

### Honda 4-stroke equipment

“Woah, that sounds smooth!” said my friend when I started the brush cutter, kindly loaned to BALI last month, by Honda.



He’s right, it does sound smooth, because it is very, very clever. For anyone used to the characteristic ‘bag-of-spanners-falling-down-the-stairs’ engine note from their trusty 2-stroke trimmer, hearing the quiet, refined burble from this little Honda 4-stroke unit is surreal.

The term ‘4-stroke’ refers to the 4 separate stages completed during the function of this engine type. 4-stroke engines are not new (they have been used in larger applications such as tractors, cars and lorries for over 100 years), but their application in hand-held machinery has previously been hampered by weight, cost and technical limitations. It was for these reasons that 2-stroke (which has just 2 stages) was the dominant engine type for decades. However, more stringent emissions regulations and technology has meant small 4-stroke engines are beginning to emerge in the professional landscape sector.



Whilst the starting procedure is identical for this new generation of engines - Honda’s unit requires a couple of prods of a primer bulb, flicking the choke lever and two (very light) pulls on the cord - that’s where the similarities between 2 and 4-stroke engines end. Rather than adding a pre-mixed cocktail of petrol and oil into a single container (as is the case on 2-stroke engines), 4-stroke engines use separate fuel (petrol) and oil (10w30 for this engine) containers.

See picture, left, with black petrol cap on left and oil dipstick on right.



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Like larger pieces of landscape equipment such as mowers, the oil need only be changed after a specified time (normally scheduled by hours), rather than filled at the same time as the fuel. The oil (just 100ml is needed) is directed to all components when the engine is at any angle – even upside down. Checking and changing oil (required every 50 hours) is also easy. The only additional maintenance which may require a workshop visit is checking the valve clearances on the engine. This is scheduled every 100 hours.



See picture, left, of dipstick.

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I hand the brush cutter to my friend, who instinctively blips the throttle. He quickly discovers the power delivery of the new generation of engines is also completely different. Whereas a 2-stroke engine requires a mighty squeeze of the throttle (and therefore lots of revs, lots of noise and much higher fuel consumption) to reach peak power, the power of this little 4-stroke is developed at just 7,000rpm - significantly lower than a 2-stroke engine. Where a 2-stroke makes a screaming noise at full throttle, this 4-stroke makes a muted burble.

Whilst 2-stroke engines are technically more powerful than their equivalent capacity 4-stroke successors, the power delivery of the Honda feels gutsier and less stressed, which in-turn felt considerably more relaxing to the operator over the course of a few hours work. Whilst I accept this 'feeling' is entirely psychological, everyone who used the little Honda came to the same conclusion. Worth noting that, despite the smooth sound, hearing protection is essential to suppress the 109dB(A) noise produced. Despite huge leaps in vibration reduction, care should also be taken to avoid prolonged operative exposure.

The latest crop of 4-stroke engines is more than up to the task – any task – a landscape professional is likely to throw at them. The little Honda brush cutter made light work of grass, bramble and nettles, but could also tackle lighter duties due to its flexible power delivery. The Honda 4-stroke hedge trimmer was similarly powerful and my colleague, Stephen Ensell, was astounded by its ability to trim, with ease, large limbs from the over-grown hawthorn hedge he tested the machine on.

There is a slight weight penalty associated with 4-stroke engines which should be considered by operatives. Personally, I found the even weight distribution of the strimmer (the balance point sits perfectly in the centre of the machine) avoids this, but I would recommend trying the units out, particularly if you have operatives who are not as strong.

Honda have a reputation for producing exceptionally high-quality machinery, with an ardent fan base in the landscaping sector. The little Honda 4-stroke engines will only reinforce this reputation. In addition to long, reliable service life, the reduced fuel consumption of the new engines will be a huge benefit in terms of fuel used and time spent mixing it.

Most importantly, of course, the new engines meet stringent emissions targets and are pleasant to use. This is better for the environment, but also of genuine benefit to operatives, who will use machinery which emits much cleaner air.

This new generation of engines proves there is still plenty of life left in petrol-powered equipment and reminds us why petrol is still relevant to the landscape sector. It feels like an age since there has been a break-through in new technology in the landscape sector, and I was genuinely excited to be trying out examples of well-conceived products.

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