



# TRACTOR TALK

*Lots of models but do you really have much choice? James de Havilland takes a look at our options*

**If you are after a compact tractor in the sub-45hp power bracket, you may think you are spoilt for choice - there are now more than 20 compact tractor suppliers in the UK. Concentrate on what a tractor's transmission offers and it emerges that you may not have as much choice as you think.**

Not so long ago, a key job for a tractor would have been to drag a gang mower up and down the fairways. It is all too easy to forget that gangs were and, for some still remain, the key large-area mowing tool on the golf course. Now that has changed, the role of a tractor has also altered, with the operation of top dressing and aeration equipment forming the primary on-course role for most new tractor buys.

There are then the compact tractors that are purchased with general purpose mowing forming their primary role. A more versatile tool than a dedicated ride-on mower, a tractor with a mid-mounted mower can be fitted with a front end loader, be used to pull a trailer and carry out a range of other tasks using its rear lift linkage.

With apologies to those who can guess where this is going, a sweeping generalisation now follows. Most tractors selected for general on- (and off-) course duties will have a mechanical transmission. A tractor purchased for 'ride-on' mowing is more likely to have a hydrostatic transmission. That is not to say that the roles cannot be reversed, but the reason why this pattern tends to be followed is simple.

With a mechanical transmission, once the best gear ratio and engine speed to match a specific job has been determined, it can be easily repeated. Anyone using a specific bit of kit can be told, for example, to 'select mid-range, gear 2, a 540 PTO speed and 1,900 engine rpm' and it can be pretty much assumed that the operator will then run the tractor at a forward and PTO speed to match the implement and task.

With hydrostatic drive, the same job can be more complicated. At a fixed engine speed, the amount by which the hydrostatic pedal is depressed determines forward speed. There is absolutely no reason why the tractor cannot be operated at a fixed forward speed with hydrostatic drive, it just takes the right operator firstly to know when the correct speed for the job has been achieved and then maintain it. Every time the speed is changed, during a turn for example, the operator has to revert back to the right speed again.

Hydrostatic cruise control can of course help, but there are occasions when the system will alter the forward speed to accommodate a change in load on the tractor. So although hydrostatic drive has its advantages, it is not always the optimum choice for fixed speed work.

For most courses, a 3x9 or 12x12 mechanical transmission will be up to the job, provided you get a forward speed of 0.5 kph for low creep speed jobs at rated speed. It may be possible to specify extra creep speeds that allow a the right mix of speeds to suit, but this will be down to the tractor



Forward speed can be absolutely critical for some jobs, so it is important to choose a tractor with the ability to deliver the right pace at rated PTO speeds. Equipment manufacturers can often suggest a good tractor for the job.



The dual range hydrostatic 23hp Iseki TXG23 from Ransomes Jacobsen just shows how much you can do with a modern compact; a detachable front loader can be fitted with the front linkage still attached.

FEATURE



MF 1547 with Dyna QPS transmission is ideal for course operations such as deep-tine aeration, mowing, trailer hauling and front loader work.



Developing 29hp, the Iseki TH4290 is another hydrostatic drive model that can readily be specified with a mid-mount deck. Hydrostatic transmissions are ideal for mowing work.



(MF Dyna QPS dash)  
MF tractors with Dyna QPS transmission have an enhanced dash panel with combined digital/analog read-out.



(JD Power Reverser)  
A shuttle forward and reverse lever makes changing direction much faster and is recommended for front loader work. The Power Reverser power shuttle on John Deere tractors allows the shift back and forth to be made without using the clutch.



Developing 44hp, the John Deere 3720 has an easy to use hydrostatic transmission. A tractor of this type can be used with fixed speed kit, but a manual shift is often the preferred choice for this type of work.

make, model and possibly transmission options selected. It pays to have a speed that will go a bit lower than is normally required to allow for a degree of flexibility

Next up is synchromesh. It tends to be assumed that most modern mechanical transmission tractors will have synchromesh as standard. This is not necessarily the case, simple 'crash' boxes still coming as part of the standard package on many sub-40hp tractor models.

Following on from this is whether a forward/reverse shuttle is offered. These allow the tractor to typically switch between a speed-matched forward and reverse ratio using a shuttle simple lever and the clutch pedal. A power shuttle will do the same, but electro-hydraulics take over the de-clutching to allow the shuttle lever to be used on its own. This can help speed manoeuvring and is a real plus when using a front loader.

Sticking with mechanical transmissions, there are models that offer a mechanical 'splitter'. This essentially allows the speeds of the selected ratio to be reduced by perhaps 15 to 20%. This can be useful when working a machine in changing conditions, but may not be a feature that will be of great value on a golf course. The exception may be when a desired ratio proves just a little too fast when doing the same job but at different times of the year; the selected ratio is fine when working in normal or damp conditions but the split ratio may be the right speed when it is really dry.

With hydrostatic drive, matters are typically less complex. Most professional compact tractor models will offer two- or three-ranges, these essentially allowing the speed to be varied between say 0-15kph, 0-20kph or 0-25kph, the lower ratio offering more flexibility when operating at lower speeds. For mowing, a hydrostatic drive is widely accepted as the best bet for varied conditions, the easy ability to slow the machine without reducing the engine or PTO speed having obvious advantages.

One alternative to simple mechanical and full hydrostatic transmissions is Massey Ferguson's Dyna QPS transmission. Available as an option on

its MF 1533 (32 DIN hp), MF 1540 (38 DIN hp) and MF 1547 (46 DIN hp) compact tractor models, the 12x12 transmission incorporates both Power Shuttle and Power Shift.

The Power Shift function enables clutchless change-on-the-move in each of the gearbox's three ranges. All the operator has to do is change up or down the four speeds within the range using switches mounted on the side of the range-change lever. This can be really handy when there is a need to increase or decrease the working speed without having to lose momentum to change gear. This level of mechanical transmission sophistication is rare in the sub-45hp sector.

With a number of 'entry level' compacts now arriving in the UK, it may be tempting to go for something with a low sticker price. In terms of what a tractor will do, some of the 'cheap and cheerful' offerings are actually not a bad investment. The problem can be that these tractors often do not have the refinements that many users now take for granted. These can include heavier than expected operating controls, a reluctance to shift gears, particularly when cold, front-driven axles with differentials that can prove a bit 'sticky', this in turn leading to tyre scrub in a tight turn and less than wonderful rear lift or oil flow and pressure capacity.

More important is the spread of available speeds with a manual transmission. If you cannot match the tractor to the jobs you need it to do, it follows the tractor is not the right one, regardless of how much was saved by buying it over a 'premium' tractor brand. You get what you pay for.

As always, the best thing to do is to take your time choosing the tractor you need and specifying the right transmission for the job. By the time a set of nice turf friendly tyres are fitted, even a cheap tractor can start to look expensive.

As a tractor will have to earn its keep over perhaps ten years or more, it is well worth holding out not just for the right transmission spec but also for what you want in terms of comfort, ease of operation and good local support.

