

Driving Instructions

for

Puch Motor Cycles Type 125-Sport



**STEYR-DAIMLER-PUCH
AKTIENGESELLSCHAFT
GRAZ WORKS**

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The Puch Motor Cycle, Type "125/Sports" has been evolved from the Touring Model, Type "125". It is distinct from the latter primarily by its different cylinder and crank-drive designs.

The Driving Instructions as issued for the Type "125"/Touring Model also apply in full to the 125/Sports Type.

This booklet is intended to supplement those instructions in so far as it points out several special features which deserve of extra care when driving the Sports Model.

Primarily, there is the way in which the rider has to use the two carburettors. It is of fundamental importance that the second carburettor may be put in only when the engine revs at from 3500 to 4000 revs. p. m. which corresponds to speeds of abt 12 m. p. h. in bottom gear, or 25 m. p. h. in second gear and over 38 m. p. h. in top gear. The harder working of the twist grip clearly denotes the moment that the second carburettor has come into action. If—while negotiating a stiff incline or when riding against a breeze with both carburettors—your speed drops below the above mentioned rates, the second carburettor must be switched off, that is to say, the twist grip has to be turned back so far until you notice by its resistance in your hand that but one carburettor is in action.

In cases when the second carburetter is put in at too low a number of revs; or, if it is not switched off when revs. drop, engine performance will, it will be noticed, drop as well.

It is of course, expedient, to use a reliable Speedometer, but on the other hand, you will very soon get "the feel" of the twist grip action, thus being always able to put in the second carburetter without looking at your speedometer dial.

The above brief remarks will fully suffice the requirements of average riders for the use of their mounts. Any further references are contained in the general driving instructions-issued for Puch motor cycles.

For sporting riders we quote below some further hints and tips that may come in useful.

First, some technical data and hints:

Carburetter: Same as for Touring Model with 0,72" = 18 mm passage \varnothing , Type P 18/2, the setting being:

Main Jet: Both carburetters No 90.

Needle Jet: Same as Touring Model No 1072.

Jet Needle: Same as Touring Model.

Position of Needle: Left carburetter, clamp spring fixed at 3rd rest, counted from top, right carburetter, clamp spring fixed in 1st rest.

Regulating Screw for Idling: For machines

which have been run-in: turn it open up to 2 turns, so as to get good idling speeds.

Air filters must under no conditions be taken out not even for partaking in any important sporting event, as their dismounting would entail upsetting of the mixture.

The windshields on the float chambers influence the air supply of the carburetters and must neither be disturbed.

For easy starting from cold, flood left carburettor only in usual manner (depress button on float chamber cover).

A distributor-device placed on the cylinder-head regulates the successive action of both carburetters.

Care must be taken that the throttle slide of the right carburettor is lifted only when that of the left has been lifted to almost top position. When the right carburettor slide has been fully opened, the actuating lever on the distributor for the left carburettor passes by just a little to the vertical (top-directed) position. Its correct position can be regulated by putting disc-washers upon the fixing bolts of the distributor. This involves special care to be taken after the cylinder head has been taken down. The bearing bushes of the distributor shaft have to be lubricated with a few drops of oil from time to time.

While a machine is being run-in, the working

of the second carburetter must neither be switched off nor its petrol supply be cut off, as either could lead to trouble.

Ignition- and Lighting Set

Advance 4,5 mm (0,218") from top dead center (TDC) of rear piston. We beg to caution riders against increasing this advance which would not make the model any faster but cause the engine to "knock" and lead to trouble.

Use exclusively sparking plugs of the "Sports Plug" Type, that is, plugs of a sufficiently high thermic grade, which are indispensable for sporting rides (events). We should like to mention of those first of all the spark plug Bosch W 225 T 1.

Of other plugs we mention:

Name of Make	Type	Country of Origin
Ö.Z.F.	F 70, F 80	Austria
K.L.G.	F 70, F 80	Great Britain
Lodge	HN	Great Britain
Champion	LA 10, L 11 S	U.S.A.
Marelli	MW 225 T 1	Italy

In consequence of the high revs. of sports engines, the breaker-contact of the generator is being highly stressed. The felt-lubricant-container and the cam for this reason must be

lubricated every 625 miles (1000 km) with special lubricant for lubricating hot bearings. Every 1500 miles (2500 km) the ignition setting ought to be examined. In case of unsatisfactory engine performance, the ignition setting ought to be looked into first of all.

If the breaker is insufficiently lubricated, a considerable decrease in advance will occur in consequence of the undue wear of the little fibre block on the breaker arm.

Every 600 Miles or so, the battery ought to be topped up (replenished) to prescribed level with pure distilled water. If this is not done it will involve trouble, as the battery will suffer damage and stop functioning properly. More on the subject is contained in our general driving instructions.

Fuels

The engine is set for the use of present day normal fuels of 72 to 75 Octanes and to run on them without knocking. Only when opening the throttle a slight short knocking (or "ringing") may be noticed. This is a metallic sound, sometimes very slight or an irregular ticking, or even ringing noise. Should the engine develop a continuous knock, especially in the higher spheres of revolutions, it proves that the fuel is unsuitable. When using such a fuel, the model

must on no account be driven at high speed. In the event of dire necessity, a short timed—and by no means continuous—riding on this “knocking” fuel may be tolerated.

Should the “ringing” in such a case become very intensive, especially when riding in mountainous or hilly regions, it is advisable to interpose intervals for letting the engine cool down. “Knocking”-combustion unduely increases engine temperature.

Concerning consumption, it may be stated that at moderate speeds—which come up to about top speeds attainable with the Touring model—and when but one of the carburetters is in action, fuel consumption is the same as with the Touring Model. However, at higher rates of speed, when engine performance is essentially higher, too, consumption, of course must needs be higher as well.

Average consumption figures vary between 81,168 and 113,63 M per Imp. Gal (3,5—2,5 l p. 100 km), they are, therefore exceedingly favourable.

Lubricants

Use only best known brands of high grade lubricants!

The ratio of the fuel-oil mixture for normal riding is 25 : 1, that is 40 ccm oil for 1 l of fuel,

for sporting events 20 : 1, or, 50 ccm oil for 1 l of fuel. (50 ccm = abt 0,1 pt, 40 ccm = abt 0,08 pt, 1 pt = 0,57 l; thus the ratio of fuel-oil mixture for each 2 pts of fuel is 0,08 and 0,1 pint of oil, or, roughly, 1 part of oil to 25 and 20 parts of fuel.)

Use only oils of medium thickness or thick oils the same for summer or winter. oils conforming to American grading SAE 50 to 70, such as e. g. Castrol XXL, XL or Grand Prix, Mobil-oil D or B, Golden Shell (Shell 4X). Do not use heavy (thick) oils for the gear box—such oils might cause the clutch to stick; medium grades, too, are best for this purpose.

Exhaust System

With two-stroke engines, the exhaust system is not a necessary evil but an important organ of distribution for the passage of gases if the ports of the cylinder and the exhaust system are functioning in accordance with each other. Special attention ought to be paid to this circumstance.

Any alterations of, or tinkering with the exhaust system are therefore most inexpedient and lead straightaway to a drop in top speed. The efficiency of the engine can solely be judged with the regular exhaust system in normal function!

After abt 6300 miles the muffler must be cleaned as a sooted silencer will unfavourably influence engine performance.

De-Carbonising

After abt 3000 miles of Sporting Rides a slight drop in engine performance will be noticed. Then, the exhaust ports of the cylinder must be cleaned, first of all.

This may be done after taking down the cylinder head and the exhaust pipes without disturbing the cylinder proper and this is a job which can be quickly done. The interior part, too, of the cylinder haed must be de-coked, more especially so the lower part of it into which the tops of the pistons enter.

Below we beg to quote some hints and tips worth your while, enabling you, as they will, to get the best out of your mount.

1. Touring-Rides, rides for pleasure and professional errands or business trips. Their main objectives are to ride safely and comfortably and high averages are not what you would desire just then. The ride you want must neither be an exertion nor a nerve-raking experience and the necessary handling of controls must be few and performed almost automatically.

Safe averages of 35 to 45 m. p. h. (50 to 70 km. p. h.) are to be made, according to the state of

the roads. Of course, on suitable stretches you will give her full throttle, too, but such cases are an exception, normal averages will not be quite so fast.

It is an special feature peculiar to our Sports Model with twin carburetters that it is highly suitable for enjoyable touring trips and does not possess any of the usual draw-backs of high-bred sporting mounts. The Puch 125-Sport Model runs, quietly, has a gentle, yet powerful pull and lightening acceleration and, in the bargain, is exceedingly economical in consumption; also it is an excellent hill climber.

Pure mineral oils (without admixture of any vegetable oils) are to be preferred as they leave the least deposits, and allow of rather prolonged periods of riding between the necessary periodical de-coking operations. Medium or thick oils of the best known high grade brands should be used exclusively, the ratio of admixture being 1 : 25 (1 part oil to 25 parts fuel).

In order to attain favourable consumption figures, the following method of riding is to be recommended:

On no account put the second carburetter into action below the speeds indicated above, and switch it off as soon as speed with both carburetters in action drops below the speeds indicated as bottom limit, because below that point with both carburetters thrown in, the perfor-

mance is not any better, but consumption increases considerably.

When negotiating hills, go down into lower gear in time. Do not try to "force" your mount up a stiff incline on top gear and full throttle and possibly also with both carburetters in action.

Do not open out to full throttle all of a sudden: acceleration will not—in this manner—be any better, it will only tend to raise consumption. More especially, do not suddenly shut down the second carburetter. Slow opening out is better in every respect. It is interesting to note, that the model will yield the high speeds and retain them even on one carburetter, the same speeds which have been attained on two carburetters. If, e. g. 50 m. p. h. (80 km. p. h.) have been attained on two carburetters, you can switch off the second carburetter entirely and the model will still retain its speed. Consumption in this case being rather favourable, it is to be recommended to make use of this possibility.

Most favourable consumption figures can be attained by keeping up—if possible—an even average. Drastic changing of speeds, violent braking and acceleration, nervous opening and shutting of the throttle-twist-grip, all this tend to increase consumption of any automotive vehicle. It is a well known fact, that in town traffic, when steady speeds can not be kept up,

consumption is materially higher. With our Sports Model you are able to attain very favourable figures of consumption and we greatly appreciate it, if riders of our machines really attain them, and do not, on the contrary, needlessly increase consumption by awkward riding.

You should accustom yourself to using both brakes simultaneously, the united effect of both wheels being braked is, of course, better than that of one only. Besides, it will lengthen the lease of life of the brake lining.

Sporting Rides. Here high averages are the objective. The possibilities offered by the model are to be made full use of by the rider. Sports Rides are mentally and physically exerting. Concentrated attention must be paid to both steering and machine and all your driving skill be aimed at making available the full performance of your mount. Meanwhile, everything else, of course, has to stand back. All internal-combustion engines have that in common that they yield their highest power output in the sphere of high revs. This, again, means that the rider will have to change gears in order to put the performance of his engine to the best use. The foot gear-change provided on our machines makes this exceedingly easy.

Most important for attaining high averages is good acceleration after having reduced speed in consequence of varying road conditions. Our

Type 125/Sport in this respect gives excellent results if properly handled.

In bottom gear, the second carburetter may be put in action already at 13 m. p. h. and the speed increased to 20 m. p. h. Then only you may effect your change-up into second gear. While doing so, you have to first reduce your throttle opening, and then open out to full on the first carburetter only.

It is only when passing the 25 m. p. h. mark on your speedometer dial that the second carburetter may once more be put into action. Slow opening out of the twist grip throttle control is much better than suddenly opening out. In second gear, the model can be accelerated to quite 40 m. p. h. Then change up to top gear and you may then also put in the second carburetter—but, mind you, not too suddenly. If you are compelled on account of road bends (or for any other reason) to reduce speed to less than 30 m. p. h. it is necessary, in order to get the full benefit of rapid re-acceleration to change down into second gear, because like this you get an extraordinarily fine acceleration to over 40 m. p. h.

All of what applies to Touring Rides, does equally apply to Sporting Riding. Never use both carburetters for speeds below of those above quoted.

It goes without saying that a Sporting Rider

will effect timely gear changes on gradients. If the speed drops below 40. m. p. h. in top gear, change down to second. The model may proceed on both carburetters at speeds from 40 to 25 m. p. h. and will even then show surprisingly fine performance. If however, you only change down into second gear at a speed below 25 m. p. h., the second carburetter cannot be put in any longer and the model under the circumstances is not any faster than the touring mount. Below abt 19 m. p. h. change down into first gear.

It also goes without special mention that a Sporting Rider will invariably make simultaneous use of both brakes.

On paper the foregoing driving instructions will perhaps appear somewhat intricate. In real riding, however, you will get used to practice them almost automatically within a surprisingly short time and thus be able to properly learn to manage your model very soon indeed.

There is perhaps no need of special mention that Sporting Riders will at all times endeavour to ease the task of their engines by reducing air resistance as much as possible. Air resistance, it must be remembered, does consume engine performance to quite a remarkable degree. In order to attain the highest speeds, you will have to crouch down upon your tank and make yourself as small as possible, and this comes in

especially useful when encountering strong head-wind, because light-weight motor cycles are much more sensitive to wind resistance than heavy mounts. The arranging of a seat cushion on the rear wheel fender (mudguard) will prove a most welcome addition. It will enable the rider on long straights to go down into flat position (racing position) and reduce wind (air) resistance to quite a remarkable degree. This may even mean a plus in speed of quite an extra 6 or 7 m. p. h.! Wide, fluttering garments, on the contrary, tend to considerably reduce your speed.

Sporting Fuels

Insufficiently knock-proof fuels are unsuitable. Care has to be taken that the engine—more so at higher revs.—does not knock. There often is a slight, chirping noise, which may increase as soon as the engine is getting warmer and which leads to overheating. For fast Sporting Rides, therefore, use knock-proof fuels, if possible, fuels which tend to function without knocking, even when engine temperature is high.

Running-In

Performance, as well as the lease of life of an engine are dependant on how it has been run-in. You can best run-in your engine by

carefully sparing your engine for the first 190 miles or so, after which you may very gradually increase the strain to its top performance.

Do the preliminary 190 miles or so without pillion passenger, avoiding stiff gradients. In top gear do not insist on keeping up even speeds for any length of time when doing 28 to 32 m. p. h. Vary your driving speed. Change down in time when your speed drops sensibly below prescribed rates. When driving in town, there is no need of sticking to the above rules—traffic makes it impossible to transgress. From 200 to 600 miles keep to an ordinary touring speed. Put in short speed bursts up to half (open) throttle.

Gradually increase your average speed from 35 to 45 m. p. h., in top gear. When hill climbing, make early change-downs, drive on little gas, put in intervals for cooling down.

From 600 to 1200 miles, lively touring speeds with occasionally interposed short speed-burst up to full throttle. Do not, however, ride for any considerable length of time at speeds nearing top performance.

Even after 1200 miles do not at once ride all out, when travelling at high speeds, shut your throttle lever quite down from time to time—at first once each mile or so. These time intervals may be gradually increased.

Even when your model has been fully run-in, it is still expedient from time to time, to set back your throttle opening for short intervals.

Spark Plugs

For running-in purposes, a spark plug of the next lower thermic grade can be used which is less sensitive to sooting as, e.g. Ö.Z.F.F 50, KLG F 50, Lodge H 14, Bosch W 175 T 1, Marelli 175 T 1.

Once the running-in having been completed and the model is driven at high speeds, only spark plugs of the kind indicated in the driving instructions must be used.

Miscellaneous Items for Your Attention

During the running-in period, all screws and nuts must be examined, especially those by which the engine is held down (also those at the rear). The work of controlling and lubricating, as prescribed, has to be properly attended. It is expressly recommended, to drain the oil from the crank-case after the first 650 miles, after which the crankcase must be rinsed with thin oil and can then be re-filled with a supply of fresh oil.

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