fuelling, please consult your nearest TOMOS dealer.

OPERATING INSTRUCTIONS

Starting

Open fuel feed tap (pos. 1, fig. 5).

If the engine is cold, pull the choke lever (pos. 2, fig. 5) upwards. Kick start.

DO NOT TWIST THROTTLE WHEN STARTING!

When using the choke lever let the engine run for 10 to 20 seconds without opening throttle.

The choke lever is automatically turned of when throttling up.

Driving

Gearing to first speed is effected by pressing clutch lever (pos. 19, fig. 2, 4) and gearshift lever downwards. Slowly release the clutch lever, simultaneously increase the throttle opening and lead away.

Gearing to second speed is effected by reducing the throttle, pressing clutch lever and shifting gearshift lever upwards. In the same way shift to the third, fourth or to fifth speed.

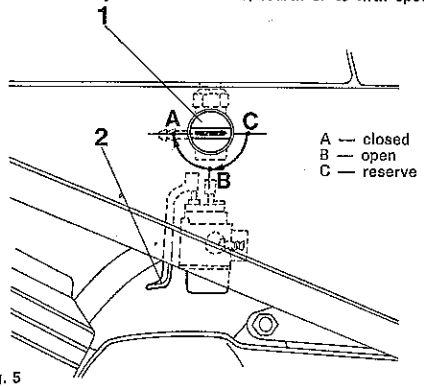


fig. 5

When gearing down, first reduce the throttle opening, press the clutch lever, shift and slowly release clutch lever. To stop, reduce speed by closing the throttle opening and by braking. Press the clutch lever and when the motorcycle stops, shift to neutral gear. Then press the stop button and close fuel feed tap (pos. 1, fig. 5).

Running-in

Do not use full throttle too often until you have covered the first 500 km (approx. 320 miles). Thereafter increase the throttle gradually.

Self-maintenance

Though simple, maintenance of the motorcycle is of vital importance for the perfect operation and durability of the motorcycle. Particularly important are: Lubrication of indivi-dual joints, change of oil in the gearbox, cleaning of parts, which affect engine operation (spark plug, exhaust system, fuel supply system etc.) and inspection of elements on which driving safety depends (tyre pressure, operation of lights and brakes, tightenes of screws and nuts).

Maintenance chart lays down maintenance jobs at fixed intervals for a period upto 9000 kilometers (approx. 5620 miles).

MAINTENANCE CHART — SERVICE SHEDULE

○ — Effected by service dealer

Jobs to be performed per kilometers	500	1500	3000	6000	9000
Lubrication with oil					
1. Change of oil in gearbox (400 ccm)	×			×	
2. Joints of control levers, cables and stand bearing	×	×	×	×	×
3. Chain	×	×	×	×	×
4. Change of oil in front fork	○			○	
5. Change of oil in rear shock absorbers as required				○	
Lubrication with grease					
6. Wheel bearings				○	
7. Clutch bearings	×	×	×	×	×
8. Handlebar bearings				○	
9. Swinging arm bearings bushes				○	
Cleaning and changing					
10. Spark plug — or change	×	×	×	×	×
11. Carburettor	×	×	×	×	×
12. Cylinder head, piston crown and exhaust chanel					×
13. Air filter (change)	×	×	×	×	×
14. Exhaust silencer	×	×	×	×	×
15. Exterior surfaces	×	×	×	×	×

MAINTENANCE CHART — SERVICE SHEDULE

○ — Effected by service dealer

Jobs to be performed per kilometers	500	1500	3000	6000	9000
Controls and settings					
16. Oil level in the gearbox			×	×	×
17. Front fork — oil			○	○	○
18. Rear shock absorbers (as required)				○	
19. Horn and lights	×	×	×	×	×
20. Ignition advance				○	
21. Setting the clutch and brakes		×	×	×	×
22. Spark plug points gap (0.5 mm)	×	×	×	×	×
23. Handlebar bearings clearance		○	○	○	○
24. Wheel bearings clearance		○	○	○	○
25. Wheel track and alingment		○	○	○	○
26. Chain sag (10 mm up — 10 mm down)	×	×	×	×	×
27. Tyre pressure	×	×	×	×	×
28. Idle run and throttle	×	×	×	×	×
29. Tightening of magneto flywheel (28—30 Nm)	○	○	○	○	○
30. Tightening of all screws	×	×	×	×	×
31. Testing of motorcycle	×	×	×	×	×

Lubricants

For gearbox use special gearbox oil, or any other multi-grade oil SAE 10W/30 motor oil.
For front fork use oil Shell Tellus 46 (150ccm for ATX, 130ccm for AT) for each leg.
To lubricate other parts of motorcyle (see the Maintenance chart) we recommend grease of good quality as MOBIL grease BRB.

Change of oil in gearbox

Always change oil when engine is warm. Extract dipstick, unscrew plug (pos. 2, fig. 6) and let oil drain. Screw on the plug and pour approx. 400 ccm of oil through the dipstick opening. Check oil level with dipstick (oil must reach only as far as the top notch) and must never be lower than the bottom notch on the dipstick.

CLEANING

Cleaning of exhaust system

Carbon deposits accumulating in the exhaust system obstruct passage of exhaust gasses thus reducing engine output. Unscrew nut at the end of exhaust pipe, remove the end piece and baffler and clean them. Regularly at fixed intervals (see Maintenance chart), the cylinder exhaust channel and exhaust pipe inlet port should be cleaned too.

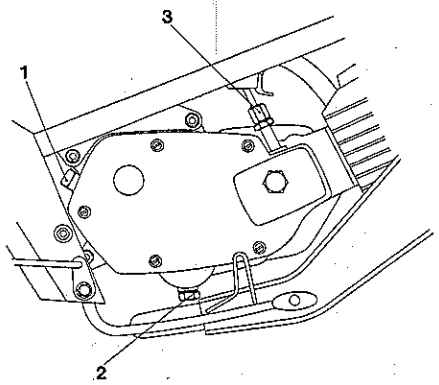


fig. 6

Cleaning the fuel supply system

The carburettor (jets), fuel feed tap (strainer) in the fuel supply system should also be cleaned.
Do NOT clean the main jet with wire or similar objects, it should be done only by blowing through.

Cleaning of motorcycle

Cleaning of exterior surfaces of motorcycle is also part of routine maintenance.
After washing the motorcycle wipe it dry and protect it.
Apply car body protective agent on enamelled surfaces.
After cleaning, test the motorcycle (engine, brakes, lights, horn).

CONTROLS AND SETTINGS

Front brake

Front brake control cable is adjustable with screw (pos. 27, fig. 2, 4).
The front brake control cable is correctly adjusted, when the lever (pos. 19, fig. 2, 4) on the handlebar have 10—15 mm free play at the end of lever and there is a gap of approx. 3 mm between shackle and lever.

BRAKE FLUID (Valid only for AT-50)

Brake fluid is to be found in the fluid reservoir (pos. 25, fig. 2).

When the brake pads are in good condition (new), brake fluid level must rich approx. 5 mm from below of the reservoir edge.
Brake fluid must be changed regularly, each two years due to hygroscopic nature of fluid.

If you feel, that the brake lever won't have that firm, responsive feel, that it should have, hydraulic system need to be bleeded.

Do as follows:

— Remove reservoir cover by help of unscrewing two screws.
— Check, that quantity of fluid is sufficient, if necessary, refill the reservoir.
— Press brake lever several times and keep hand pressure on the lever.
— By other hand and 10 mm spanner slowly loose the bleed nipple (dust cap removed), while hand pressure is maintained on the brake lever. Tight bleed nipple again.
— Release the brake lever.
— Continue this operation until clear fluid is comming thrue bleed nipple.
— Refill the reservoir.

Be sure, that brake disc is perfectly clean, before using or testing of your motorcycle.

Use only a good quality of brake fluid.

BRAKE PADS (Valid only for AT-50)

Checking the condition of brake pads is visual. When the pads are wear out till the grooves (pos. 1, fig. 7), brake pads must be changed.

In the case, that you discover any leakage of brake fluid, reffil the reservoir **and send your motorcycle to be inspected and repaired by an authorized service workshop.**

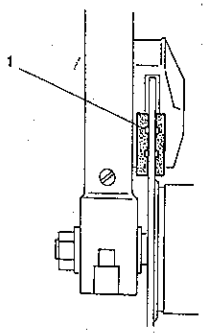


fig. 7

Setting the control cables

Rear brake bar is adjustable with screw (pos. 18, fig. 1, 3). Rear brake lever is correctly adjusted, when the lever (pos. 14, fig. 1, 3) have approx. 30 mm free play.

Clutch control cable is adjustable with screw (pos. 3, fig. 6; pos. 21, fig. 2, 4). The clutch control cable is correctly adjusted, when the lever (pos. 19, fig. 2, 4) on the handlebar have 10—15 mm free play and there is a gap of approx. 3 mm between shackle and lever (fig. 8).

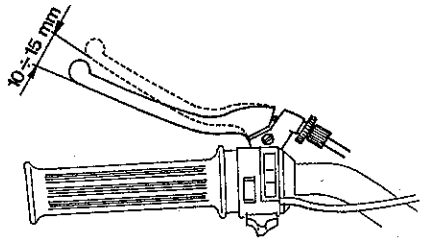


fig. 8

Chain tension

Chain must be tensed so as to allow a movement of 10 mm up and 10 mm down (fig. 9). The correct tension is adjusted by turning the chain tension adjusters (pos. 17, fig. 1, 3) round the rear wheel knock-out axle. Upon adjustment effected, tight on again the two nuts on the wheel axle which had been partly unscrewed before adjustment.

Tightness of screws and nuts

Screws and nuts on major parts (wheels, handlebar, rear shock absorber, pivoted arm axle, fixing the engine into frame, oil drain plug etc.) must be checked and tightened, if necessary.

Setting the gear lever

Foot gearshift lever may be set to the required position by previously unscrewing the protective screw. The protective screw is again firmly screwed on upon the effected setting.

TRACING TROUBLES AND REMOVING

Troubles in the fuel supply system

If the engine fals to start or stops when under way, this may be due to the following reasons:

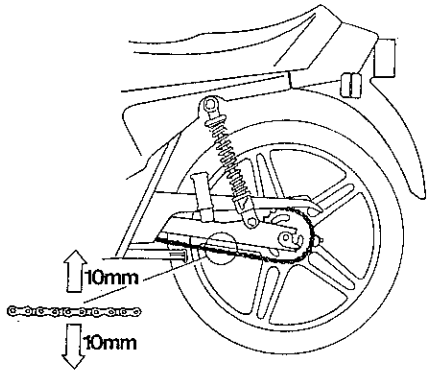


fig. 9

— Choked fuel supply:
Check if there is enough fuel in the fuel tank and if fuel feed tap is open

— Choked fuel strainer:
Blow through strainer on the fuel feed tap

— Main jet in the carburettor choked:
Unscrew and blow through the jet

— Too low setting of freeplay:
Increase number of engine RPM.

Troubles in the ignition system

Check sparking. If it fail to come, the reason may be as follows:

— Wet spark plug or bridged points:
Clean the spark plug

— Spark plug worn out:
Set correct gap or replace spark plug

— Incorrectly fitted cable plug or grounded:
Correctly fit cable plug on the spark plug or else, replace it with a new one.

— Ignition coil isn't faultless:
Have it inspected and repaired by a service workshop.

Troubles causing loss of engine output

Loss of engine output may be due to:

— Spark plug or cylinder head not tightened:
Screw on spark plug or nuts on cylinder head

— Air filter on the carburettor clogged:
Change filter.

— Exhaust sistem clogged:
Clean it.

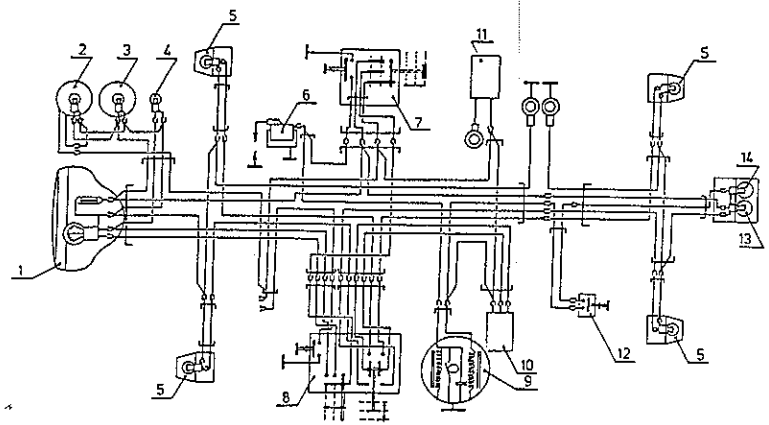
— Incorrectly set ignition advance:
Have it set by service workshop.

— Worn out or broken piston rings:
Have them replaced by service workshop.

— Clutch sliding:
Set the clutch.

ELEKTRISCH SCHEMA

1. Koplamp
2. Toerenteller
3. Kilometerteller
4. Kontrolelamp grootlicht
5. Richtingaanwijzer
6. Ontstekingspoel
7. Stuurschakelaar rechts
8. Stuurschakelaar links
9. Ontsteking
10. Clignoteur
11. Spanningsregelaar
12. Stoplichtschakelaar
13. Achterlicht
14. Stoplicht



EVENTUELE STORINGEN

Slechte start of onregelmatig lopen:
- kontroleer of er genoeg brandstof in de tank zit;
- kontroleer of de choke juist bediend is;
- kontroleer of de elektroden van de bougie 0,5 mm van elkaar staan;
- kontroleer of er geen kooltje tussen de bougie-elektroden zit.

Wanneer de storing hiermee nog niet verholpen is, raadpleeg dan uw TOMOS-dealer.

BESLUIT

Sommige werkzaamheden laten zich niet opnemen in dit boekje. Het verdient aanbeveling de te verrichten onderhoudsbeurten vooraf met uw dealer te bespreken om tot een zo volledig mogelijk onderhoud te komen.