1997 MODEL RC-200-F6 COMPETITION CHASSIS

WORKSHOP MANUAL

Date of manufacture.....

Supplying Dealer/Distributor.....

Chassis Number.....

Chassis Size..... ..inches.....cm

Introduction

Congratulations on purchasing the 1997 Model RC-200 chassis, and welcome to the select group of discerning off road riders from around the world who appreciate the performance & build quality of the RC-200. We're confident that your RC-200 will perform to the very highest of standards, even through extended or hard racing use. After all, the RC-200 is specifically a competition machine.

For this reason, the RC-200 offers significant benefits in terms of control, efficiency & high speed performance. To maintain these high standards, we would recommend this owners manual is read in detail, particularly as the RC-200 features design details not often found on other performance chassis.

Should you have any queries concerning your RC-200 please contact your nearest Status 1 Dealer (for service outside of the UK, contact your Authorised Pace Distributor- details of which can be found on our latest promotional literature).

NOTE 1 The Anti-chainsuck system fitted to your F6 fits either standard cranks or compact drive type.

NOTE 2 The finish on this frame is natural aluminium . Machining & extrusion marks may be visible and must be accepted as part of the frame's character.

The RC-200

Only the very best materials have been used in your RC-200, each chassis being hand Tig-Welded & assembled, then quality tested & checked

Pace are one of the select few companies in the world who design and manufacture every piece of the frame. Unlike most manufacturers who utilise an outside suppliers tube set " off the peg ", or in a few cases a variant of a standard tubeset, Pace start from the ground up & design every aspect of the chassis. Thats because we need to control every detail of the frame to achieve the performance our design engineers have requested.

Certainly this is not a cheap or quick method of frame spec'ing, however we believe the extra work & expense is justified when compared to other framesets because the cost of manufacture is not simply the time taken to braze or weld a tube set together, then finish it.

For example, not only do we specify the required material composition (in our case 7000 series aluminium produced at the mill to T6 condition), but also design the die from which each high precision tube is drawn, the tube section, wall thickness (which in some tubes even varies from upper & lower faces to side wall) and even the " straightness " of each tube.

Obviously the on-course performance of a frame often relies more on practical than its technical design features. Input from both our test riders & Pro-Am Team continually give feedback on chassis performance & help to evaluate new design features incorporated into the new seasons chassis. For example, no matter how sophisticated the design of frame, it becomes useless if it hasn't sufficient tyre clearance or suffers from uncontrollable chainsuck!

Your new chassis; Checklist

Please make sure all these parts are in place;

1. *All screws & fittings are original Stage 2 Titanium and Stainless Steel parts (where appropriate).*
2. *Detachable seatpost clamp & drop-outs.*
3. *Crud-catcher.*
4. *Anti-chainsuck system.*
5. *Under tunnel cable guide.*
6. *Carbon-5 Protection Patch Kit.*

Check over the chassis and make sure it is not marked or damaged in any way. Please make a note of the chassis number, which you will find stamped underneath BB shell. You will be required to quote this when ordering spare parts, & will need this reference should the machine be stolen.

Please immediately return the enclosed warranty sticker to us, duly completed. You will then be recorded as the original owner. We can then keep you fully up to date with any factory modifications that may be relative to your model.

Build Up

We would recommend that your nearest Pace Status 1 Dealer assembles your new RC-200. For build up service outside UK please consult your supplying Dealer or Distributor
(please see current brochure for distributor in your country).

Please note; The warranty on your RC-200 will be affected should it be assembled incorrectly.
If you are to assemble machine yourself, please make sure that these instructions are read in detail, and that all necessary tools are at hand.

Headset.

Headset Diameter; 1 1/8inch.

We would recommend any quality headset, conventional or Aheadset type. Faces have been machined onto headtube so as to be accurate & perpendicular to headtube centreline. Make sure headset cups are pressed fully into frame, & follow manufacturers assembly instructions.

Front Mechanism.

The RC-200-F6 requires a front mechanism with a 31.8mm clamp diameter bottom pull. The F6 is also equipped with a mounting point for 'E-Type' front mech'. Do not overtighten clamp otherwise seat tube might be damaged. *Follow manufacturers fitting & set-up instructions.*

Seat Post.

A unique seatpost clamping system is featured on the RC-200. So that the seat tube cluster is reinforced, there is no "split" in the head of the seattube. A contoured plate is welded into the seattube which guides the seatpost into the frame & gives added support in this area.
The seatpost clamp is separate to the frame, & is bolted in position with a titanium M5 screw. This screw does not need to be removed for seat post adjustment. Do not overtighten this screw into the frame. The F6 carries a seal mounted within the seatclamp to prevent water and mud entering into the seat-tube.
NOTE; Seatclamp mounting screw ;
TORQUE TO 28 inlbs (3NM max.)

Seatpost Diameter; 29.4mm

RECOMMENDED SEATPOST. Do not use a " shimmed type " seatpost. Such a product may damage frame & would invalidate warranty. We would recommend a quality longer length aluminium seatpost of a full 29.4 dia, such as Syncros or Ringle, although it is essential that the diameter of the seatpost is checked before fitting to make sure that it is not undersized. Undersized posts can damage frames.

Smear copper grease (anti-seize) over lower part of post before fitment & make sure post is a smooth fit inside seattube.

It is important that there is sufficient penetration of the seatpost into the seatube. With the saddle height adjusted correctly the seatpost must penetrate at ***LEAST 130mm*** (measured from top of seat post clamp). Ideally, fit an extra-long seatpost such as the Syncros 425mm & cut so that it leaves as much overlap of seatpost into frame as possible, which will reinforce the frame in this area.

NOTE; If the seatpost you are using only just penetrates the correct amount into the frame, be careful when lending your machine to a tall friend should the saddle height need adjusting!

The M6 titanium screw in the rear of the seatpost clamp should not be overtightened, otherwise the clamp could be distorted & would require replacement.

Bottom Bracket and Crankset.

BB Shell Width; 68mm
CUP; English BC 1.37 x 24 TPI.

The bottom bracket shell in your RC-200-F6 is manufactured to exacting standards so this high-load area gives trouble free service. Further, the generous wall thickness to the BB shell, supported by large box section chainstays, downtube & new 31.8 seat tube provide for a very stiff BB area. Additionally the chainstays on your F6 now cradle the underside of the BB, whilst a chainstay bridge is not necessary on the F6, thereby affording more tyre clearance.
So that the BB spindle is perfectly in-line with your chassis i.e. perpendicular to vertical & horizontal centre-lines, Pace are one of the few companies who machine the threads & faces of the shell, post welding. This rather

complex operation provides superior chain alignment, power transmission & rider ergonomics. It also helps reduce chainsuck.
We would recommend any high quality BB, particularly the UK manufactured Royce & Hope Titanium. Such a BB is adjustable from side to side in the frame so that a perfect chainline is achieved. Follow manufacturers instructions carefully during assembly into chassis, & maintain accordingly. We would not recommend a locking agent on any part of the BB, although a smear of copper grease on cup threads helps to reduce corrosion inside frame.

Find below some recommended spindle lengths, although note that manufacturers constantly release different models of both spindle & crankset which may affect chainline, chainring clearance & crankarm clearance.

Note that the F6 has greater crankarm clearance with its " snake-stay " design. Clearance between inner face of crankarm & stay should be at least 3 or 4mm. Also make sure that there is at least 1mm of clearance between chainrings & chainstay. Note that with new cranks, this measurement will need to be greater as the new crank will settle onto spindle after use.

Recommended Spindle Lengths

1995/6/7 XTR, XT, LX; 107mm
1995/6/7 STX.....107mm
Cook E;.....130mm
Mavic.....130mm
Middleburn RS2.....122.5mm
RS3.....107mm

The RC-200 will accept any crank, including Shimano Hyperdive, as well as all standard PCD cranksets. Be warned however that there is no industry standard as far as thread & chainring positioning is concerned, therefore we would suggest consulting your local Status 1 Dealer before ordering.

Anti-Chainsuck System

The F6 model Pace features a unique two-piece reinforced acetol nylon system found beneath the driveside chainstay. This is mounted with steel screws and stainless steel cup-washers. The F6 carries a reinforcing plate welded to the underside of the stay onto which the system mounts, thus reinforcing this high load area.

The chassis will be supplied with the system already mounted (see checklist) but will need correctly setting up so as to work efficiently with your chosen crank and chainring sizes.

When adjusting system do not overtighten M5 screws.
NOTE; Anti-chainsuck M5 mounting screws; TORQUE TO 28 in lbs (3Nm max.).

We would recommend the use of Pace RC-20 chainrings on your crankset because their increased strength and lifespan means the correct relationship between the chainring & tooth plate is maintained for a greater period. The system will work however with any quality chainring system.

The anti-chainsuck system on the F6 will only work correctly if the set-up procedure is followed. Further, the system should be kept adjusted properly otherwise it will not function correctly and damage to frame could be caused.

Adjust anti-chainsuck system with machine upside down. Rotate cranks and make sure chainrings are not bent or distorted. Loosen both M5 screw and move upper nylon plate across so that plate actually touches chainrings. Note that anti-chainsuck plate is a two piece design and that only upper half is adjustable. Ideally plate should be pressed up against all three rings.

However should the chainring sizes not allow this, make sure plate is pressed against inner and middle rings. Tighten both M5 screws.
It should take only a short ride for the chainrings to"bed" into the anti-chainsuck plate. This way you are guaranteed the closest fit between chainrings and plate. If at this point not all three chainrings are close up against anti-chainsuck plate loosen M5 screws again and swing plate over so rings again touch plate. Tighten M5 screws. repeat this bedding procedure until all rings are close into plate.

NOTE; Should any chainring be replaced, the anti-chainsuck system should be checked, particularly if a chainring of a different make or tooth size be fitted. Periodically check set-up in case anti-chainsuck plate has been bent or distorted through use. Replace as necessary.

Rear Frame Triangle and Wheel

The RC-200-F6 has a number of significant features which help to increase the performance of both the rider and the machine.

The rear triangle on the F6 is constructed from our own load dedicated precision extruded tube, & offers lasting strength, stiffness & perfect frame alignment. The wishbone seatstays provide a higher degree of support to the brake area. These are much larger than standard so as to give additional support to the stainless steel brake boss.

The F6 features an asymmetrical rear triangle. What this means for you is a straighter chainline for better power transmission, and a reduction in dishing in the rear wheel which increases the wheels strength and life.

A large amount of tyre clearance is given in both the seat and chainstays, and the F6 will accept any width of tyre. However this is not given at the expense of decreased chainring & crankarm clearance. The F6 will accept most common chainring combinations, whilst the F6 features an additional bend to the chainstays to increase crankarm clearance.

Detachable dropouts give you the reassurance that should a dropout be bent at any time (through a crash or jammed rear-mech.' for example), the dropouts can be quickly and cheaply replaced. Dropouts are mounted with titanium screws.

Note that the dropout slot has a near vertical final section to it, so that whilst racing should the QR loose its grip the rear wheel will not easily pull over or out. This can often happen under heavy load, e.g. when climbing or when using certain designs of hub QR.

Note; Because the F6 uses high quality 7000 series aluminium for the dropouts, the rear hub will only be able to grip this hard surface as long as the hub has a serrated grip on its locknut/spacer & the QR is of a quality type (some titanium QR's do not exert sufficient pressure to secure wheel in dropout).

Rear Wheel Building

The rear triangle is designed to take a standard 135mm overlocknut-width hub.

When building the rear wheel for our chassis, the asymmetrical rear triangle has to be taken into account.

The wheel should be built so that the centreline of the rim is 66mm from the inside face of the left-hand dropout (or hub overlocknut/spacer) & 69mm from the inside face of the right-hand dropout (or hub overlocknut/spacer).

The wheel builder will find it easier if he has the chassis at hand for wheel centring. It is essential that wheels are precisely built to this dimension otherwise your rear wheel will be out of alignment with the centreline of machine.

Cable Routing

The RC-200-F6 carries the rear brake cable stops at "eleven-o'clock" on top tube, with both the front and rear mechanism cables being routed beneath the down tube & BB Shell. Note that the cable stops at the top of the downtube are custom machined into the downtube gusset. All cable stops are slotted.

The F6 has a detachable brake cable stop mounted onto the rear frame wishbone. If fitting Shimano V-brakes unbolt the cable stop and replace with the blanking screw supplied. We have found that in practice, this routing is far more efficient than the more common across the top-tube system. Taking cables over the top-tube is a longer route, introduces more inner & outer cable into the system, increases friction & decreases shifting efficiency.

We have also found that in practice, top routed cables are more prone to poor operation in muddy and wet conditions than if routed in the traditional way. That is because a rear mechanism cable points up the rear seat-stay when top-driven. Mud & water runs down the cable so that the bend in the cable acts as a " sump " , holding mud & water in the cable & therefore increasing friction & the need for more maintenance.

When fitting cables, offer the outer cable up to the machine & cut back the cable length to a minimum, without affecting their operation such as when the handlebars are turned onto full lock.

Route the gear inner cables carefully over the top of the Crud-Catcher. They should run smoothly between frame & upper face of Crud-Catcher.

Make sure that ferules are fitted to all outer cable ends, & also to ends of inner cables.
NOTE; We would recommend using heat-shrink tube (or solder) to stop inner cable ends from fraying rather than a crimped nipple, which actually creates cable fray.

Lightly lubricate inners before assembly. We would recommend that cables are maintained regularly. The slotted cable guides facilitate quick & simple cable maintenance. We would recommend that cables, both inner & outer are replaced often so as to maintain shifting & braking efficiency, at least before & at the end of each racing season.

Use the Carbon-5 Scratch Guard Kit patches provided to protect the frame beneath outer cables, as plastic cable housing can actually wear away aluminium. A piece of small diameter plastic tube inserted in-between the cable stops on the rear brake inner cable will protect the top-tube from damage.

NOTE; Gore-Tex Cables can be fitted on this machine, cable stops are actually of a larger diameter to accommodate these.

Crud-Catcher.

The RC-200-F6 is supplied with a custom produced Crud-Catcher as standard. It will keep both the upper part of the machine, & more importantly the rider protected from flying mud & water.
This is mounted with 2 x M5 Titanium screws. Do not overtighten these, torque to correct figure.

The F6 carries mounting points (already fitted with screws) for the rear Crud-Guard. These are positioned on both outer faces close into the drop outs and in lower centre of seatstay wishbone. When mounting make sure M5 screws are greased and are not overtightened.
NOTE; Crud-catcher M5 mounting screws - TORQUE TO 9 in lbs (1Nm).

Water Bottles

The F6 has provision for two water bottles, one mounted on downtube & one on seattube. The mounts are securely fitted into frame tubes & are capable of supporting large bottles.
Do not overtighten the cage mounting screws, & torque to correct figure.
NOTE; Water bottle cage M5 mounting screws.
TORQUE TO 9 inlbs (1Nm).

General Upkeep.

The RC-200-F6 should give you years of trouble free service as long as the detail of the Chassis manual is followed.

As standard, your frame is individually hand-polished to the very highest of finishes. Each frame is then "Flash Anodised" with a protective anodised coat. With regular care this can be maintained to look like new. Pay particular attention in winter.

We would recommend that after every ride, the complete machine is washed off with warm soapy water, rinsed off & checked over for parts which might require maintenance or repair. Should you have access to an airline, blow the machine over to remove water, then apply a light film of protection fluid. Protection fluid is available from most automotive outlets. It will shed moisture, lubricate all parts & give good corrosion protection until the next time the machine is used.

If you use a power washer, ideally use it at low pressure, not full. Power washers can inject water into all bearing surfaces etc. which might actually increase corrosion & wear. Do not direct the jet directly at any bearing surface, including hubs, BB, headset, fork sliders, cable ends etc.

Do not use abrasive cleaners or polishers.

The F6 is equipped with a seal beneath the seat-post clamp to seal the seat-tube against mud and water. However we recommend that occassionally the seat-post is removed and the frame inverted so that any moisture colected in the BB shell can be drained. Spray moisture repellant /protection fluid down the seat tube to give additional corrosion protection.

WARRANTY

Limited Frame Warranty for Pace RC-200-F6.

This warranty supersedes any other warranty from Pace Cycles Limited either expressed or implied by Pace Cycles Limited, its dealers, distributors & agents.

The owner/rider should take note that the riding of a mountainbike, either on or offroad may open the owner/rider to risks of personal injury & that the owner/rider must assume these risks which are often inherent in offroad riding, & cannot be avoided by the design or manufacture of the RC-200-F6.

If the Pace RC-200-F6 undergoes any modifications or alterations by any person other than Pace Cycles limited, this will invalidate this limited warranty. This would include anodising, grit or bead-blasting, filing, welding, drilling or tapping. If the owner paints or anodises the RC-200-F6 Pace Cycles Limited will not be responsible for the cost of stripping off or replacing this surface in the event of necessary repair work by Pace Cycles Limited.

Further, this Limited Warranty does not cover the failure or malfunction of the RC-200-F6 should its assembly, maintenance or frame surface protection vary from the detail contained in the Chassis Manual. Nor does the warranty extend to cover in the instance of neglect, incorrect maintenance, abuse, fitment of components or parts not inline with the requirements of the Chassis Manual or consistant with its intended use, which specifically excludes stunt riding, jumping, or accident. If any surface or material problem is detected cease riding the machine immediately and have it inspected by your Dealer.

Pace cannot process any warranty claim until the product has been returned to the factory.

Should Pace Cycles Limited decide that the damage is not covered by the Limited Warranty, any work that Pace Cycles Limited is requested to undertake will be charged for on a minimum charge, plus extra time and materials basis.

Pace Cycles Limited will warrant the Pace RC-200-F6 against defective workmanship &/or materials subject to the conditions above, & will repair/replace at its discretion subject to the following additional conditions;

1. The warranty applies to the original owner for a period of five years from the date the customer takes delivery of the frame, & only should he/she return the Warranty Registration slip within one month of purchase.
2. Any warranty claim can only be processed if proof of purchase as original owner is supplied.

3. The warranty will only apply if the RC-200-F6 is purchased through a current recognised & authorised Pace Status 1 Dealer, Distributor or Agent.
4. Any warranty work must be channelled via a current Pace Status 1 Dealer, Recognised Distributor or our Agents
5. Pace Cycles Limited will not be responsible for the cost of carriage to/from its Dealer, Distributor or Agents.
6. This warranty does not cover for pain, death or suffering.