

BUILDING A PIT BIKE

1. Uncrating the bike

1. Once the packaging is removed, you'll need to free the bike from its steel crate. Release all wire ties and remove the individual components, then unbolt the tops ends of the crate. Check that everything you expect to find is there.

2. Building the bike

1. We recommend that you leave the bike attached to the bottom part of the crate until the front wheel is fitted

Rear shock

2. Start by mounting the shock in place – its top mounting is usually already connected. Some models will have a short length of steel tube between the bottom mounting and frame to stop the back-end collapsing; unbolt this and discard the support.
3. Bring the shock down to fit the mountain points on the swing arm and secure it with the pivot bolt and nut. If the bike is equipped with a plastic mud deflector, fit its bracket to the shock rear mounting and bolt the deflector lower mounting in place.

Handlebars

4. At this point it's a good idea to fit the handlebars, the benefit being is that it is more stable with them in place. Remove any protective packaging from around the handlebar's grips and levers.
5. Identify the handlebar clamps and their bolts. Align the handlebar knurled areas with the clamp base and fit the top half of the clamp and set the angle of the bars so that they are angled slightly rearwards. Thread the bolts into place and tighten.

Rear brake pedal

6. Take a few minutes to work out how the pedal return spring ends wrap around the pedal, frame and pivot – it's not the easiest thing to fit because of the tension in the spring. There should be a plain washer and split pin provided for securing the pedal on its shaft and for securing the brake rod link to the pedal – take these off if they come fixed in place. Position the pedal return spring over the pivot shaft followed by the pedal,

whilst locating the rear end of the spring under the frame and the longer end under and around the pedal. This may take several attempts and you may find a flat-bladed screwdriver is useful levering the spring coils over the pedal shoulder. Check the spring ends are located and check the pedal returns to its 'at rest' position once released. Finally fit the large plain washer over the pivot shaft and insert the split pin through the hole in the shaft. Bend the ends of the split pin around to secure it. Now connect the brake link to the end of the pedal, fit the plain washer and secure it by inserting the split pin through the hole and bending its ends round locking it in place.

Footrests.

7. If the footrests aren't already fitted, identify the right from the left footrest. Insert the the pivot pin fully and secure it with the split pin, bending the split pins ends around locking it in place.

Front mudguard and number board

8. Bolt the front mudguard to the underside of the of the bottom fork yolk, noting that you'll need to include the numberboard mounting bracket on most models. It's a good idea to use a drop of locking compound (non-permanent type) on the bolt threads.
9. Check that the numberboard is secured top and bottom and that the cables are routed correctly behind it. The front brake hose passes through a guide on many models.

Front wheel

10. At this point detach the bike from the base of the crate. It'll it will be held by its wheel axle, a couple of spacers and nut. Rest the bike on a stand under the bash plate if available. The front end needs to be raised sufficiently to fit the front wheel.
11. Check for the plastic wedge fitted between the brake pads and remove it. You may also find a small plastic spacer fitted between the front brake lever and the master cylinder – remove this too.
12. On disc brake models, retrieve any wheel axle components supplied with the bike and use any spacer and the axle nut provided instead of those to secure the bike to the crate. Locate the shouldered ends of the spacers in the wheel grease seals, working out beforehand which goes in which sides if they are of different lengths. Check this by offering the wheel up to the forks – the brake disc should align with the calliper mouth and the wheel should be central in the forks. If correct, slide the ale into place making sure the disc locates correctly between the brake pads. Fix the new axle nut and tighten it whilst holding the axle head from the other side. Spin the wheel and check that it rotates freely.

Wheels

13. Check all spokes on the wheels are correctly tightened and the wheels are true, working from the valve round all spokes must be correctly tightened.

General

14. Check that all cable-ties have been removed from the gear lever and foot rests and any other places they might be. Check that the drive chain lower runs is on top of the nylon roller. Check that the engine kill switch wiring is connected.
15. Remove the protective film from the exhaust pipe. Peel the protective layer off the bodywork graphics. Use cable-ties where necessary to keep things tidy and prevent them being snagged when riding. Check that the cables and hydraulic hoses are routed correctly and through their guides where provided. Some bikes may come with a brake snake; this can be fitted by slipping the closed end through the hole in the pedal and looping the free end through the frame or engine bashplate before locking it down with the clamp.

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16. Starting at the rear of the bike, work your way to the front on both sides checking that all nuts, bolts and screws are tight. Don't assume that because it is new from the factory that everything will be tight. A drop of thread compound (non-permanent type) is advised on the threads of the brake calliper bolts and engine mounting bolts.

- Rear wheel axle nut
- Rear wheel spokes
- Chain adjuster lock nut
- Rear shock bolt and nut at top and bottom of shock
- Swing arm nut pivot bolt nut
- Rear brake caliper bolts
- Rear brake disc bolts
- Rear sprocket bolts
- Chainguard bolts and chain roller bolt
- Rear master cylinder bolt
- Rear subframe bolts (where applicable)
- Engine mounting bolt nuts
- Engine bashplate bolts
- Engine oil drain bolt
- Engine oil collar mounting bolts (where fitted)
- Kickstart lever and gear lever pinch bolts
- Footrest bracket bolts (where applicable)
- Rear brake pedal bolt
- Side stand bolt nut
- Exhaust pipe bolts/nuts
- Handlebar bolts
- Front brake master cylinder clamp bolts
- Clutch lever clamp bolt
- Clutch and brake lever pivot bolts/nuts
- Front fork pinch bolts
- Front mudguard bolts
- Steering head bolt
- Front wheel axle nut

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- Front wheel axle clamp bolts (where fitted)
- Front brake caliper bolts
- Front brake disc bolts

3. Checking the settings

1. Check the engine valve clearances (tappets) with the engine set to TDC compression. Pit bikes are often supplied with Zero valve clearances from the factory. This must be set to the correct clearance. You'll need a set of feeler gauges. This procedure is essential to the correct running of the engine. Failure to get this right will result in the valves not fully sealing against their seats. Failure to check and set your valves will void your warranty.

Valve clearances must be checked and set to intake 0.10mm (0.004 inch) exhaust 0.15 (0.006 Inch)

2. Check for a small amount of freeplay in the throttle twist grip. You should be able to feel this as 'slack' when turning the grip. Open the throttle fully and check that it returns smoothly when released and doesn't stick at any point.
3. On the manual gearbox models, operate the clutch lever and check that the lever returns smoothly when released. There should be a small amount of freeplay in the cable otherwise the clutch will drag. Fell for cable freeplay 'slack' as you operate the lever – it should represent no more than 4 to 5mm measured at the lever stock.
4. Check the tyre pressures, setting them to 26psi. For off road use the pressure can be anywhere between 20-30psi according to personal preference.
5. Check that both brakes are capable of locking the wheels when fully applied and that they free off fully when released. Check the hydraulic levels through the sight glass in the reservoir.
6. With the bikes rear wheel off the ground rotate the wheel and check the run of the chain. The chain should be evenly aligned on both sprockets if the bike's wheels are in-line. It should also run over the top of the chain roller and must not touch the chainguard or any other component. Check the chain freeplay with a ruler. It should have bout 15 mm of slack up and down from the mid-position (that's a total of 30mm slack). Adjust if necessary.
7. Check the engine oil level. Unscrew the dipstick and wipe clean on a rag. Hold the bike upright and re-insert the dipstick but don't screw it in. Withdraw the dipstick and note the oil on the hatched area of the dipstick. It should be up to the higher extent of the hatched area. If necessary, top up with semi-synthetic 10w/40 motorcycle oil until the level is correct.
8. The Oil in the bike from factory is sufficient, but we do recommend draining and putting in fresh oil after approximately 2 hours of use.

PDI

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- ***Rear wheel spokes***
- ***Chain adjuster lock nut***
- ***Rear shock bolt and nut at top and bottom of shock***
- ***Swing arm nut pivot bolt nut***
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- ***Rear brake disc bolts***
- ***Rear sprocket bolts***
- ***Chainguard bolts and chain roller bolt***
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- ***Rear subframe bolts (where applicable)***
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- ***Footrest bracket bolts (where applicable)***
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- ***Side stand bolt nut***
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- ***Front mudguard bolts***
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Maintenance Schedule

The following services checks should be carried out at the intervals as stated in this maintenance sheet, failure to do so will void all warranty on the bike.

- Pre-ride checks
- Post-ride checks
- Main service – every 5 hours
- Extended service – every 15 hours

Pre-ride checks

- Check the tyre pressures
- Check the engine oil level
- Check the throttle operates smoothly and returns when the grip is released
- Check each brake holds the wheel firmly when applied and frees off fully when released. Make a visual check of the brake fluid level through the master cylinder window on disc brake models
- Compress and release the front and rear suspension, checking that it operates correctly
- Check that the side stand stays up when retracted.
- Check the suspension settings are correct for what you are doing
- Check there's enough fuel in the tank

Post ride checks

Note: if the bike is dirty, clean it. You'll discover any defects much easier on a clean bike.

- Check tighten all nuts and bolts. Many will have slackened after a couple of hours riding.
- Check the rear wheel spoke tension

- Check there's no sign of oil leaking from the front forks and rear shock
- Clean and lube the chain. Check chain free play
- Turn the fuel tap OFF. If you're going to lay the bike up for while consider draining the fuel from the carburettor
- If the air filter is visibly dirty, give it a clean before the next ride
- Apply a squirt of cable lube to the throttle and clutch cables

Main service

- Clean and lube the chain, then check the chain sprockets for wear. Check chain freeplay
- Check all chain guards, guides and sliders are in good condition and securely mounted
- Clean and regap the spark plug
- Change the engine oil (and on models with a paper oil filter change it)
- Clean the air filter
- Check the fuel hose
- Check the crankcase breather hose
- Check the engine idle speed
- Check the throttle cable freeplay
- Check the clutch cable free play
- Lubricate the the throttle and clutch cables
- Check the steering head bearings for play
- Check the condition of the front fork tubes and seals
- Check the rear shock and swing arm bearings
- Check the brake pads and discs for wear
- Check the brake fluid level and hose condition
- Check the wheel bearings for play
- Check the wheel spoke tension
- Check tyre pressure and condition
- Lubricate stand, footrest, brake pedal hand handlebar lever pivots
- Check the tightness of all nuts and bolts

Extended Service

Note: Carry out all items under the 'main service' heading plus the following:

- Clean the engine oil filterscreen, and where fitted the centrifugal filter

- Fit a new spark plug
- Check the valve clearances
- Clean the fuel tap filter (inside the tank) and where fitted renew the in-line fuel filter
- Fit a new air filter
- Grease the throttle twist grip
- Change the front fork oil
- Regrease the steering head bearings
- Change the brake fluid and bleed the brakes