# NORDWEST FACT SHEET

The Nordwest was derived from the RC 600 (1991spec). Many parts are common and basically by changing the wheels, forks, rear shock and brakes the bike was transformed from serious trail bike to serious street fighter with excellent performance on the tarmac.

Colours Graphite / Magenta (Black/Pink). Magenta seat

Yellow / Black. Yellow seat

Two tone blue. Dark blue seat. Silver engine

White / Magenta.

Frame no. 228 \* 00001> stamped into left side of frame head stock Engine no. 227 \* 00001> plate on top of gearbox, behind cylinder

**Dimensions** Length - 2180mm

Width - 800mm Height - 1180mm Wheel base- 1415mm

Seat Height - 870mm Pedal Height - 320mm

Dry Weight - 141kg (claimed)

Chassis

Early bikes have a short seat and no rear carrier Later bikes have a longer seat and a rear carrier

Steering head angle - 27deg. Trail - 92mm

Front fork - Workshop manual page 13-20

Paioli upside down

Stroke - 150mm Stanchion Dia. - 41mm

Spring - In left leg. Part no. 346402 Free length - \*\*\*\*

- Damper unit in right leg. Dil - 400cc in each leg - SAE 10 or 10W-40 engine oil.

Oil grade and quantity is only important in right leg.

Oil seal size - 41mm X 53mm X 8mm part no. 952633 Bikes before 228 \* 71037 had forks that used a thicker seal

This seal is not available so use 8mm seal plus spacer part no. 952737

Seal & bush set - part no. 346384 Info on forks - GeN 5p19 & GeN 6p16

Seal fitting tool 19.1.20598 available from tool hire scheme. Seal is common on 41mm upside down forks. GeN 9p7

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- Workshop Manual page 14-22
Rear Suspension
          Boge progressive mono shock. Not rebuildable.
                    Only spring pre load adjustment.
                                         - 150mm
          Quadrant can supply a fully adjustable replacement. Telephone: 01295-710030
Wheel Front
                                         - Workshop Manual page 12-12
                                         - 3.50x17'
          Three spoke cast alloy.
                                         - *******part no. 321891
          Bearing size
          Rim. Radial variation limit
                                         - 2.0mm
          Rim. Axial variation limit
                                         - 2 Omm
          Spindle bend limit
                                         - 0.2mm
                                         - 120/70-17R tubeless(Original)
          Tyre
          Pirelli 120/70 ZR17 Dragon MTR01or Corsa MTR01c for best grip / shorter life.
                                        - 2.1 bar (30psi) solo
          Pressure
                                         - 2.2 bar (32psi) passenger
Wheel Rear
                                         - Workshop Manual. page 14-20
          Three spoke cast alloy - 4.50x17''
                                        - *******part no. 348382
          Bearing size
          Rim, Radial variation limit
                                         - 2.0mm
                                        - 2.0mm
          Rim. Axial variation limit
          Spindle bend limit
                                         -0.2mm
                                         - 160/60-17R tubeless( Original)
          Tyre
          Pirelli 160/60 ZR17 Dragon MTR02 or Corsa MTR02c for best grip / shorter life
                                        - 2.3 bar (33psi) solo
          Pressure
                                         - 2.4 bar (35psi) passenger
Brake Front Disc
                                         - Workshop Manual page 15-18
          Twin semi floating discs.
                                         - part no. 946052
          Diameter
                                         - 270mm
          Thickness (new)
                                         - 5.0mm
          Wear limit
                              -4.0mm
                                         - 0.15mm
          Planarity limit
Calipers
                                         - Twin Grimmeca four piston calipers.
          Brake fluid
                              - DOT 4. Should be changed every two years.
          Piston diameter.
                                         - 2x28mm & 2x25mm
          Piston wear limit
                                         -0.05mm
          Pad
                                        - part no. 318833
          Ferodo
                                         - part no. FDB 529
          Seal kit
                                         - part no. 346269
Brake Rear Disc
                                         - Workshop Manual page 15-18
          Single fixed disc
                                         - part no. 343413
                                         - 240mm
          Diameter
          Thickness (new)
                                         - 4.5mm
          Wear limit
                              - 3.6mm
Caliper
                                         - Twin piston
          Brake Fluid
                                         - DOT 4. Should be changed every two years.
          Piston diameter
                                         -32mm
          Piston wear limit
                                         -0.05mm
                                        - part no. 323626
          Pad
          Ferodo
                                         - part no. FDB 383 R
                                         - part no. 346268
          Seal kit
Fuel
                                         - => Ron 96. (use 4 star)
                                         - 12 ltr.
          Tank
                    capacity
                    reserve
                                         - 2 ltr.
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ENGINE Bore & Stroke - 98x74mm - 557.9cc Capacity Compression ration - 10.5:1 Compression test - 10 to 12 bar (new) - 9 to 11 bar (over 5000km) - 49.5 bhp at 7250 rpm. (claimed) BHP- 52 Nm at 6250 rpm. (claimed) Torque Oil - 10w40 semi synthetic. GeN.10p2 Oil capacity - 2.2ltr. Oil filter - Technocar R15 p/o. 321205 - Most Renault 4 filters will fit. GeN 1p10 Coolant type - Permanent, undiluted - 1.3ltr. capacity Air filter - Oiled foam. part no. 324505 - Foam filter oil or SAE 90 gear oil. - Workshop manual page 7-5, also GeN 7p19 Valves Inlet diameter -36mm(x2)Exhaust diameter -32mm(x2)- 0.05mm (cold) Clearance Inlet - 0.10mm (cold) Exhaust Details on checking clearances are available from GeN, send SAE. Cam belt - 321406/2 Isoran part no. 321406 To change belt you need tool part no. 19.1.20570 (rotor puller) size  $38 \times 1.5 mm$ available from tool hire scheme. w/s manual. page.6-2 to 6-6. also GeN 2p2,#3p13, #6p4 Bob Wright can supply a cheap pattern tool. Phone: 01934-413847 Full details on doing the job are available from GeN, send SAE. Clutch - Wet, multi plate. Workshop manual page 9-1 to 9-6 Friction plates - 8 x part no. 324851 Thickness - 2.9 to 3.0mm (new) Steel plates - 7 x part no. 328546. - max distortion allowed: 0.10mm. Final drive - Info on final drive GeN 6p3

sprocket oil seal - p/n: 328232 should be changed

Gear box sprocket

when sprocket is changed

Rear sprocket - 43 tooth. part no. 946060

- 5 x \*\*mm bolt fixing \*\*\*\*mm radius. - \*\*\*\*dia centre hole. \*\*\*mm offset ush drive rubber - 5x part no. 939091

- 14 tooth part no. 328016 (same as RC600) - 15 tooth. part no. 321586 can be used (Saturno)

Cush drive rubber - 5x part no. 939091 Cush hub bearing - 1 x part no. 946578

Chain - 520 x 108 links. Info on final drive GeN 6p3

Free play - 35 - 40mm. (vertical movement) Wear limit - 20 links = 319.4mm (12.57in) max.

With chain tight measure from centre of pin 1 to centre of pin 21  $\,$ 

#### Carburettor

Teikei E30PV2A twin choke unit. (same as RC600)

One choke is conventional slide and the other is the constant velocity (CV) type.

Both are fed from one float chamber.

Full carb spec available from GeN, send SAE

ELECTRICAL SYSTEM Ignition - Two systems are used - early bikes up to 228 \* 51763 Capacitive Discharge Workshop manual page 17-6> - 6 wires from ignition switch Recognisable by - Separate rev limiter box (pink & green wires) - 9 wires from ignition box - 3 groups of wires from alternator - 2 fuses If the engine turns it should start with the capacitive system. Charger coil - part of stator part no.324471 - 218 ohms + 10% (pink - green) resistance test Pick up coil - part no.324433 - 117 ohms + 10% (white/green - yellow/black) resistance tests - 117 ohms + 10% (yellow/blue - yellow/black) H.T. coil - part no. 328647 - 0.2 - 0.3 ohm + 10% (white/lt.blue - black) primary res. - 9.2 K ohms + 10% (white/lt.blue - H.T.) secondary res. Inductive Discharge - later bikes from 228 \* 51764 Workshop manual page 17-9> Recognisable by - 4 wires from ignition switch - No separate rev limiter - 7 wires from ignition box - 2 groups of wires from alternator - 3 fuses Because the inductive system gets its power from the battery, if the battery is getting flat (below 6v) the control box will disable the ignition to protect the circuit (motor may turn but engine will not start / no spark). Pick up coil - part no. 947125 resistance test - 150 ohms + 10% (yellow/black - yellow/dark blue) - part no. 946789 H.T. Coil primary res. - 4.0 0hms + 10% (white/light blue - red/dark blue) - 13.8 K Ohms + 10% (red/dark.blue - H.T.) secondary res. Timing - 7deg (static). 30deg at 4000rpm. not adjustable. Spark plug - Champion RA4HC - NGK DPR9EA9 or DPR9EV9 is a good alternative. - Nippon Denso X27 EPRU-9 or X27 EPRZU-9 Plug gap - 0.6 to 0.7mm Plug torque - 12 to 15 Nm. put "Copper Slip" on threads Plug cap resistance - 1 K ohm. - Three phase. AC. alternator. Charging circuit Workshop Manual page 16-1> - 12 volt 14 Ah. Yuasa YB14-LA2 Battery Regulated voltage - 13.5 - 14 volts DC regulator/rectifier p/n: 328041 Bulbs (all 12 volt) - Workshop manual. page19-2> (switches, horn, lights) Head Light - 60/65w halogen H4 type (single rectangular light) Tail / stop - 5/21w Indicator - 10w bayonet

Driving (side) light

- 2w mini cap less Instrument illumination Warning lights - 1.2w mini cap less

- blade type (common on cars)

- 3w

Capacitive ignition - 2x 15w

Inductive ignition - 1x 20w, 1x 15w, 1x 7.5w

#### POSSIBLE PROBLEMS

Fuses

#### Fans touch radiators

Check that fan shrouds have about 3mm (1/8") clearance all round from radiators to prevent vibration damage and ultimately an expensive leak. The fans are mounted on slotted holes, so are easy to adjust. GeN 1p9

#### Tank filler thread can be broken off

Over tightening the tank cap can cause the threaded part of the tank neck to be pulled off the neck. It is not easy to effect a good repair but some resins and super glue can be used and with care they work well. GeN 6p12. GeN 9p6.

#### Fork seals leak

Fork seals on upside down forks do not last very well. These are quite easy to change and replacements are cheap. Original seals are about the cheapest p/n:952633 You will need tool p/n:19.1.20598 to fit them - this is available from tool hire scheme. You can use "Leak Proof" seals, these are guaranteed and can be pushed in with your fingers (no tool needed). These can be obtained from a dealer who sells "Bike Bitz" parts. GeN 5p19. GeN 6p16.

#### Body panels crack from fixing screw holes

Remove screws and refit one at a time loosely. They must go in without the panel having to be stretched. If they will not go in enlarge all the holes slightly and then all should fit. Nose cone screws first, then tank screws, then the big screw in the middle of the panel. After 228-70862 a revised system of fixing the tank panels was used to stop cracking. If you have an earlier bike you may want to update.

- 1. Screws only in the rear fixings to the tank.
- 2. Spacers under the crescent at the front of the tank to stop it clamping the panel tight.
- 3. Cross bar is in two pieces with rubber washers under fixing bolts.
- 4.strips of draught excluder along top of tank in front of rear panel fixing screws.

## Cam belt breaks

Very serious if it happens. If you are still on the original belt change it NOW - it is old and brittle. Change belt every 12000kms. You will need tool p/n:19.1.20570 to remove the rotor, this is available from tool hire scheme or Bob Wright can supply a cheap pattern puller. Full details of doing the job are available from GeN, send an sae. Check tension every 4000kms.

#### Starting problem

You may find a reluctance to start from cold. Keeping the battery well charged helps. I think the problem is the jet that supplies the choke getting blocked, it is not easy to clean it. Try this starting technique: Choke off. Throttle closed. Push starter button. While engine is turning, slowly pull out choke knob. Engine should start when you get to about half choke. If all else fails drain the float chamber by loosening the small cross-head screw, then refill with 'fresh' fuel. GeN 5p16. GeN 5p19. GeN 6p17. GeN 7p9.

### Starter clutch failure

Some last for ever but others fail in a few thousand kilometres. Similar units are used on some other makes and they give trouble as well. Piaggio tell us that quality has been improved now so let's hope it will cease to be a problem in time. Job can be done with engine in frame, remove left side engine cover. Starter clutch is p/n: 328652. Replace gasket p/n: 321942 & gear shaft oil seal p/n: 321275.

Details of possible repair in GeN 8p16. Also see GeN 6p5.

Poor gear change - Reluctance to change up, especially quickly

This is caused by a poorly formed selector pawl. The problem should only be on older bikes as quality was improved after engine 227-34105. Job can be done with engine in frame, remove left side engine case. Change Pawl p/n: 321536 and Pawl Spring p/n: 321176. Replace gasket p/n: 321942 & gear change shaft oil seal p/n: 321275. GeN 1p12. GeN 4p19. GeN 7p9.

Long rear engine bolts seize

This may be a problem in the future if you need to remove the engine. Remove the bolts one at a time clean off any corrosion and coat them in "Copper Slip" or grease refitting. Torque 30Nm. GeN 1p9

Rear suspension linkage

The linkage is fitted with grease nipples. Don't forget to grease it occasionally It would be possible to add a kick start fairly easily but the parts will cost over £200

A stainless silencer is available from Rodan £160. call Mike Riley 01332-722736 GeN 10p5 It is possible to convert to twin headlights fairly easily. Nose cone & headlights & paint job.

Handlebar choke control conversion costs £50+ using Yamaha parts & a one off cable

[Issue 1.Nov.96]

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## SATURNO 500 FACT SHEET

The new Saturno was created using Japanese money after a request from the C.Itoh corporation. The engine was basically the 350cc & 500cc unit used in the Dakota trail bike. Colours

Red with white graphics

Black with gold graphics, special anniversary edition.

White is listed but I have never seen one.

Multi coloured for the Japanese market

Frame no. 212 \* 00001> stamped into left side of frame head stock. Engine no. 213 \* 00001> plate on top of gear box, behind cylinder.

Dimensions

Length- 2030mmWidth- 730mmHeight- 1170mmWheel base- 1410mm

Seat Height - 790mm Pedal Height - 360mm

Dry Weight - 145kg (claimed)

Chassis

Steering head angle - 24.5deg. Trail - 89.7mm

Front fork - Workshop manual. page 13-2 to 13-5.

Marzocchi Stroke - 120mm Stanchion Dia. - 40mm

Oil - 310cc in each leg. Or better 150mm air gap.

measure distance from oil to top of fork leg with the spring removed and the leg fully compresed.

GeN 10p5

- 7.5sae fork oil. mix equal parts of 5 & 10 weight oil

Fork seal - size\*\*\*\*\*\*\*part no. 341239

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Spring free length
                                                    - 420mm + 2.5mm part no. 318949 x 2
                               Min. length
                                                    -.415mm
                     WP dual rate springs are available. p/n:9932.100.D. phone. 01280-705888
                    Info on forks
                                                    - GeN 5p20. 6p13. 10p5
          Rear Suspension
                                                    - Workshop manual, page no.14-6 to 14-9.
                     Marzocchi mono shock
                     Stroke
                                                    - 130mm
                     Only spring pre load adjustment.
                     Not rebuildable
          Wheel Front
                                                    - Workshop manual. page 12-2 to 12-6.
                     Marvic Aero light weight three spoke cast alloy - 3.00x17'
                                                    - ******part no. 328972 x 2
                     Rim. Radial variation - 2.00mm (limit)
                     Rim. Axial variation - 2.00mm (limit)
                     Spindle bend
                                                    - 0.20mm (limit)
                     Workshop manual
                                                    - page 12.1 - 12.5
                     Tyre
                                                    - 110/70-17 Pirelli MP7 (Original)
                     110/70 ZR17 from Bridgestone, Metzler, Pirelli etc.
                     Pressure
                                                    - 2.1 bar (30psi) solo
          Wheel Rear
                                                    -. Workshop manual. page 14-2
                     Marvic Aero light weight three spoke cast alloy - 4.00x17'
                                                    - ***********part no. 328972 x 2
                     Bearing size
                     Rim. Radial variation - 2.00mm (limit)
                     Rim. Axial variation - 2.00mm (limit)
                     Spindle bend
                                                    - 0.20mm(limit)
                     Tyre
                                                    - 140/70-17 Pirelli MP7 ( Original)
          Several tyre manufactures recommend 160/60 but 160 is too wide for the rim. I think
they recommend it because they believe the Saturno has a 4.5" rim. None of them
recommend fitting a 160 on a 4 inch rim so beware. 150/60 seems a good fitment.
          Bridgestone, Metzler, Pirelli etc. all produce 150/60 ZR17 rear tyres.
                     Pressure
                                                    - 2.3 bar (33psi)
          Brake Front Disc
                                                    - Workshop manual. page 15-2 to 15-6
                     Brembo Gold Line fully floating
                     Disc
                                                     - 300mm dia. part no.939102
                               Thickness (new)
                                                    - 5.00mm.
                               Wear limit - 4.5mm minimum.
                                                    - Brembo four piston caliper
                     Caliper
                                                    - Dot 4. change every two years
                               Piston dia. - 32mm. Wear limit: 31.94mm minimum.
                               Piston seal kit
                                                    - part no. 318897
                                          Original - part no. 318895
                               Pad
                                                    - part no. FRP 408
                                          Ferodo
          Brake Rear Disc
                                                    - Workshop manual. page 15-2 to 15-6
                               Non floating disc
                                                    - 240mm dia. part no. 343413
                               Thickness (new)
                                                    -6.00mm.
                               Wear limit - 5.5mm minimum.
                     Caliper
                                                    - Grimeca single piston
                               Piston dia. - 32mm. Wear limit: 31.94mm minimum.
                                                    - part no. 305840
                               Piston seal kit
                                          Original - part no. 323626
                                                   - part no. FDB 207R
                                          Ferodo
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**Fuel Tank** - 20 ltr. capacity reserve - 2 ltr. Check that tank can not touch frame tubes especially near front. **ENGINE** - 92x74mm Bore & Stroke Capacity - 491.9cc Compression ration - 9.8:1 - 9 to 11 bar (new) Compression test - 8 to 10 bar (over 5000km) ВНР - 44 bhp at 7000 rpm. (claimed) Torque - 47 Nm at 6000 rpm. (claimed) Oil - 10w40 semi synthetic Oil capacity - 2.2ltr. Oil filter - Technocar R15 part no. 321205 Change oil every 4000km and change filter every other oil change. Coolant - permanent. un-diluted. Silkolene Pro-cool etc. - 1.3ltr. Change coolant every two years. capacity Air filter - Oiled sponge. part no. 939055. Workshop manual page 3-5 Oil - Foam filter oil or SAE 90 gear oil. Valves Inlet diameter -31mm(x2)Exhaust diameter -28mm(x2)- 0.05mm (cold). w/s manual page 3-5. Inlet Clearance Exhaust - 0.10mm (cold) Details on checking clearances are available from GeN, send SAE. Cam belt - 321406/2 Isoran. part no. 321406. Workshop manual page 6-2> To change belt you need tool part no.19.1.20501 available from tool hire scheme Bob Wright can supply a cheap pattern tool. Phone:01934-413847 Full details on doing the job are available from GeN, send SAE. Clutch - Wet, multi plate - 8 x part no. 324851 Friction plates Thickness - 2.9 to 3.0mm (new). wear limit 2.7mm Steel plates - 7 x part no. 328546 Warp limit - 0.10mm max. Final drive Gear box sprocket - 15 tooth. part no. 321586 Sprocket oil seal - size: 35 x 47 x 7. part no.328232 - 5 x (8mm) bolt fixing \*\*\*\*\*\*mm radius. - \*\*\*\*\*dia centre hole. Sprocket is flat Rear sprocket - 43 tooth, part no. 939211 Chain - 520 x 104 links Slack - 35 - 40 mm of vertical movement. Wear limit - 20 links = 319.4mm (12.57in) max. With chain tight measure from centre of pin 1 to centre of pin 21 Carburettor Dell' Orto PHM 40 VS 40mm conventional slide carb with accelerator pump Air screw - 1.5 turns open - 23 - 25mm Float level

Full carb spec available from GeN, send SAE

- Three phase AC alternator. 180w Regulated & rectified - 13.5 - 14 volts DC. Battery - 14 Ah. Yuasa YB14-LA2 Bulbs (all 12 volt) - Workshop manual. page 19-2 to 19-8. Head Light - 40/45w tungsten. Bosch bayonet fitting Tail / stop - 5/21w Indicator - 10w bayonet Driving (side) light - 5w Instrument illumination - 2w mini cap less Warning lights - 1.2w mini cap less Fuses - 2 x 15w blade type (common on cars) Ignition - Workshop manual. page 17-2 to 17-5 - 7deg (static). 30deg at 4500rpm. not adjustable. Timing - part of stator, part no. 328239 Charger coil - 150 ohm + 10% (pink to green) Resistance test H.T. Coil - part no.321825 - 0.2 - 0.3 ohm + 10% (white-lt.blue to black) Primary res. Secondary res. - 4.5 K ohms + 10% (white-lt.blue to H.T.) - part no.328240 Pick up coil Resistance - 110 ohm + 10% (white-green to white-red) - Champion RA4HC (original) Spark plug - NGK DPR9EA9 or DPR9EV9 is a good alternative. - Nippon Denso X27 EPRU-9 or X27 EPRZU-9

- Workshop manual, page 16-2 to 16-6.

# Plug cap POSSIBLE FAULTS TO LOOK FOR

**ELECTRICAL SYSTEM** 

## Fan touches radiator

Plug gap

Torque

Remove tank. Look down back of radiator. Check that fan shroud has about 3mm (1/8") clearance all round. The fan mountings are slotted but if there is not enough adjustment, trim the front of the shroud.

- 0.6 to 0.7mm

- 1 K ohm resistance

- 12 to 15 Nm. put "Copper Slip" on threads

## Rising rate bottom link bolt can seize

It is well worth dismantling the rear suspension linkage every year. Support rear of bike, then remove the rising rate link. Two of the bearings are self aligning ball joints, these just need some grease either side to keep the wet out. The lower long bearing needs to be cleaned

and greased as well as possible. It is vulnerable and can easily get full of water and go rusty.

### Long rear engine bolts can seize

This may be a problem in the future if you need to remove the engine. Remove the bolts one at a time clean off any corrosion and coat them in "Copper Slip" or grease before refitting. Torque 30Nm. GeN 1p9

## Starter clutch failure

Some last for ever but others fail in a few thousand kilometres. Similar units are used on some other makes and they give trouble as well. Piaggio tell us that quality has been improved now so let's hope it will cease to be a problem in time. Job can be done with engine in frame, remove left side engine cover. Starter clutch is p/n: 328652. Replace gasket p/n: 321942 & gear shaft oil seal p/n: 321275.

Details of possible repair in GeN 8p16. Also see GeN 6p5.

#### Tank touches frame tubes

Because the tank is rubber mounted it can move and touch the frame tubes where they are close along the bottom near the front. If this keeps happening a leak will develop. Placing a washennder the mountings should make a big difference.

[Issue 1. Nov. 96]