

James de Havilland takes a closer look at the intricacies of current machinery

# The anatomy of...

## Kubota Grand L5240 GST Tractors

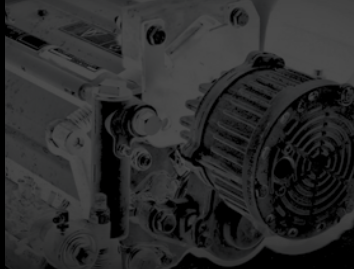


When considering any make of model of tractor, it pays to look at the key specification choices, including the transmission. These days there is more than a simple choice between mechanical and hydrostatic drive

Looking for a clutch-free alternative to a mechanical transmission? Kubota Grand L40-Series tractors, first launched in early 2008, include the nominal 50hp L5040 with a choice of mechanical 16F/16R or clutch-less GST 24F/16R transmissions. Adding £700 to the bottom line, what does GST offer apart from creep speeds over the standard gearbox?

# Step-by-step Analysis...

Kubota Grand L5240 GST Tractors



Last year we took a closer look at Kubota's HST Plus system, a hydrostatic transmission that can be set using the Cruise function so it in effect 'locks' to match the forward speed and engine rpm, just like it is with a mechanical drive.

The key feature claim is that HST can offer the same repeatability as a mechanical transmission but matched to the benefits of a hydrostatic drive.

Kubota is not claiming this fixed' drive ability is a unique HST Plus feature. Both the John Deere eHydro hydrostatic and New Holland EasyDrive CVT transmissions offer similar abilities. But not everyone wants this type of transmission, preferring instead a mechanical



The dash of GST transmission models features a power shuttle lever to the left. The clutch pedal can be used when inching up to hitch attachments but otherwise can be pretty much left alone; drive engages as the engine is throttled up, with no need to use the clutch to swap ratios.



The Intellipanel on GST L5040 tractors shows the selected gear on the left. In work, the gears can be swapped without using the 'clutch'. When the power shuttle is used to change direction, the clutch is again not required.



Swapping ratios on the GST transmission is simple; just move the gear selector to choose the desired ratio. This does not mean the tractor can be started in any gear but it does mean the operator can swap ratios on the move without using the clutch.



Creep speeds are selected via the separate lever above the main shift and provide a forward speed as low as 0.20km/hr. Once in the creep range, all eight speeds on offer are available



Glide Shift Transmission, GST, will only mean something if you take the trouble to find out what it offers. If you want the right tractor and transmission for the job you need to be prepared to ask suppliers a few questions. Do not always rely upon brochure specs as specifics may vary.

## Outline specification: Kubota L5040 tractor

<b>Model</b>	L5040
<b>Engine type</b>	E-TVCS 4cyl diesel
<b>Max power ECE-R24 (kW/hp)</b>	36.0/48.3
<b>Transmission</b>	GST 16F/8R
<b>Speed range (km/hr)</b>	0.20 – 30.34*
<b>2 and 4 wheel drive</b>	Selectable
<b>Guide gross weight (kg)</b>	1885
<b>Guide rear linkage capacity (kg)</b>	1750
<b>Dimensions (L : W : H) (mm)</b>	3245 : 1470 : 2375
<b>Minimum Turn radius (m)</b>	3.20
<b>Fuel tank capacity (litres)</b>	54
<b>Standard turf tyres (F:R)</b>	29x12.00-15 : 475/65-D20

### List price

£22,900

\*Creep speed range from 0.20km/hr 1.00.

driveline that provides a 'real' direct link between the selected gear and engine speed.

It is here where Kubota suggests its GST transmission comes into play. In broad outline, the transmission is actually pretty much like a conventional mechanical system. The key difference is that each gear can be selected without the need to first depress the clutch. This action is taken care of by an electro-hydraulic system that employs a sensor on the lever to first activate the clutch and secondly shift to the selected gear.

In work, the operator selects a gear and then engages the dash-mounted clutch-less forward/reverse shuttle to take up the drive. The next ratio, up or down, can then be selected by shifting the gear lever without depressing the clutch pedal. It is as simple as that.

The system should not be confused with a powershift transmission though; for starters there are no automated features such as auto-transport.

The operator has to select the gear for the job and the transmission will not shift from that ratio by itself. Also, the transmission cannot work miracles. Expect an easy take-off after selecting the top ratio and you will be disappointed.

But in everyday use, GST is really simple to get to grips with. When it comes to precision work, it also makes getting the right speed for a given task more straightforward than it might be with a conventional mechanical transmission. Take operating a tined aerator. Where precise hole spacing is called for, the transmission and engine speeds can be adjusted to deliver the desired result as it is easy to slip between gears; the lower gear steps are 0.20, 0.28, 0.36, 0.46, 0.54, 0.68, 0.80 and 1.0 km/hr. These eight speeds should be close enough to allow a good match between the engine set at the most desirable PTO speed and a forward speed to suit the job.

There is a great deal of choice in the sub-100hp tractor market, so it pays to know what you want from a tractor perhaps more now than ever before. This is because you can get bogged down in looking at power and lift capacities as well as transmissions rather than homing in on key features you must have. If a key job includes precision work such as delivering precise hole spacing when aerating a green, you need to ensure whatever tractor you look at can deliver this. Although 'clever' hydrostatic and CVT type transmissions may claim to deliver

this consistency you need to ensure the package on offer meets your needs.

Similarly opting for a mechanical drive is a safe choice for precision work, but you also need to make sure the transmission has a good overlap of creep speeds. As models change so too can the specifications. So you need to check what is offered. Some brochure figures can also be misleading as UK specifications may not be listed in market-

**There is a great deal of choice in the sub-100hp tractor market, so it pays to know what you want from a tractor perhaps more now than ever before**

ing material prepared to meet the demands of all English speaking markets. As an example, Kubota lists creep speeds as an option on the L5040 with a GST transmission when they are in fact a standard feature on UK market models.

It is for these reasons that it is important to try and take the time to actually find out more about a given tractor than just looking up its specifications online.



**Kubota**

## The Professional's Choice

For demanding daily use, Kubota offers a powerful and versatile choice.

The Kubota range combines power, reliability and operator comfort to deliver exceptional performance whatever the task.



Find your local dealer or book a test drive today:

**www.kubota.co.uk Tel: 01844 214 500**