



SSDT 2022

For SSDT riders 'on confirmation of entry' please telephone us on (01756-793521) to sign on for our back up service or e mail us at spares@beta-uk.com and inform us of your riding number and which bike/year and engine size you will ride and also your address and credit card details. There is no charge for the service, only if you use any parts. Form to register included also.

**You must sign on with us before you go to the SSDT. Please do this as soon as you receive your riding number.**

We supply spare parts, tools, compressors etc to help service your bike at the SSDT. Below are some helpful tips designed for people riding in the SSDT or you may find some things helpful anyway. These are modifications that we make to our own bikes. A lot of these things apply only to riders competing in the SSDT. Obviously, these are only guidelines, you must prepare your bike fully. EACH YEAR WE EXPERIENCE PROBLEMS FROM RIDERS WHO DO NOT BOTHER TO DO THE JOBS LISTED BELOW. SOME THINGS MAY SEEM UNIMPORTANT BUT THEY ARE ALL THERE FOR A REASON.

The SSDT committee have decided that they will be stricter with regard to us helping you with your bike so make sure you are able to carry out the work yourself.

Try to prepare your bike fully 2 weeks before so you are prepared well in advance. Test your bike on the road for a minimum of one hour before arriving to the SSDT.

WE WILL NOT BE DOING WORK ON THE WEEKEND BEFORE SO PLEASE ARRIVE COMPLETELY PREPARED.

If your bike is over one year old or has done a previous SSDT I advise checking the main bearings especially if the engine has a wining noise, this is not essential but if you are unsure get somebody experienced to listen to your bike, also change radiator hoses, head insert "O-ring", head gasket and water pump impellor. If you have had your bike from new then this work is not critical as you will know the history of the bike. If you do not know the history, then this is worth checking.

## **FRAME.**

**TYRES.** New. We recommend Michelin X11 tyres. Make sure you are able to repair both front and rear punctures.

**LOCKTIGHT.** Do not use on M5 screws or small screws you need to remove. M6 up is OK. M5 "hexagon" headed screws are OK to lock tight. Lock tight stand bolts, gear lever, rear sump bolts, kick start + kick start countersunk bolt.

Silencer "bottom" mounting bolts-replace with hexagon bolts as shown in photo below and check each day. We have these.



**BOLTS.** Check all accessible bolts to ensure they are tight. Check these regularly.

**BRAKE PADS.** New front and rear. Check you have a little play in the rear brake rod. The piston must return fully to its off position, the rear brake can stick on if this is not correct. **IMPORTANT. Put a good cable tie round the rear brake rod "clip".**

Grease the pins, which hold the pads in place. If the allen key fit is not good REPLACE.

**KILL BUTTON 14-22 EVO.** You can remove the lights but do not remove the main wiring loom as the fan is wired through the wiring loom.

**CHAIN.** Must be new or nearly new. Do not use a chain unless you know the quality is good and make sure you can get a half link if required, a standard Beta chain is very good quality, it will normally only move around 4 clicks during the week. Keep the links you remove as they may be useful in the future. You can get half links for a standard Beta chain which may be required. If you are using a 11T front you will need a chain with a half link. Put the split link on the inside of the chain.

**CHAIN SLIPPER PAD/ TENSIONER PAD.** New, unless the bike is quite new. Put a "lock nut" on the back of the top chain slipper bolt. 2014-22 only.

**SPROCKETS.** New or nearly new.

**LINKAGE KNUCKLE.** Check for free play in the swinging arm and inspect the linkage knuckle to make sure it is not damaged/cracked. Under normal conditions they do not crack but worth checking. Remove and grease all bolts and bearings. Do not over tighten the link arm bolts as you can pull the head off the bolt. If you are using a shock different to standard contact us directly.

**REAR WHEEL.**

**2019 Only.** Check your rear hub measures 51.5mm on the outside of the bearing on the sprocket side. Call us if under this size.

**FRONT/REAR FENDER TAPE.** Very important. Run some “gorilla tape” (this is stronger than standard duct tape) down the back of each side of the front fender, about 2cm out of the side of the back of the fender. This helps to prevent the radiator clogging with mud. Also a good mod is to run about 2-3 cm up each side of the rear fender which helps prevent mud/spray coming from the rear wheel as the rear fender is narrow.



We have also available a guard “shown below” which fits on the bottom of the radiator which prevents mud from getting into the rad. This works really well and definitely should be fitted. Available from us.



**RADIATOR. IMPORTANT.** Throughout the event and especially after every moor crossing remove the radiator cover and clean. Do not touch or rub mud into the radiator, the radiator is very fragile so do not touch. You can blow out with the airline when you return to the start, same again do gently as you can damage the radiator. Every year we have riders retire because they do not do this. The radiator cover is designed to keep mud out of the radiator, but it does not work well on the road. Remove when you are on a long road stretch. Make sure you do not loose the cover. To fill the Evo coolant correctly put the front wheel (0.5-1.0 meter) high as it fills better. The Evo will always push a little coolant out to find its level then it should be fine. Take your bike up the road for a run and make sure the fan is working correctly. During the week wait until your engine is cold, remove the radiator cap and squeeze a hose, if you can see radiator fluid do not fill full as it only has to push some out to find its level.

**I CANNOT STRESS HOW IMPORTANT IT IS TO KEEP THE RADIATOR CLEAN; THE BIKE CANNOT COOL ITSELF IF IT CANNOT GET AIR. IF YOU DO NOT DO THIS THERE IS A GOOD CHANCE YOU WILL NOT FINISH THE EVENT. ALL THE EXPERIENCED RIDERS KEEP THEIR RADIATOR CLEAN AND NORMALLY HAVE NO PROBLEMS.**

#### **Checking the cooling Water system. Courtesy of Jim Austeruhle.**

There must be room (air space) for coolant expansion in the top of the radiator so that when the coolant heats up and expands it compresses the trapped air, and when cooling down the pressure drops to atmospheric. If the radiator is filled to the neck, some coolant will blow off when hot, but it should find equilibrium, As the radiator cap lifting pressure is 1.4 bar, normal heating and cooling cycles with fan operation would be within this range and no blow off would occur unless you are on full throttle continuously, in which case you may have reached the limit of the cooling system and should shut off!

Beta recommend standing the bike on the back wheel when filling the cooling system to allow venting of all air when initially filling the engine, but you may have noticed that in the last few years Beta have added a cylinder head vent screw just behind the spark plug. As both the cooling hoses go into the bottom of the radiator, the cylinder head is the highest point in the engine so gas or air from incomplete filling can be trapped at the top of the head.

With the engine cold, remove the radiator cap, note the level, then slacken the vent screw a few turns (8mm spanner) eventually a drop of water will come out round the vent screw and you know the head is full, if air/gas comes out you will know that the head was not vented, and the level will drop in the radiator until you get coolant. Top up the radiator with coolant -just visible at the bottom of the filler tube and refit the cap.

This should give normal operation with fan cutting in and out but in worst case scenario your head gasket may

be leaking gas into the cooling space. In which case the gas displaces coolant in the head, back to the radiator and will eventually blow off during operation.

As it is a closed system, the pressure when cold should always be atmospheric, but if after an event or practice, maybe the next day when the engine is completely cold, you slacken the radiator cap and there is still pressure and a slight hiss, it may be an indication that the head gasket is starting to leak.



### **VERY IMPORTANT. Early warning system.**

Evo all models. Reroute header tank pipe as shown. If you have cooling problems, you will get a warning before damage is done. This will indicate the radiator is full of mud, you are going too fast on the road or there is a problem with the fan.

### **100% IMPORTANT.**

**THIS IS AN EARLY WARNING SYSTEM TO YOUR BIKE OVERHEATING. IF YOU USE THIS TO KEEP AN EYE ON THE BIKE OVERHEATING YOU WILL BE FINE – IGNORE AND YOU WILL NOT FINISH.**



### **FAN.**

We have available a connector so if your fan thermostat fails you simply follow the wires out of your thermostat and connect them together using the connector shown. You can push these together with your fingers,



**AIR FILTER.** Make sure your air filter is in good condition. Check air box bleed screw is working correctly, and you can remove easily. Lightly oil your air filter, do not run dry as if it is warm the tracks can be dusty which can also create problems.

**Evo.** Seal any holes where water and mud can come from the rear wheel and also where the silencer connects to the sub frame.

We have a new cover that prevents water/mud from entering the air box (See below). **THIS MUST BE FITTED.** This will prevent water from the front wheel finding its way into the air box, which happens when you ride down the wet tracks. This is where most water enters the air box. The bike can breathe through the vents in the rear fender, but the Locca cover will stop water/mud from getting to the air filter. We also run sikoflex/tiger seal “silicone does not stick” down the left and right subframe, spray the bottom of your rear fender so the silicon sticks to the subframe and not the fender. This makes a very good seal where the fender seals against the sub frame. You can also use draught excluder which is about 5-7mm thick which also works. This mod is to prevent mud/water entering from any small gaps where the mudguard sits on the sub frame. Also tape the air box LID to prevent any water passing through.



**AIR BOX DRAIN MOD.** This mod is useful when conditions are bad as you can see from the clear pipe if you have any water in your air box before it can cause a problem. To fit insert the red right-angled part into your air box drain hole facing to the left on 2T bikes and right on 4T bikes. Run the pipe in front of the footrests. Lock tight to make sure the nut inside the air box cannot come loose. Also, silicone round the nut to smooth the surface so allowing any water to run into the hole easily. The end with the removable drain simply sits down on the sump allowing you to reach easily if required.



**STAND.** Make sure it works well because you must have a stand all week for the parc ferme. When the stand is down do not put your body weight on the bike to start. Lock tight stand bolts and check every day. If the stand returns automatically remove the M6 bolt behind the stand bracket. Check your stand bracket is not cracked as these can be weak. We recommend re welding if you find a crack as this will be stronger than standard. **DO NOT USE THE STAND TO START YOUR BIKE OR OIL THE CHAIN.**

**FUEL PIPE. IMPORTANT.**

Check it is not touching the cylinder and not bent so the fuel can flow correctly. Fit an in line fuel filter. IMPORTANT. On the Evo 2015-22 I recommend running the pipe right round the carb or routed up towards the fuel tank so the pipe does not kink. Make sure it is not near the exhaust. **THIS IS IMPORTANT AS IF YOU GET DIRT IN THE FUEL VALVE YOU CAN LOOSE FUEL WHICH CAN CREATE BIG PROBLEMS OUT ON THE MOORS.**

**SPOKES.** Check each day.

**SUMP.** Remove sump plate and press back to its original position if it is stressed or bent towards the engine.

**RADIATOR HOSES.** If yours is more than 1 year old I advise changing the radiator hoses, do not over tighten clips.

**SUSPENSION.** Set up as per handbook.

**ELECTRICAL CONNECTORS 2017/22 EVO.**



Separate all connectors and make sure they are pushed together correctly. Spray with electric spray. Also separate the CDI and spray with electric spray. **IMPORTANT.** Available from us.

**ENGINE 2T**

**CLUTCH.** As long as it does not slip in the high gears it should be fine. If it is starting to slip, change before the event. Make sure you have some free play in the lever.

**GEARING.** If your main objective is to finish the SSDT I would strongly recommend gearing your bike up. If you are slow on the moors it helps you to make up some time on the road/track sections and also does not put as much stress on your engine. Try to use for as long as possible before the SSDT. Evo 14-22 use 11-42. Remember you need a chain with a half link if using a 11T front. 4 stroke keep standard 11-42. “Gearing is personal” so test well before the event. The main objective is to make first gear comfortable for you, so your sixth gear is as high as possible helping you on the road/tracks. You must test but remember the SSDT sections are very straight line compared to most events. Evo 125cc 11-43.

**KICKSTART AND KICKSTART RETURN BOLT.**

This is located under the exhaust on the top left hand side of the engine. Check it is tight. If kickstart is stiff it is too tight or needs a new washer.

**ENGINE OIL.** New. Check every day during the event using the oil window, check oil window is tight. We recommend changing the engine oil half way through the week as your bike will do a lot of miles.

**STARTING 2T.** 9 times out of 10 an Evo 2T starts best with choke and no throttle. If this does not work, try no choke and full throttle

**COIL 2T.** Check bolts are tight and wires are not rubbed through..



## **REGULATOR EVO.**

We recommend fitting the regulator as shown below. This will mean you can fit your SSDT riding number easily before you take your bike to the parc ferme. We have a bolt for this.



## **ENGINE 4T ONLY.**

**VALVES AND CAMSHAFT DRIVE GEAR.** As per the handbook. They should be checked after 10 hours use and then every 60 hours. If they are not checked it can make the bike difficult to start. Do not arrive to the SSDT without doing this; this is something we cannot do at the event. Check and lock tight the bolts with green lock tight. This must be checked on all 4T bikes before the SSDT. Torque to 10 Nm. You can do the valves at the same time

**OIL PUMP COVER 4T.** We also advise carrying a spare oil pump cover and a spare oil window.

**STARTING 4T.** The bike will not start any better if you try to kick-start too hard. It starts the easiest if you use smooth progressive strokes. Kicking too hard (aggressively) can break the kick-start gear. This is only under extreme situations. If the 4T will not start when hot. Hot start out, fuel tap pointing upwards. Smooth kick with no throttle or just taking the slack out of the cable. If after 4-5 kicks it does not start it is probably flooded. No hot start, fuel tap in normal position pointing up. Use half to full throttle and it will start. **IMPORTANT:** Use the hot start when the bike will not start normally. If the bike has been on its side or you have some problems to start use the hot start and open the fuel tap so it is facing down but with NO THROTTLE. If this fails, full throttle with no hot start.

**CARB 4T.** There is a filter above in inlet fuel valve on the 4T which you should check/clean whilst you are cleaning the rest of the carb. There is a small screw to remove to take out. Also, on the left side of the carb at the bottom is a drain screw which you cannot use easily as the rear silencer is in the way. A really good mod is to weld a M8 bolt to the screw so you can remove when the exhaust is in place. This allows you to drain your carb very easily if there is any water inside.

**THIS MOD IS A MUST AS IT IS VERY HARD TO TAKE THE 4T CARB OFF QUICKLY – IMPORTANT.**  
**Make sure you do this mod as there is no time to remove the carb during the event.**

**ROAD LEGAL.** Please make sure your bike is road legal, taxed, insured, rear number plate that you can read from the rear, horn, and speedo. Remember you are only insured for the event and the parade on Sunday if you are using the event insurance. Gary has a rear number plate bracket if required which is designed round the Evo rear fender.

**RIDING CLOTHING.** Basically this is down to you. I personally have found the best system is to carry a small rucksack with some lightweight waterproofs you can put on if the weather gets bad. If you set off in full waterproofs you can guarantee it will be hot all day and vice a versa if you don't. With this you have the best of both worlds. I usually wear my normal riding clothing, gortex socks, top and bottom waterproofs if required, warm waterproof gloves for the road, spare set of gloves. Goggles/face mask. Test all equipment well before to make sure it is comfortable and "waterproof".

**TOOLS TO CARRY.** Same again this is just the basics. Check that I have not forgotten anything. Tools to remove both wheels. 1 front tube, this will repair a front puncture and a rear punctures in an emergency if the tyre came off the rim. Repair strips if the rear tyre splits. Pump and air bottles to inflate tyre. I always carry a small pump just incase I run out of air bottles. Change a tyre with the tools you are going to carry to make sure they work. With the rear tyre always try to repair first with tyre repair strips, only use a tube if these do not work. 1 helpful tip, if you are putting a tube in the rear wheel only take off 1 side of the tyre so you only have to seal 1 side when repaired. Spare spark plug and plug key. Throttle cable. Split link. Tools to remove carburettor. Tyre pressure gauge. 5 minute araldite in case you damage your engine case.

## **DAILY CHECK LIST. Every day.**

Air filter, disc bolts "rear mainly", footrest bracket bolts, kick-start bolt, gear lever bolt "increase slot if closed when tight", chain tensioner is straight, chain tension "DO NOT OVERTIGHTEN AS THIS CAN CAUSE THE CHAIN TO BREAK – IF IN DOUBT CHAIN IS BETTER SLACK RATHER THAN TIGHT, coolant – check in the morning when the bike has cooled down, pinch the rad hose, if you can see coolant it is fine, gear box oil (check in window), brake pads, spokes all OK, stand bolts, rear sump bolts, silencer top and bottom bolts.

**STOPWATCH WITH COUNTDOWN TIMER.** I cannot stress how important this is. During the event you have your running time. Some days the majority of riders end up getting short of time. You do not have time to work out how much time you have

remaining. If you have a watch with a countdown you can set the complete running time including lunch stop and the last control back into Fort William and you always know how much time you have remaining. For the good riders you can calculate your time better so you can spend more time looking at the sections. This can be the difference between you losing time or not and even finishing in time or not. I have used a Casio G-Shock for 10 years and it has been perfect.

**TEST.**When you have finished your bike take it for 10/20 miles up the road and test in some sections, this will make sure everything is working well before you start.

EACH YEAR WE EXPERIENCE PROBLEMS FROM RIDERS WHO DO NOT BOTHER TO DO THE JOBS LISTED. SOME THINGS MAY SEEM UNIMPORTANT BUT THEY ARE ALL THERE FOR A REASON. IT IS SO DISSAPOINTING WHEN A RIDER RETIRES FROM A SMALL MECHANICAL PROBLEM. THE THINGS LISTED ARE THERE TO TRY AND PREVENT THAT HAPPENING.

IMPORTANT. IF YOU RETIRE OR HAVE PROBLEMS PLEASE INFORM US AND THE ORGANISERS AS OTHERWISE WE PRESUME YOU ARE STILL OUT THERE SOMEWHERE.

If you have any concerns please contact us.

We will not have a mechanic available over the weekend so please make sure your bike is fully prepared before you arrive.