



We know suspension, that's what we do!

4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

delivery@technikmotorsport.com

25-029-00 Teknik HPV-28C T Valve kit

Application –Yamaha WR 250/450 2006-10

Level of experience. Be able to read and understand your owner's manual. Read these instructions completely.

Tools Required.

- Air Impact Gun and air supply.
- 14mm Allen Socket.
- Metric Vernier Calipers.
- Torque Wrench.
- Red Locktite.
- 12.5 mm Shaft Clamps
- 17mm and 19mm spanners
- Soft Jaw Vice
- Oil Level Tool
- 48mm Fork Seal Driver (for full service only)

Sturdy Vise with soft jaws and bench, Compressed air, 14. Allen socket, impact gun, tape and ruler, deburring tools, thread lock, fork fluid. Clean work area.

Please take the time to carefully read these instructions before attempting installation. If you are unfamiliar with servicing cartridge forks please seek the services of a trusted suspension technician to perform the installation for you.

The Teknik T Valve for the Yamaha WR is a result of many years of testing with the Ballards Enduro Team, the factory Yamaha team for Australian Safari and The Academy of off road Riding as well as our own suspension dyno testing.

As our piston kits are CNC-milled from aircraft quality 6061 T6 aluminium then coated with 50 microns of hard anodizing, these pistons should require no special attention or resurfacing once installed. Of course normal servicing should be carried out on the seals, bushings and oil to maintain the performance of the fork. We recommend 50 hours for oil and seal change.

Full Service –

As above plus approx 2 litres quality synthetic 5wt oil.

New upper and lower bushings – if damaged. New oil and dust seals. Seal grease.

Disassembly

If your forks have been recently overhauled or the machine is new, complete disassembly is not required. You can simply turn the fork upside down and remove the compression base valve with an air impact gun and a 14mm Allen socket.

Once you have removed the base valve proceed to the section covering "Installing the Piston".



We know suspension, that's what we do!

4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

delivery@technikmotorsport.com

If you have read these instructions and you are 'lost' or lack the correct tools seek out a trusted technician to perform the service and installation for you.

Disassembling the Fork

Remove the fork top cap, compress the fork spring to expose the jam nut locking the top cap in place. Now using 17mm and 19mm spanners, remove the fork cap.

With the fork cap removed, leave the springs in the fork. Using a soft jaw vyc, clamp the axle foot (bottom of the fork where the axle goes in) and use a 14mm allen socket and an impact gun remove the base compression bolt. At the same time as the gun is operating, put downward pressure on the fork spring to hold the bottom of the cartridge in the axle foot, to prevent it spinning. Short burst are better than long bursts as there is often a small amount of threadlock to overcome. The O rings may hold the compression assembly in the cartridge, use internal circlip plyers to gently pull the compression assembly (bolt) from the bottom of the fork.

Looking at the top of the base compression assembly there is a staked porting on the top of the nut as a mechanical locking mechanism. This needs to be ground off to remove the nut. Only remove as much aluminium as necessary to remove the nut. Once the nut is removed, pull the entire valving assembly off and place a cable tie through the assembly. The T-Valve kit replaces all components except for the nut. Deburr the top of the post.

This step is only required if you wish to alter the rebound or mid-speed setting.

To remove the rebound shaft from the cartridge assembly, the anti bottoming cone/ cartridge top must be removed from the top of the cartridge. This can be done, by heating the cartridge to loosen any thread lock, and then placing the cartridge in shaft clamps the anti bottom cap can be removed, and thus with it the cartridge tube from the rebound rod.

Disassemble the main/rebound assembly by removing the peening holding the nut on the end of the shaft on a belt sander (or very carefully with a file), and radius the thread to prevent cross threading upon reinstallation. *Longer towers are available as the stock shafts have very little thread.*

Remove all components from the post.

Now lay out the rebound specification, in order.

Carefully reassemble the rebound components on the post in the reverse order as removed, including the new rebound specification. Hold the assembly up to the light and check that the contacting shims are properly seating and no light can be seen through this surface.

Check that the DU bushing at the top of the cartridge is in good order. You can do this by pumping the cartridge in and out while it is in the parts washer.

If a large amount of fluid is expelled past the bushing on the rebound stroke then the bushing should be replaced. If only a trickle is expelled this is OK because there must be some clearance between the shaft and bushing.



We know suspension, that's what we do!

Installing the Piston

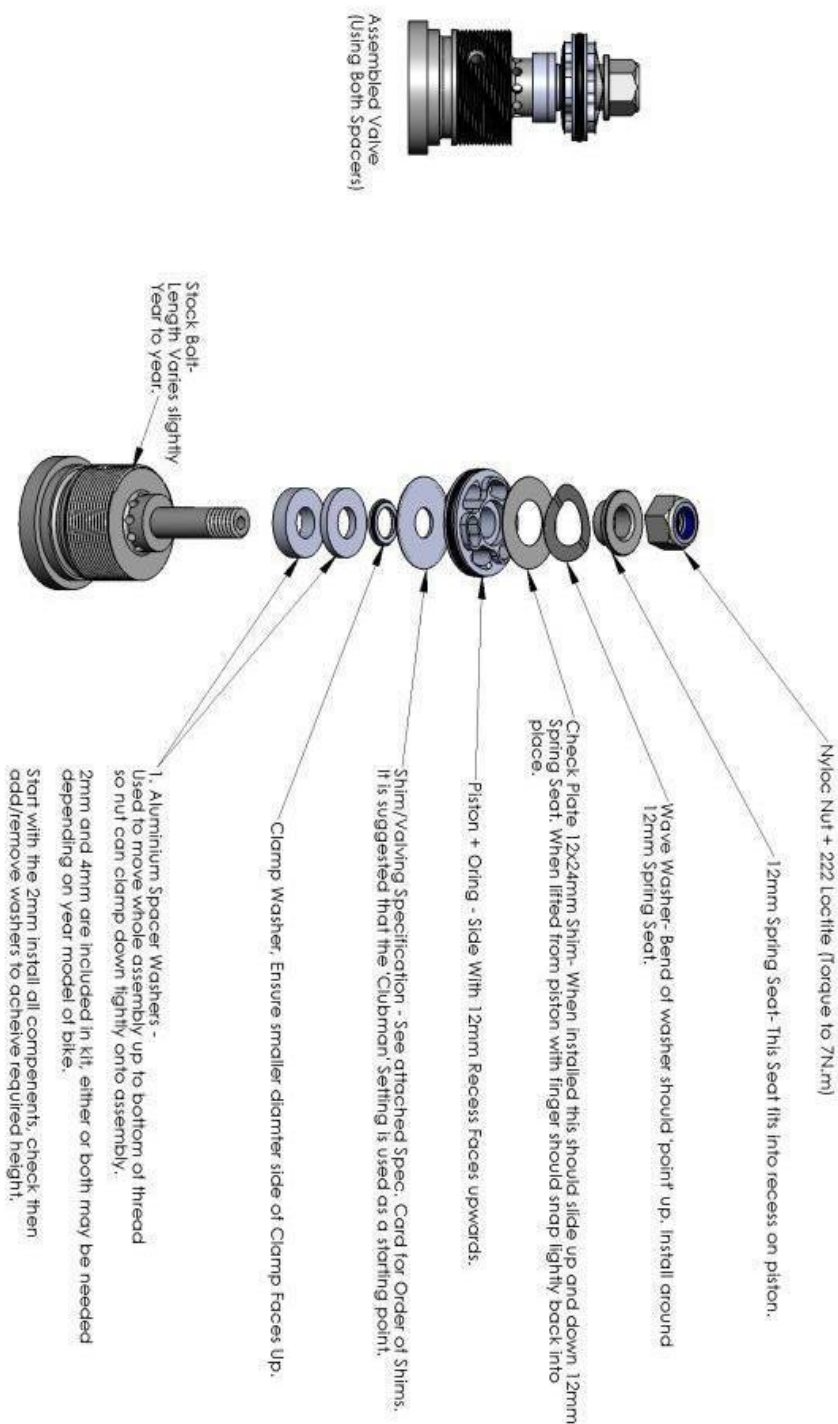
4/5 Harford Street

Penrith NSW 2750

P 02 4732 2626

F 02 4732 2288.

delivery@technikmotorsport.com





4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

We know suspension, that's what we do!

delivery@technikmotorsport.com

Select the valving stack.

We have supplied you with enough shims to make 3 different specification. The Clubman setting is suitable for 80% of applications; only for beginners or MX type use should you use the other settings. Even if the machine will do some MX work, start with our clubman setting, you can always change later if you wish

Assemble the Valve

The number and thickness of shims used will determine the whether a 2.0mm alloy spacer washers is needed or the 4.0mm. The aim is to have the nut flush with the top of the post, however the main thing is the valving assembly is clamped down and is not free to move.

First add a 2mm or 4mm (sometime's both) spacer washer on the post.

Depending on your kits configuration there will be a small stepped clamp plate or 08x11x0.3mm shim that is installed first, (smaller stepped part facing up) then install the valving shims – beginning with the smallest first, then continue in the order of the specification card.

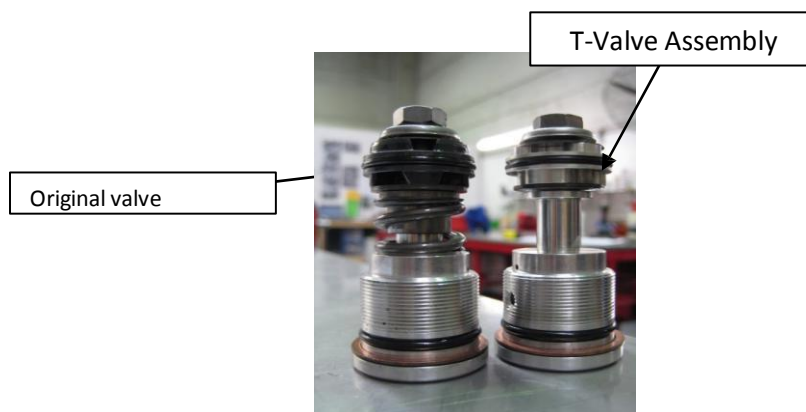
The T Valve comes with O-ring installed is then placed on top of the shim stack with the recess on the piston facing away from the shims.

Place the 12.24.20 check plate shim on the shaft, this will be loose as it locates on the top has assembly.

Next install the wave washer on the black top hat as shown, the 12.24.20 shim will locate on this, and the top hat will in turn locate in the recess on the piston.

At this point you may need to add or remove a spacer washer from the assembly.

Install the 8mm nut and use red locktite on the thread. Double check that the check valve plate is free to move up and down. Torque the nut to approx 7N.m. Check to see that the piston is tight on the shaft and does not move.



Inspect Your Work

For dual stage valving ensure that the gap between the high and low speed valving is visible. If it is not, disassemble the stack and check for dirt or damaged shims before reassembly. The base valve is now ready to be reinstalled in the fork. Put some light grease on the piston O-ring and check that the copper gasket is in good condition. Reinstall the base valve and torque to 25N.



4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

We know suspension, that's what we do!

delivery@technikmotorsport.com

Fill the fork with quality 5wt synthetic fork oil and bleed the cartridge until all the air is expelled from the cartridge and the damper rod has consistent damping throughout its stroke. Set the oil level as specified on the spec card as a starting point. Because many KYB forks have no bleed hole in the inner chrome tube special care is needed to set the oil level correctly. There is a space between the inner and outer tubes and without a bleed hole there is no way to know how much oil is trapped in this space.

As we have given you a level with this cavity full of oil, be sure to full the fork with oil so the inner tube is covered before setting the oil height.

You can now install the springs and fork caps, ensuring that the fork cap threads all the way onto the damper rod before the lock nut is tightened.

Set the rebound adjuster (on fork cap) to 10 clicks out. The range is 10-12 clicks out from hard in.

Set the compression adjuster (bottom of fork) to 10 clicks out from full in, as a starting point.

Install the Forks

Special care should be taken when fitting the forks to the machine. Ensure the fork clamps are clean in the clamping area. Dirt can cause tight spots or the fork may move during operation.

The lower fork clamps should be torque to 16 Nm and the upper clamps to 19 Nm. This is tight enough to ensure that no binding occurs and the forks do not move in the clamps. Check that the axle is free from burrs and is greased. Install the fork guards, front wheel and brake calliper. Tighten the axle. Once the axle is tight you can tighten the axle clamp on the LH (brake calliper side) fork leg.

Special care must be taken with the axle clamp on the RH fork leg. The pinch bolts must be loose so the fork is able to find its own position on the axle. If the fork will not move easily from side to side on the axle gently wedge a small screw driver into the slot at the front of the axle clamp so that the fork is loose on the axle.

Pump the forks up and down to align the tubes before carefully removing the wedge from the axle clamp and tightening the axle clamp pinch bolts. You are now ready to test the machine. The action should feel plush and smooth yet still have good bottoming resistance. The adjusters will still function as before. Take some time relearning the bike before adjusting the clickers.

Tuning Notes

Do not be afraid to experiment with the clickers. Download one of our tuning booklets from our website.

Always count your clicker adjustment from the full in (clockwise) position and count the number of clicks out. With this type of taper needle seat adjuster the closer to maximum damping (full in clockwise) the greater the effect each click makes, i.e. going from 3 to 4 clicks has more effect than going from 20 to 21.

If the fork feels too soft all the way through, increase the compression damping with the external adjuster. If that is not enough you will need to remove the base valve and select firmer damping. Likewise if the fork is too hard all the way through the travel try decreasing the damping with the adjuster (anti-clockwise on the adjuster). If that is not enough remove the base valve and select softer damping.

Remember to bleed the air from the top of the fork cap every ride. The front wheel should be off the ground when this is done. If air is building up very quickly it is usually a sign that the oil seals are close to failure.

Oil level only affects the last third of the travel. If you like the action of the forks but they bottom too easily raise the level by 10mm. Remember even the best quality oil wears out and gets dirty – your service interval will depend on the severity of your riding. Try and time servicing to coincide with big events.

Spring rate is dependent on rider and machine weight. See table in the WR 250/450 Fact sheet or visit technikracing.com



4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

We know suspension, that's what we do!

delivery@technikmotorsport.com

No suspension is perfect for every situation and you will always be forced to make some form of compromise with your machine set up because there are many things to take into consideration. Of course a fork that is perfect for Enduro will be too soft for Supercross. If you do many different types of events, i.e. Enduro, hare-scramble and club MX you will need to select the setting that suits your most frequently used application then use the external clicks to fine tune. . Remember to consider things such as the amount of fuel carried (this affects the forks' free sag), muddy events (bike can quickly weigh 20-30 lbs more) and type of terrain – jumps, special tests, whoops, square edge holes, rocks etc.

In most rides you are going to encounter large variations in terrain. It is a matter of personal preference as to whether you like your forks firm or soft but it is normal practice to try and set up the forks so that they only use all the travel occasionally. The ideal set up is a fork that responds to small irregularities but is firm enough so it doesn't dive excessively under braking and has good bottoming resistance.

By following the valving chart and doing your own testing you will quickly find the setting or settings that will work for your riding style and your terrain. Make notes so that you can duplicate the set ups that worked for you.

Once again thank you for choosing our product. We welcome your feedback.

If you are experiencing difficulties please contact us on:

Country Code 61- area code 2- phone 4732 2626.

E Mail – sales@technikmotorsport.com

Our workshop hours are 8.00am until 5.00 pm, Monday to Friday (except public holidays).



Setting Sheet # :		Kits :		25-029-00	
Setting Applications:		KYB 28mm Open Cartridge - WR			
Compression	C1	C2	C3	C4	C5
Against Piston	08.24.10 (5)	08.24.10 (5)	08.24.10 (x6)	08.24.10 (x6)	08.24.15 (x4)
C1 - Novice Spec Trail Riding Only, Very Plush. C2 - Fast Trail Riding. Still Plush, for fast trail riding. C3 - Clubman Ideal specification for most people. Plush, but offer more control. C4 - Enduro/MX Mostly enduro with a little MX. C5 - Pro Enduro/MX	08.12.15	08.22.10	08.22.10 (x2)	08.22.10 (x2)	08.22.15 (x2)
	08.22.10	08.20.10	08.20.10	08.20.10	08.20.15
	08.20.10	08.18.10	08.18.10	08.18.10	08.18.15
	08.18.10	08.16.10	08.16.10	08.16.15	08.16.15
	08.16.10	08.14.10	08.14.15	08.14.15	08.14.15
	08.14.10	08.12.10	08.12.15	08.12.15	08.12.15
	08x11 Clamp Shim or Washer	08x11 Clamp Shim or Washer	08x11 Clamp Shim or Washer	08x11 Clamp Shim or Washer	08x11 Clamp Shim or Washer
- We Recommend the use of Maxima Racing Fork Fluid with T-Valve Kits. - Oil Height: 135mm - Fluid Viscosity: cSt. @ 40°C - 26.0 - cSt. @ 100°C - 5.36 - SAE- (7wt) -					



We know suspension, that's what we do!

4/5 Harford Street
Penrith NSW 2750
P 02 4732 2626
F 02 4732 2288.

delivery@technikmotorsport.com

Now for the legal bit. If you have read these instructions and do not understand any part of them, or if you are unsure of your own skills in undertaking this work please seek the services of a suitably experienced suspension technician. Incorrectly assembled your suspension could fail causing DEATH or permanent disability. Call us and we will recommend a technician in your area or send the forks disassembled or assembled to us as will happily repair your woes quickly at a modest cost.