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# The Birth of a Dream

by Julian Ryder

There is no better example of the Japanese post-War industrial miracle than Honda. Like other companies which have become household names, it started with one man's vision. In this case the man was the 40-year old Soichiro Honda who had sold his piston-ring manufacturing business to Toyota in 1945 and was happily spending the proceeds on prolonged parties for his friends. However, the difficulties of getting around in the chaos of post-War Japan irked Honda, so when he came across a job lot of generator engines he realised that here was a way of getting people mobile again at low cost.

A 12 by 18-foot shack in Hamamatsu became his first bike factory, fitting the

**1970 Honda C90 OHV-engined model**

generator motors into pushbikes. Before long he'd used up all 500 generator motors and started manufacturing his own engine, known as the 'chimney', either because of the elongated cylinder head or the smoky exhaust or perhaps both. The chimney made all of half a horsepower from its 50 cc engine but it was a major success and became the Honda A-type. Less than two years after he'd set up in Hamamatsu, Soichiro Honda founded the Honda Motor Company in September 1948. By then, the A-type had been developed into the 90 cc B-type engine, which Mr Honda decided deserved its own chassis not a bicycle frame. Honda was about to become Japan's first post-War manufacturer of complete motorcycles. In August 1949 the first prototype was ready. With an output of three horsepower, the 98 cc D-type was still a

simple two-stroke but it had a two-speed transmission and most importantly a pressed steel frame with telescopic forks and hard tail rear end. The frame was almost triangular in profile with the top rail going in a straight line from the massively braced steering head to the rear axle. Legend has it that after the D-type's first tests the entire workforce went for a drink to celebrate and try and think of a name for the bike. One man broke one of those silences you get when people are thinking, exclaiming 'This is like a dream!' That's it!' shouted Honda, and so the Honda Dream was christened.

**'This is like a dream!'  
That's it'  
shouted Honda**

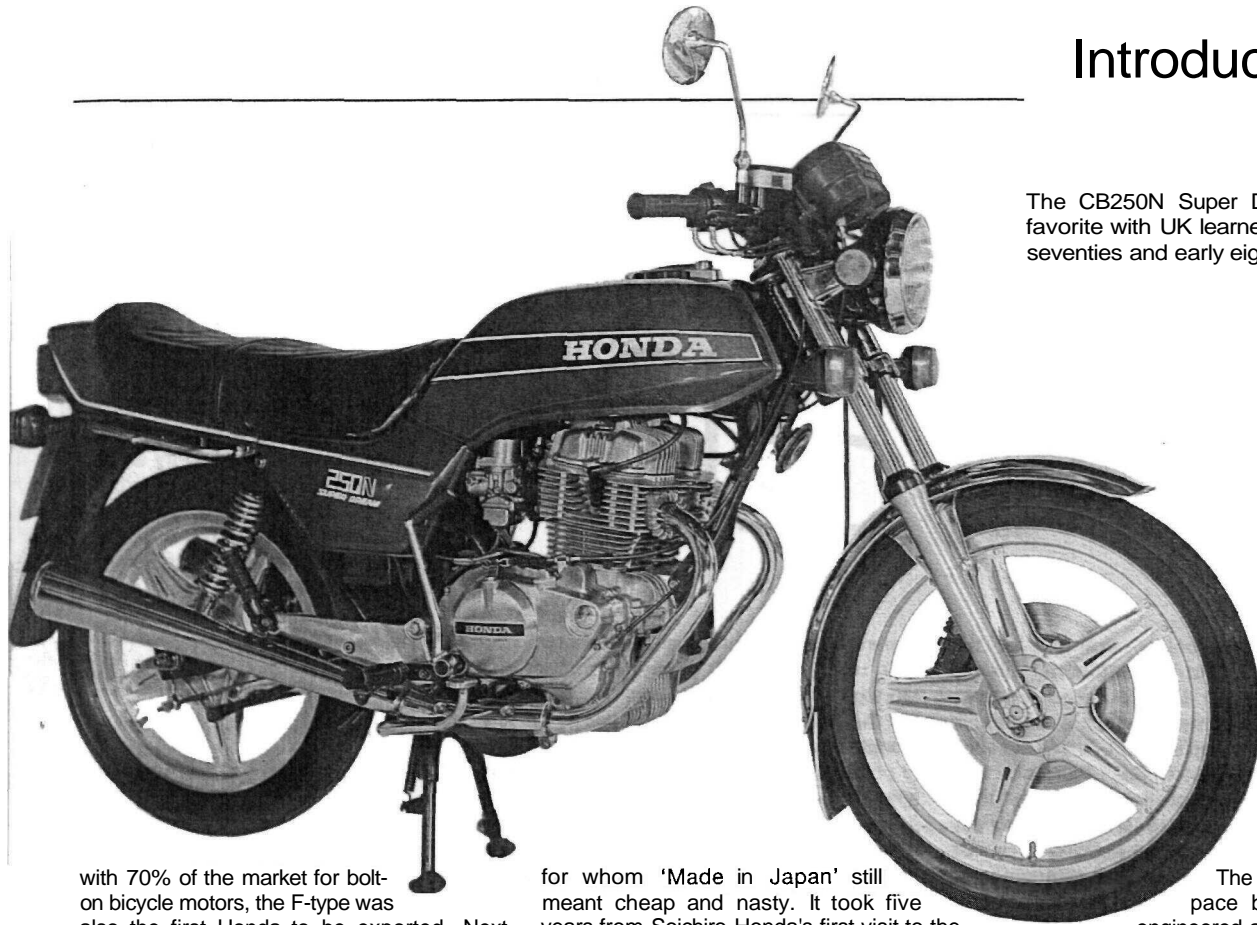
Mr Honda was a brilliant, intuitive engineer and designer but he did not bother himself with the marketing side of his business. With hindsight, it is possible to see that employing Takeo Fujisawa who would both sort out the home market and plan the eventual expansion into overseas markets was a masterstroke. He arrived in October 1949 and in 1950 was made Sales Director. Another vital new name was Kiyoshi Kawashima, who along with Honda himself, designed the company's first four-stroke after Kawashima had told them that the four-stroke opposition to Honda's two-strokes sounded nicer and therefore sold better. The result of that statement was the overhead-valve 148 cc E-type which first ran in July 1951 just two months after the first drawings were made. Kawashima was made a director of the Honda Company at 34 years old.

The E-type was a massive success, over 32,000 were made in 1953 alone, but Honda's lifelong pursuit of technical innovation sometimes distracted him from commercial reality. Fujisawa pointed out that they were in danger of ignoring their core business, the motorised bicycles that still formed Japan's main means of transport. In May 1952 the F-type Cub appeared, another two-stroke despite the top men's reservations. You could buy a complete machine or just the motor to attach to your own bicycle. The result was certainly distinctive, a white fuel tank with a circular profile went just below and behind the saddle on the left of the bike, and the motor with its horizontal cylinder and bright red cover just below the rear axle on the same side of the bike. This was the machine that turned Honda into the biggest bike maker in Japan



# Introduction 0.5

The CB250N Super Dream became a favorite with UK learner riders of the late seventies and early eighties



with 70% of the market for bolt-on bicycle motors, the F-type was also the first Honda to be exported. Next came the machine that would turn Honda into the biggest motorcycle manufacturer in the world.

The C100 Super Cub was a typically audacious piece of Honda engineering and marketing. For the first time, but not the last, Honda invented a completely new type of motorcycle, although the term 'scooterette' was coined to describe the new bike which had many of the characteristics of a scooter but the large wheels, and therefore stability, of a motorcycle. The first one was sold in August 1958, fifteen years later over nine-million of them were on the roads of the world. If ever a machine can be said to have brought mobility to the masses it is the Super Cub. If you add in the electric starter that was added for the C102 model of 1961, the design of the Super Cub has remained substantially unchanged ever since, testament to how right Honda got it first time. The Super Cub made Honda the world's biggest manufacturer after just two years of production.

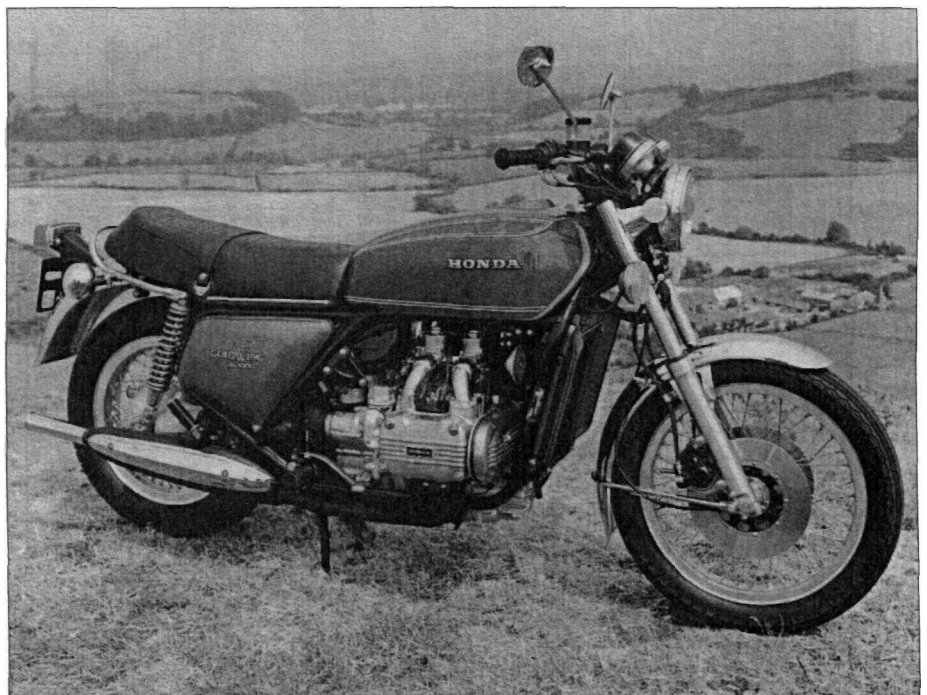
**H**onda's export drive started in earnest in 1957 when Britain and Holland got their first bikes, America got just two bikes the next year. By 1962 Honda had half the American market with 65,000 sales. But Soichiro Honda had already travelled abroad to Europe and the USA, making a special point of going to the Isle of Man TT, then the most important race in the GP calendar. He realised that no matter how advanced his products were, only racing success would convince overseas markets

for whom 'Made in Japan' still meant cheap and nasty. It took five years from Soichiro Honda's first visit to the Island before his bikes were ready for the TT. In 1959 the factory entered five riders in the 125. They did not have a massive impact on the event being benevolently regarded as a curiosity, but sixth, seventh and eighth were good enough for the team prize.

The bikes were off the pace but they were well engineered and very reliable.

The TT was the only time the West saw the Hondas in '59,' but they came back for more the following year with the first of a generation of bikes which shaped the future of motorcycling - the double-overhead-cam four-cylinder 250. It was fast and reliable - it revved to 14,000 rpm -

The GL1000 introduced in 1975, was the first in Honda's line of Goldwings



# .6 Introduction

but didn't handle anywhere near as well as the opposition. However, Honda had now signed up non-Japanese riders to lead their challenge. The first win didn't come until 1962 (Aussie Tom Phillis in the Spanish 125GP) and was followed up with a world-shaking performance at the TT. Twenty-one year old Mike Hailwood won both 125 and 250 cc TTs and Hondas filled the top five positions in both races. Soichiro Honda's master plan was starting to come to fruition, Hailwood and Honda won the 1961 250 cc World Championship. Next year Honda won three titles. The other Japanese factories fought back and inspired Honda to produce some of the most fascinating racers ever seen: the awesome six-cylinder 250, the five-cylinder 125, and the 500 four with which the immortal Hailwood battled Agostini and the MVAgusta. When Honda pulled out of racing in '67 they had won sixteen rider's titles, eighteen manufacturer's titles, and 137 GPs, including 18 TTs, and introduced the concept of the modern works team to motorcycle racing. Sales success followed racing victory as Soichiro Honda had predicted, but only because the products advanced as rapidly as the racing machinery. The Hondas that came to Britain in the early '60s were incredibly sophisticated. They had overhead cams where

**Carl Fogarty in action at Donington on the RC45**

the British bikes had pushrods, they had electric starters when the Brits relied on the kickstart, they had 12V electrics when even the biggest British bike used a 6V system. There seemed no end to the technical wizardry and when in 1968 the first four-cylinder CB750

road bike arrived the world changed for ever. They even had to invent a new word for it: superbike. Honda raced again with the CB750 at Daytona and won the World Endurance title with a prototype DOHC version that became the CB900 roadster. There was the six-cylinder CBX, the first turbocharged production bike, they invented the full-dress tourer with the Goldwing and came back to GPs with the revolutionary oval-pistoned NR500 four-stroke, a much-misunderstood bike that was more rolling experiment than racer. It was true, though, that Mr Honda was not keen on two-strokes - early motocross engines had to be explained away to him as lawnmower motors! However, in 1982 Honda raced the NS500, an agile three-cylinder lightweight against the big four-cylinder opposition in 500 GPs. The bike won in the first year and in '83 took the world title for Freddie Spencer. In four-stroke racing the V4 layout took over from the straight four, dominating TT, F1 and Endurance championships and when Superbike arrived Honda were ready with the RC30. On the roads the VFR V4 became an instant classic while the CBR600 invented another new class of bike on its way to becoming a best-seller.

And then there was the NR750. This limited-edition technological tour-de-force embodied many of Soichiro Honda's ideals. It used the latest techniques and materials in every component, from the oval-piston, 32-valve V4 motor to the titanium coating on the windscreen, it was - as Mr Honda would have wanted - the best it could possibly be. A fitting memorial to the man who has shaped the motorcycle industry and motorcycles as we know them today.

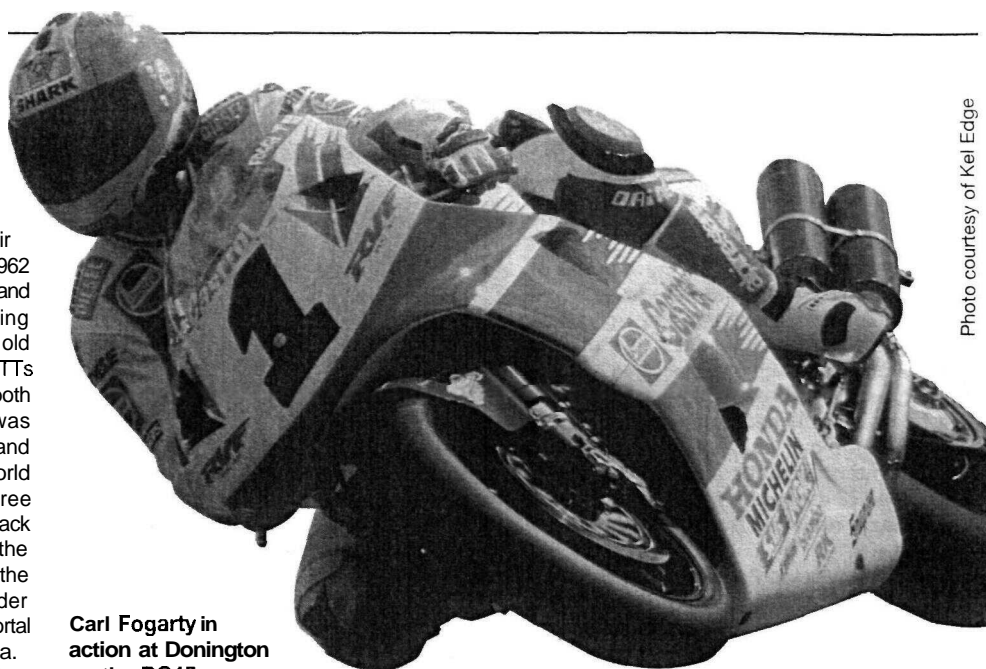
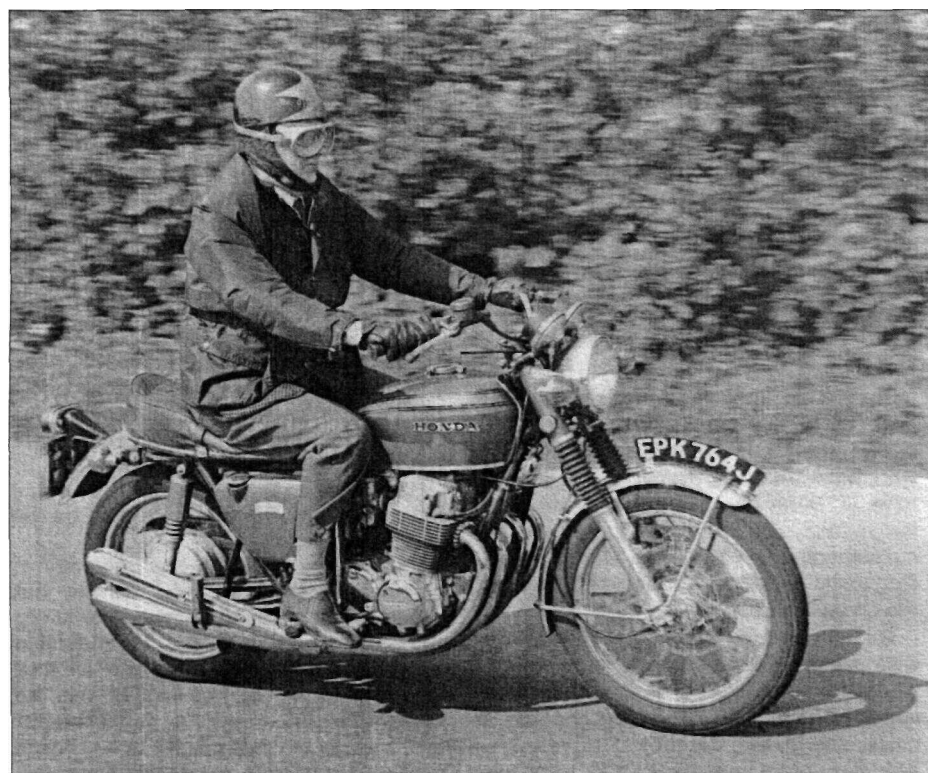


Photo courtesy of Kel Edge

**An early CB750 Four**

## The Honda NTVs

When it was unveiled at a luxury hotel near Windsor, Honda's management described the Revere as 'motorcycling's best-kept secret' and 'the motorcycle for the new breed of rider'. Behind the hyperbole was a brave attempt to perform a trick that only Honda has ever managed to do - invent a new market sector. The marketing men perceived that the industry's emphasis on race replicas through most of the 1980s had polarised the market leaving a large gap which could be filled by a modern motorcycle for a rapidly emerging new breed of customer, the so-called born-again bikers returning to two wheels in their 30s and 40s.

The result was the Revere, based around a slightly tuned version of the 600 cc V-twin motor first seen in the XL600 Transalp. All the rest was new though, and was determinedly non-racy - there was no fairing not even a headlight cowl - but it tried very hard to exude a high-tech image. The steel chassis, painted to look like aluminium, was a major styling point, running almost straight from the steering head to the swinging arm pivot. Honda was keen to point out that the tubing used had a complex hexagonal cross-section for maximum strength, a typical piece of attention to technical detail from the world's biggest manufacturer.

The ohc motor used the three-valves-per-cylinder layout first seen on the Dream and an offset crankpin arrangement to reduce vibration from the 90° V-twin. However, the designers took great pains not to totally eliminate all vibration in an attempt to engineer in that indefinable thing 'character'.

User-friendliness was seen as important, so the Revere got shaft drive and - surprisingly - the Pro-Arm single-sided swingarm, a feature so far only seen on bikes like the RC30 race-replica which got into the shops just three months before the 600. The three-spoke wheels were similarly racy but the overall



NTV 650 model

effect was of a rugged, solid machine rather than a racer.

The UK market seemed a trifle confused by the worthy Revere. At £3299 in 1988 rising to £3499 in '89 it was seen as too expensive to be a natural successor to the CX and VT water-cooled V-twins that had carried a generation of big-city despatch riders. The Revere concept was a bigger success in the USA and on the Japanese home market where the bikes got much sportier, 650 cc chain-drive treatment. One American magazine described the 650 Hawk (A revival of the CB77's model name from the '60s) as 'proof the Japanese can build a Ducati'.

In Japan the bike was called the Bros and was sold in 400 and 650 cc versions known as Product 1 and Product 2. In its five years as a UK model from February 1988 to late 1992, the Revere sold around 2000 units under the model designations NTV600J, K and M. While this was not seen as underachievement, it

was perceived that the bike's image was a little staid and the price was too high. The UK didn't get the sporty Hawk/Bros 650, but for the 1993 model year the Revere name was dropped and the cylinder bore upped from 75 to 79 mm to produce the NTV650. Most significantly, the price was slashed from £4399 to £3635 which helped increase sales.

The second-generation NTV seemed much happier without the handicap of being labelled as a bike specifically for the born-again. As with the CX500 before it, the extra cc's gave the motor that extra muscle it always needed and sales show that the market is happier, too. The Revere may not have changed the face of motorcycling but after a faltering start it has become an established part of the Honda range with the reputation of being a solid all-rounder, equally at home commuting into the city or touring two-up with luggage - and you can't say that about many bikes!

## Acknowledgements

Our thanks are due to Bridge Motorcycle World of Exeter for supplying the NTV650 featured in the photographs throughout this manual, and to Mel Rawlings A. I. R. T. E. of MHR Engineering who carried out the mechanical work. NGK Spark Plugs (UK) Ltd supplied the colour spark plug condition photographs and the Avon Rubber Company provided information on tyre fitting.

Thanks are also due to Honda (UK) Ltd and Kel Edge for supplying colour transparencies, and to Andrew Dee who carried out the front cover photography. The Honda introduction, "The Birth of a Dream" was written by Julian Ryder.

## About this Manual

The aim of this manual is to help you get the best value from your motorcycle. It can do so in several ways. It can help you decide what work must be done, even if you choose to have it done by a dealer; it provides information and procedures for routine maintenance and servicing; and it offers diagnostic and repair procedures to follow when trouble occurs.

We hope you use the manual to tackle the work yourself. For many simpler jobs, doing it yourself may be quicker than arranging an appointment to get the motorcycle into a dealer and making the trips to leave it and pick it up. More importantly, a lot of money

can be saved by avoiding the expense the shop must pass on to you to cover its labour and overhead costs. An added benefit is the sense of satisfaction and accomplishment that you feel after doing the job yourself.

References to the left or right side of the motorcycle assume you are sitting on the seat, facing forward.

**We take great pride in the accuracy of information given in this manual, but motorcycle manufacturers make alterations and design changes during the production run of a particular motorcycle of which they do not inform us. No liability can be accepted by the authors or publishers for loss, damage or injury caused by any errors in, or omissions from, the information given.**



# 0.8 Safety first!

Professional mechanics are trained in safe working procedures. However enthusiastic you may be about getting on with the job at hand, take the time to ensure that your safety is not put at risk. A moment's lack of attention can result in an accident, as can failure to observe simple precautions.

There will always be new ways of having accidents, and the following is not a comprehensive list of all dangers; it is intended rather to make you aware of the risks and to encourage a safe approach to all work you carry out on your bike.

## Asbestos

- Certain friction, insulating, sealing and other products - such as brake pads, clutch linings, gaskets, etc. - contain asbestos. Extreme care must be taken to avoid inhalation of dust from such products since it is hazardous to health. If in doubt, assume that they do contain asbestos.

## Fire

- Remember at all times that petrol is highly flammable. Never smoke or have any kind of naked flame around, when working on the vehicle. But the risk does not end there - a spark caused by an electrical short-circuit, by two metal surfaces contacting each other, by careless use of tools, or even by static electricity built up in your body under certain conditions, can ignite petrol vapour, which in a confined space is highly explosive. Never use petrol as a cleaning solvent. Use an approved safety solvent.

## Remember...

**X Don't** start the engine without first ascertaining that the transmission is in neutral.

**X Don't** suddenly remove the pressure cap from a hot cooling system - cover it with a cloth and release the pressure gradually first, or you may get scalded by escaping coolant.

**X Don't** attempt to drain oil until you are sure it has cooled sufficiently to avoid scalding you.

**X Don't** grasp any part of the engine or exhaust system without first ascertaining that it is cool enough not to burn you.

**X Don't** allow brake fluid or antifreeze to contact the machine's paintwork or plastic components.

**X Don't** siphon toxic liquids such as fuel, hydraulic fluid or antifreeze by mouth, or allow them to remain on your skin.

**X Don't** inhale dust - it may be injurious to health (see Asbestos heading).

**X Don't** allow any spilled oil or grease to remain on the floor - wipe it up right away, before someone slips on it.

**X Don't** use ill-fitting spanners or other tools which may slip and cause injury.

**X Don't** lift a heavy component which may be beyond your capability - get assistance.

- Always disconnect the battery earth terminal before working on any part of the fuel or electrical system, and never risk spilling fuel on to a hot engine or exhaust.

- It is recommended that a fire extinguisher of a type suitable for fuel and electrical fires is kept handy in the garage or workplace at all times. Never try to extinguish a fuel or electrical fire with water.

## Fumes

- Certain fumes are highly toxic and can quickly cause unconsciousness and even death if inhaled to any extent. Petrol vapour comes into this category, as do the vapours from certain solvents such as trichloroethylene. Any draining or pouring of such volatile fluids should be done in a well ventilated area.

- When using cleaning fluids and solvents, read the instructions carefully. Never use materials from unmarked containers - they may give off poisonous vapours.

- Never run the engine of a motor vehicle in an enclosed space such as a garage. Exhaust fumes contain carbon monoxide which is extremely poisonous; if you need to run the engine, always do so in the open air or at least have the rear of the vehicle outside the workplace.

## The battery

- Never cause a spark, or allow a naked light near the vehicle's battery. It will normally be giving off a certain amount of hydrogen gas, which is highly explosive.

- Always disconnect the battery ground (earth) terminal before working on the fuel or electrical systems (except where noted).

- If possible, loosen the filler plugs or cover when charging the battery from an external source. Do not charge at an excessive rate or the battery may burst.

- Take care when topping up, cleaning or carrying the battery. The acid electrolyte, even when diluted, is very corrosive and should not be allowed to contact the eyes or skin. Always wear rubber gloves and goggles or a face shield. If you ever need to prepare electrolyte yourself, always add the acid slowly to the water; never add the water to the acid.

## Electricity

- When using an electric power tool, inspection light etc., always ensure that the appliance is correctly connected to its plug and that, where necessary, it is properly grounded (earthed). Do not use such appliances in damp conditions and, again, beware of creating a spark or applying excessive heat in the vicinity of fuel or fuel vapour. Also ensure that the appliances meet national safety standards.

- A severe electric shock can result from touching certain parts of the electrical system such as the spark plug wires (HT leads), when the engine is running or being cranked particularly if components are damp or the insulation is defective. Where an electronic ignition system is used, the secondary (HT) voltage is much higher and could prove fatal.

- Do remove rings, wristwatch etc., before working on the vehicle - especially the electrical system.

- Do keep your work area tidy - it is only too easy to fall over articles left lying around.

- Do exercise caution when compressing springs for removal or installation. Ensure that the tension is applied and released in a controlled manner, using suitable tools which preclude the possibility of the spring escaping violently.

- Do ensure that any lifting tackle used has a safe working load rating adequate for the job.

- Do get someone to check periodically that all is well, when working alone on the vehicle.

- Do carry out work in a logical sequence and check that everything is correctly assembled and tightened afterwards.

- Do remember that your vehicle's safety affects that of yourself and others. If in doubt on any point, get professional advice.

- If in spite of following these precautions, you are unfortunate enough to injure yourself, seek medical attention as soon as possible.

## Frame and engine numbers

The frame serial number is stamped into the right side of the steering head. The engine number is stamped into the right side of the crankcase at the base of the rear cylinder. Both of these numbers should be recorded and kept in a safe place so they can be furnished to law enforcement officials in the event of a theft. There is also a carburettor identification number on the intake side of each carburettor body, and a model colour identification label under the seat on the right-hand frame rail.

The frame serial number, engine serial number, carburettor identification number and colour code should also be kept in a handy place (such as with your driver's licence) so they are always available when purchasing or ordering parts for your machine.

The procedures in this manual identify the bikes by their model code letter. To determine which model code applies to your machine, refer to the frame and engine number in the table below. Note that the date of registration can be used as a guide, but note that this often differs from the production year.

Dates of availability	Model code	Frame No.	Engine No.
Feb '88 to Oct '88	600 J	PC22-2000002 to 2000519	PC22E-2000002 to 2000520
Oct '88 to Apr '91	600 K	PC22-2100001 to 2101405	PC22E-2100001 to 2101408
Apr '91 to Jan '93	600 M	PC22-2300002 to 2300271	PC22E-2300002 to 2300271
Dec '92 to Jan '95	650 P	RC33-2400924 onward	RC33E-2400956 onward
Jan '95 to Nov '95	650 S	RC33-2500200 onward	RC33E-2500203 onward
Nov '95 on	650 T	RC33A*-TM000001 onward	RC33E-2600001 onward

*Note: The asterisk (\*) in the frame number of the 650 T represents a number indicating the machine's power output.*

## Buying spare parts

Once you have found all the identification numbers, record them for reference when buying parts. Since the manufacturers change specifications, parts and vendors (companies that manufacture various components on the machine), providing the ID numbers is the only way to be reasonably sure that you are buying the correct parts.

Whenever possible, take the worn part to the dealer so direct comparison with the new component can be made. Along the trail from the manufacturer to the parts shelf, there are numerous places that the part can end up with the wrong number or be listed incorrectly.

The two places to purchase new parts for your motorcycle - the accessory store and the

franchised dealer - differ in the type of parts they carry. While dealers can obtain virtually every part for your motorcycle, the accessory dealer is usually limited to normal high wear items such as shock absorbers, tune-up parts, various engine gaskets, cables, chains, brake parts, etc. Rarely will an accessory outlet have major suspension components, cylinders, transmission gears, or cases.

Used parts can be obtained for roughly half the price of new ones, but you can't always be sure of what you're getting. Once again, take your worn part to the breaker for direct comparison.

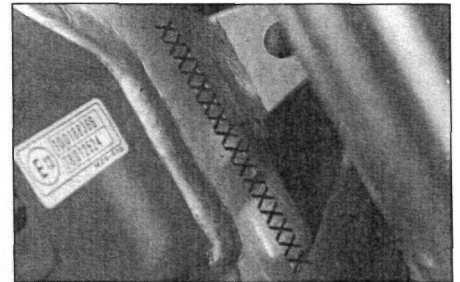
Whether buying new, used or rebuilt parts, the best course is to deal directly with someone who specialises in parts for your particular make.



The engine number is on the right-hand side crankcase above the clutch cover



The model identification plate is mounted on the right-hand side frame spar



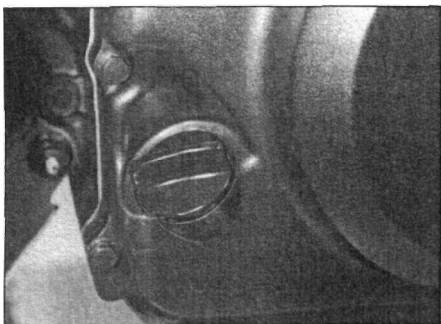
The frame number is stamped into the steering head



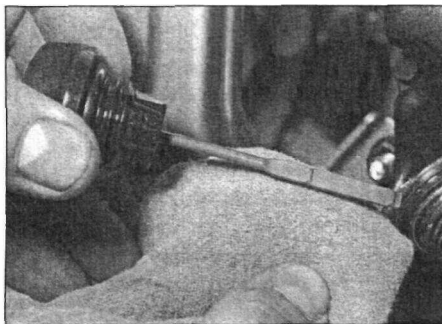


## 0•10 Daily (pre-ride) checks

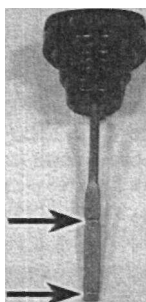
### 1 Engine/transmission oil level



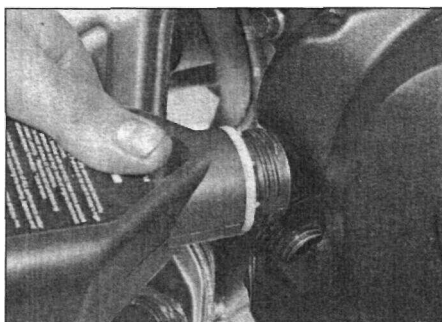
➤ Unscrew the oil filler cap from the right-hand side crankcase cover. The dipstick is integral with the oil filler cap, and is used to check the engine oil level.



2 Using a clean rag or paper towel, wipe off all the oil from the dipstick, then insert the clean dipstick back into the engine, but do not screw it in.



3 Remove the dipstick and observe the level of the oil, which should lie between the upper and lower level marks (arrows).



4 If the level is below the lower mark, top the engine up with the recommended oil, to bring the level up to the upper mark on the dipstick.

#### Before you start:

- Take the motorcycle on a short run to allow it to reach operating temperature. **Caution: Do not run the engine in an enclosed space such as a garage or workshop.**
- Stop the engine and place the motorcycle on its centre stand, or support it in an upright position using an auxiliary stand. Allow it to stand undisturbed for a few minutes to allow the oil level to stabilise. Make sure the motorcycle is on level ground.

#### Bike care:

- If you have to add oil frequently, you should check whether you have any oil leaks. If there is no sign of oil leakage from the joints and gaskets the engine could be burning oil (see Fault Finding).

#### The correct oil

- Modern, high-revving engines place great demands on their oil. It is very important that the correct oil for your bike is used.
- Always top up with a good quality oil of the specified type and viscosity and do not overfill the engine.

Oil type	API grade SE, SF or SG
Oil viscosity	SAE 10W40

### 2 Coolant level



**Warning:** DO NOT remove the radiator pressure cap to add coolant. Topping up is done via the coolant reservoir tank filler.

**DO NOT leave open containers of coolant about, as it is poisonous.**

#### Before you start:

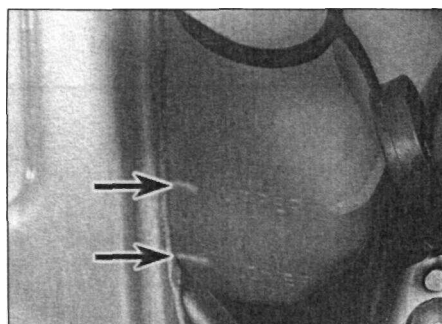
- Make sure you have a supply of coolant available (a mixture of 50% distilled water and 50% corrosion inhibited ethylene glycol antifreeze is needed).
- Always check the coolant level when the engine is at normal working temperature. Take the motorcycle on a short run to allow it to reach normal temperature. **Caution: Do not run the engine in an enclosed space such as a garage or workshop.**
- Place the motorcycle on its centre stand, or support it in an upright position using an auxiliary stand. Make sure the motorcycle is on level ground.

#### Bike care:

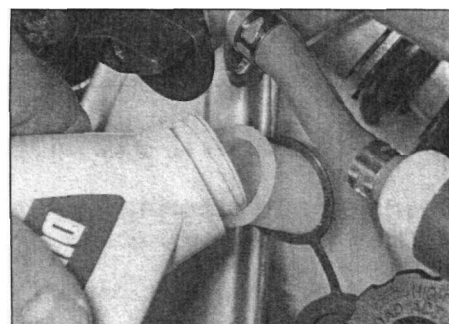
- Use only the specified coolant mixture (see above). It is important that antifreeze is used in the system all year round, and not just in the winter. Do not top up using only water, as the system will become too diluted.
- Do not overfill the reservoir tank. If the coolant is well above the UPPER level line at

any time, the surplus should be siphoned or drained off to prevent the possibility of it being expelled out of the overflow hose.

- If the coolant level falls steadily, check the system for leaks (see Chapter 1). If no leaks are found and the level continues to fall, it is recommended that the machine is taken to a Honda dealer for a pressure test.



1 The coolant reservoir is located behind the left-hand side panel (see Chapter 8 for removal of the panel). The coolant UPPER and LOWER level markings are visible on the front of the reservoir (arrows).



2 If the coolant level is not between the UPPER and LOWER markings, remove the filler cap and top the level up with the recommended coolant mixture.

## 3 Brake fluid levels



**Warning:** Brake hydraulic fluid can harm your eyes and damage painted surfaces, so use extreme caution when handling and pouring it and cover surrounding surfaces with rag. Do not use fluid that has been standing open for some time, as it absorbs moisture from the air which can cause a dangerous loss of braking effectiveness.

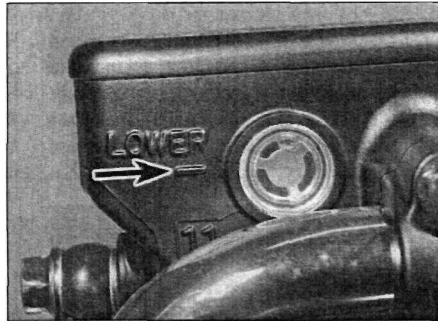
### Before you start:

- Make sure you have the correct hydraulic fluid. DOT 4 is recommended.
- Position the motorcycle on its centre stand, or support it in an upright position using an auxiliary stand, and turn the handlebars until the top of the master cylinder is as level as possible. If necessary, tilt the motorcycle to make it level. Remove the right-hand side cover for access to the rear brake fluid reservoir.

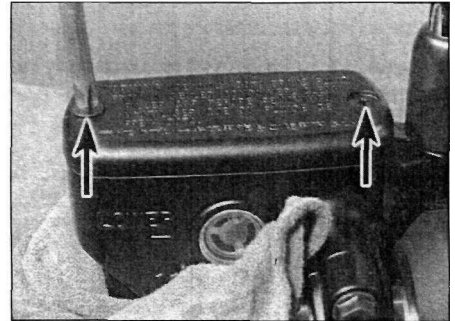
### Bike care:

- The fluid in the front and rear brake master cylinder reservoirs will drop slightly as the brake pads wear down.
- If either fluid reservoir requires repeated topping-up this is an indication of a leak somewhere in the system, which should be investigated immediately.

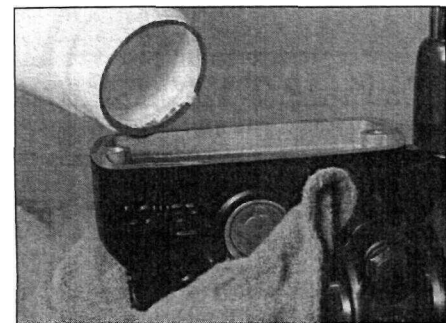
- Check for signs of fluid leakage from the hydraulic hoses and components - if found, rectify immediately.
- Check the operation of both brakes before taking the machine on the road; if there is evidence of air in the system (spongy feel to lever or pedal), it must be bled as described in Chapter 7.



- 1** The front brake fluid level is checked via the sightglass in the reservoir - it must lie above the LOWER level mark (arrow).



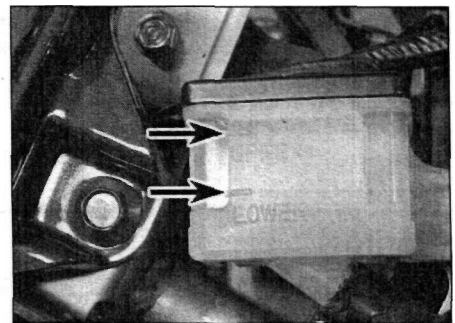
- 2** If the level is below the LOWER level mark, remove the two screws (arrows) to free the front brake fluid reservoir cover, and remove the cover, the diaphragm plate and the diaphragm.



- 3** Top up with new clean hydraulic fluid of the recommended type, until the level is above the lower mark. Take care to avoid spills (see **Warning** above).



- 4** Ensure that the diaphragm is correctly seated before installing the plate and cover.



- 5** The rear brake fluid level can be seen through the translucent body of the reservoir behind the right-hand side panel (see Chapter 8 for removal of the panel). The fluid must lie between the UPPER and LOWER level marks (arrows). If necessary, top up the fluid level using the same procedure for the front brake reservoir.

## 4 Suspension, steering and final drive

### Suspension and steering:

- Check that the front and rear suspension operate smoothly without binding.
- Check that the suspension is adjusted as required.
- Check that the steering moves smoothly from lock-to-lock.

### Final drive:

- Check for signs of oil leakage around the final drive housing. If any is evident, check the final drive oil level (Chapter 1).

# 012 Daily (pre-ride) checks

## 5 Tyres

### The correct pressures:

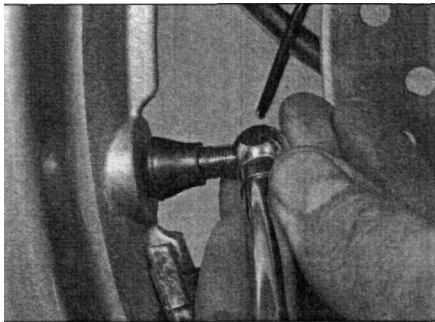
- The tyre pressures must be checked when **cold**, not immediately after riding. If the motorcycle has just been ridden the tyres will be warm and their pressures will have increased. Note that extremely low tyre pressures may cause the tyre to slip on the rim or come off. High tyre pressures will cause abnormal tread wear and unsafe handling.
- Use an accurate pressure gauge.
- Proper air pressure will increase tyre life and provide maximum stability and ride comfort.

### Tyre care:

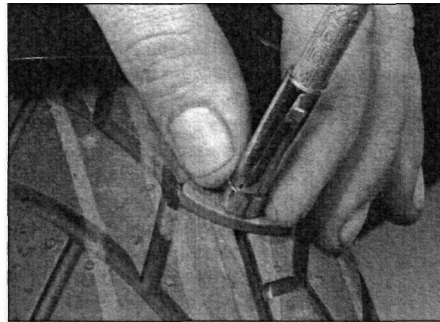
- Check the tyres carefully for cuts, tears, embedded nails or other sharp objects and excessive wear. Operation of the motorcycle with excessively worn tyres is extremely hazardous, as traction and handling are directly affected.
- Check the condition of the tyre valve and ensure the dust cap is in place.
- Pick out any stones or nails which may have become embedded in the tyre tread.
- If tyre damage is apparent, or unexplained loss of pressure is experienced, seek the advice of a tyre fitting specialist without delay.

### Tyre tread depth:

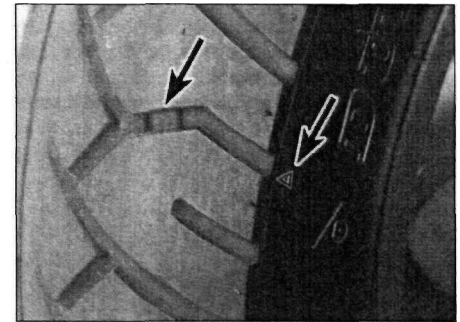
- At the time of writing UK law requires that tread depth must be at least 1 mm over 3/4 of the tread breadth all the way around the tyre, with no bald patches. Many riders, however, consider 2 mm tread depth minimum to be a safer limit. Honda recommend a minimum tread depth of 1.5 mm for the front tyre, and 2.0 mm for the rear.
- Many tyres now incorporate wear indicators in the tread. Identify the triangular pointer or TWI mark on the tyre sidewall to locate the indicator bars and replace the tyre if the tread has worn down to the bar.



- 1** Check the tyre pressures when the tyres are **cold** and keep them properly inflated.



- 2** Measure tread depth at the centre of the tyre using a tread depth gauge.



- 3** Tyre tread wear indicator bar and its location marking on the sidewall (arrows).

Loading/speed	Front	Rear
Rider only	33 psi (2.3 Bar)	33 psi (2.3 Bar)
Rider and passenger	33 psi (2.3 Bar)	41 psi (2.8 Bar)

## 6 Legal and safety checks

### Lighting and signalling:

- Take a minute to check that the headlight, taillight, brake light and turn signals all work correctly.
- Check that the horn sounds when the switch is operated.
- A working speedometer is a statutory requirement in the UK.

### Safety:

- Check that the throttle grip rotates smoothly and snaps shut when released, in all steering positions.
- Check that the engine shuts off when the kill switch is operated.
- Check that side stand return spring holds the stand securely up when retracted. The same applies to the centre stand.
- Following the procedure in your owner's manual, check that the engine cuts out if the sidestand is lowered when the engine is running and in gear.

### Fuel:

- This may seem obvious, but check that you have enough fuel to complete your journey. If you notice signs of fuel leakage - rectify the cause immediately.
- Ensure you use the correct grade unleaded fuel - see Chapter 4 Specifications.