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If you're looking for a new one you can also take the TZR250 servo as it is all the same (the parallel twin model 2MA/1KT). It's also possible to exchange the motor inside as it is a common used type.

If the Power Valve doesn't work at all (no sst sst when switching on the ignition) it could be some other things:

- First check: Power Valve fuse ok? (It melts sometimes without defect in the system)
- Second check: With the ignition on, check for +12 V at the brown cable at the Power Valve control unit connector (unplug the connector and measure). If there's no voltage, it maybe a problem with the harness (brown = 12 V plus when ignition is on) or a loose contact in the connectors (control unit and/or servo motor).

If all was ok and it still won't work it should be a damaged control unit. But don't spend too much time on searching only for RD500 units, the RD350YPVS (same colours as RD500) and TZR250 (1KT) Power Valve controls also fit to the RD500.; you just have to change the connectors. Using the TZR control unit has a very favourable side effect: Instead of opening the Valves at about 6.500 rpm it waits until 7.500 rpm. BDK (England) can change your stock control unit to adjustable opening rev's. They do this to increase midrange power.

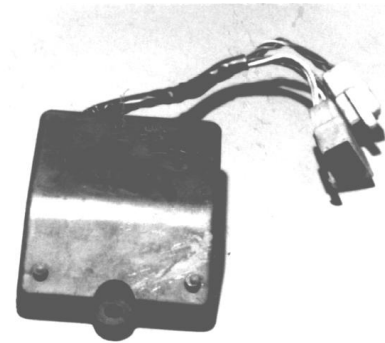


Figure 12: YPVS control unit RD350 (31K)

In my special midrange power test (Wheelie when shifting from first to forth gear) the TZR control unit performed very well and therefore I still use it in my bike.

As the cable colours are slightly different you have to use the following table to connect the cables.

YPVS control unit 1KT-00	Harness RD500
black	black
brown	brown
black/yellow	black/white
black/red	black/red
black/blue	black/yellow
white/blue	white/blue
white/red	white/red
yellow/blue	yellow/blue

Table 2: Wiring of the TZR Power Valve control unit

Take care that you pull and release the throttle a few times before, during and after adjustment. Check your work at least twice.

Wash the filter element in a solvent (I prefer fuel), pour a little motor oil on it and squeeze out before reinstalling. For Moto-Cross purposes there are special air filter oils, but you can also use any regular motor oil (for example 15-W40).

The second most important work to do is to clean the needle jets at least once a season. If some vent drillings are sealed with dirt the engine will run rough at middle rpm's and fuel consumption rises.

Replace the main jet with a screw M5x50 or longer. You can now push out the needle jet (towards the slide) by tapping on the screw without damaging it.

After cleaning reverse the steps to mount it. Align the pin in the carb housing and the groove in the needle jets.

Jetting

The right carburettor setting is very important for two strokes.

In contrast to common carb types the RD500 doesn't have an idle mixture screw but an idle air jet. The idle mixture can be controlled either by changing the idle jet (bigger jet = more fuel = richer mixture) or by changing the idle air jet (bigger jet = more air = leaner mixture). The same system can be found at the main jet system, but the main air jet can't be changed so easily.

Stock RD's have the following setup (parts which can be exchanged are in bold font):

	47X	1GE	51X
Identification	47X00	1GE00	
Main jet	#195	#165	#145
Main air jet (lower cylinder)	# 1.6	<=	<=
Main air jet (upper cylinder)	# 1.8	<=	<=
Idle jet	#22,5	<=	#25
Idle air jet	# 1,1	# 1.4	# 1.4
Slide cutaway	2.0	<=	1.5
Nozzle	O-0 (475)	N-8 (475)	Front: N-6 (487) Rear: N-8 (487)
Needle	5 LT 14 (3. Pos. From top)	<=	<=
Starting jet (Choke)	#40	#60	<=
Swimmer height	24 mm ± 1 mm	<=	<=
Fuel level	1.5 mm ± 1 mm	<=	<=
Needle valve size	2.8	<=	<=

Table 3: Stock carb setups