Sales Information Manual

T5 Dynamic & Auto Command

NEW HOLLAND AGRICULTURE

Contents

Engine……..1- 2

Transmissions……3

Power Take Off……..4

Hydraulics……..5

Front Linkage……..6

Auto Pick Up Hitch……7

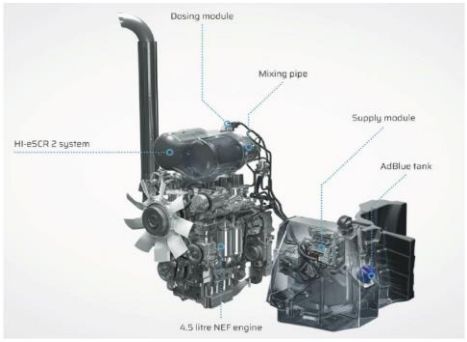
Front & Rear Axles……8- 9

Operators Cab……..10

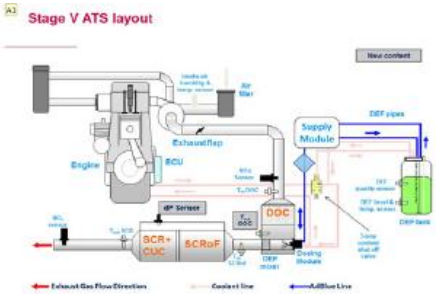
Dimensions……..11

DIA List & Unlocks……..12

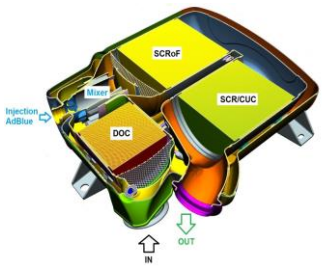
Engine



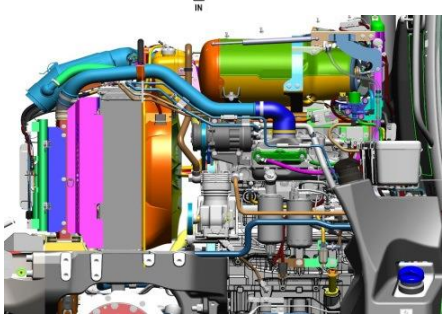
- **Stage V** Emission level - . Stage V regulation started from 2019 (power range above 130kW and below 56kW) and 2020 (power from 56 to 130kW) further tightening the limits on PM (Particulate Matter) emission (-40% compared to Stage IV) and introducing a new limit on the number of emitted particle (Particle Number, PN) (1x10^12 / kWh)



- **ATS Components**- Hi-eSCR2 is the ATS system developed by FPT to comply with Stage V regulation, which lays its basis on the Hi-eSCR system utilized on Stage IV engines. To comply with the tightened limits on PM, a maintenance-free filtering device is integrated on the SCR catalyst. The whole ATS system is mounted under the bonnet for a compact design, requiring no machine redesign or layout changes. Thanks to no EGR and optimised combustion, the engine produces a low amount of PM reducing the risk of ash accumulation and allowing the SCRoF solution to be maintenance-free, not requiring mechanical cleaning nor replacement over the useful life of the tractor.



- **Fuel Injection**: The Bosch High Pressure Common Rail (HPCR) fuel system pioneered by Fiat Auto is the latest in fuel injection system, fitted to all engines, the electronic module is programmed to provide optimum engine performance.



- **Fuel Tank**: A wide diameter fuel filler point is conveniently located on the left hand of the tractor. High capacity fuel tanks mean a longer work period between re-fuelling stops. The location of the filler is conveniently and eliminates problems linked with diesel spillage.

Fuel Tank Capacity	Base Tank	Aux Tank	Combined
Capacity (litres)	180	N/A	180

- **AdBlue**: The 19 LTR urea tank is conveniently located on the same side of the vehicle as the fuel tank, its capacity is such that it is sufficient for every two fills of the diesel tank. The tank has been specially designed to ensure adequate air space for expansion no matter whether it is filled from a pump or by hand from a can.

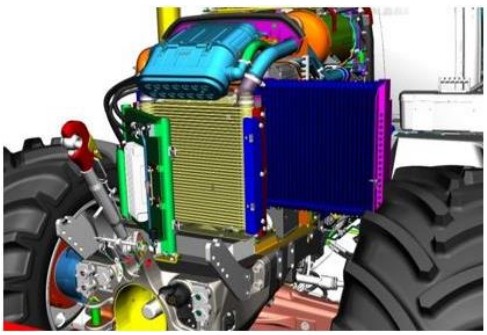
Engine Specifications

Model No			110	120	130	140
Number of valves per cylinders			4			
Number of cylinders			4			
Displacement (cm^3)			4485			
Aspiration			TAA			
Bore x Stroke (mmxmm)			104 x 132			
Compression Ratio			17.5:1			
Rated Speed (rpm) [1]			2200			
High Idle Speed (rpm) [1]			2350			
Low Idle Speed (rpm) Engine [4]			650- 850			
Engine power & Torque to Spec ECE R120 [3]	kW	Rated Power (kw) @2200	81	88	96	103
		Max Power kw @ 1800rpm	81	88	96	103
	bhp	Rated Power (hp) @2200	100	110	120	130
		Max Power hp @ 1800/1900rpm	110	120	130	140
	Torque	Max Torque (Nm@1300rpm)	520	551	610	630
		Torque Reserve (%) [2]	48%	44%	46%	41%

Idle Speed Management: To further reduce fuel consumption and operating costs the low idle feature has been incorporated, This logic will reduce the low idle speed from 850 to 650 rpm. Studies of actual on farm tractor usage has shown that vehicles can spend a significant proportion of the operating hours in neutral and idle condition.

Cooling: Optional Reversable cooling fan which can be programmed as part of a headland turn sequence.

Radiators slide out sideways for more accessible cleaning



Transmissions

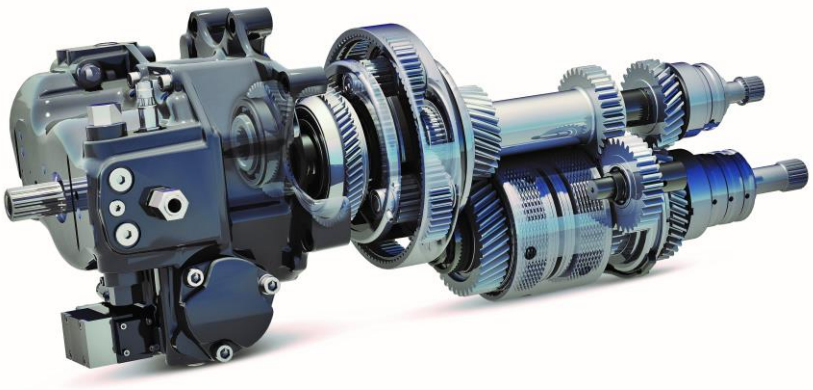
Transmission Options: The transmission is offered in 2 different versions, a Dual Clutch Dynamic Command (DCT) and a Auto Command CVT. All versions are offered in 40kph forward speeds.

CVT Transmission: The CVT is a new driveline designed and manufactured by CNHi. It is a system with a combination of mechanical ranges and a hydrostatic variator. The control logic is fully automatic and will manage both the engine and the gearbox in order to maximize efficiency of the possible efficiency point to produce the minimum fuel consumption and heat generation.

The 40 Kph Eco has 2 forward ratios and one reverse ratio. A geared neutral capability of the gearbox is always possible at any time by operating the Neutral command within the cab. A couple of wet clutches provides direct and consistent shuttle operation, easier range shift and good control of output torque. The clutches swap at zero differential speed to reduce jerk to zero when range shift occurs. Ranges are automatically preselected similarly to a “Dual Clutch” power-shift transmission and engaged by clutches when speed differential between ranges is zero.

The hydrostatic unit provides continuous and stepless ratio changes within each engaged range. Unlike some competitors the range selection is fully automatic and invisible to the operator. This means that whatever the operation the vehicle is always in the most appropriate range. With the above described logic, all possible vehicle speed range are obtained without steps and/or gear change. A 'powered zero' feature means that if the speed is set to zero the transmission will remain at standstill even on a steep hill. The system uses a large displacement pump running at a low speed (direct driven from the engine) and a bent axis motor (rather than swash plate) These two factors both help to minimize power losses in the hydraulic system. .

Main features: 3 programmable speeds within the cab, using the Hare/Tortoise changes between speeds on the control handle.



Transmission oil: The transmission housing provides a common reservoir for the transmission, hydraulic system, steering system & rear axle oils. The fill point is at the rear of the tractor and adjacent is an oil sight glass to check the level.

CVT	
Transmission Oil Fill - Min [litres]	55
Transmission Oil Fill - Max [litres]	60
Transmission Oil Fill - Extra [litres]	5
Removable Oil Quantity (with Extra Oil)[litres]	39.5

Transmissions

Dynamic Command Transmission: The transmission has 24 forward speeds with 23% (average) speed steps between successive gears in all the ranges with Full Power Shuttle function (Fwd/Rev).
Forward travel speed of 40 km/h achievable at ~1700 min-1 engine RPM in highest gear.

SPS capability: The transmission has semi power shift capability through all gears. Shifts between adjacent gears are driven by two different clutches (Even/Odd). Hydraulically actuated, multi-plate, wet friction, with proportional control.

Clutch design: each clutch is capable of filling to reach the kissing point in less than 150 milliseconds and the full engagements in 4-5 second.

Main features: programmable speeds within the cab (GSM2), using the Hare/Tortoise changes between speeds on the control handle. Acts like a CVT transmission.

Transmission oil: The transmission housing provides a common reservoir for the transmission, hydraulic system, steering system & rear axle oils. The fill point is at the rear of the tractor and adjacent is an oil sight glass to check the level.

DCT	
Transmission Oil Fill - Min [litres]	62
Transmission Oil Fill - Max [litres]	65
Transmission Oil Fill - Extra [litres]	5
Removable Oil Quantity (with Extra Oil)[litres]	39.5

Power Take Off

- **3 Speed PT0:**

The fully independent PTO system features a durable multi plate wet clutch pack that is mounted at the rear of the tractor. A speed sensor, fitted to all models, displays actual PTO speed on instrument clusters fitted with digital displays. Three shafts can be installed into the rear of the tractor, 6 or 21 spline, 35mm (13/8”) in diameter, or 20 spline 1 3/4" diameter. To change shafts a retaining circlip is removed, the shafts swapped, and the circlip replaced.

PTO	RPM
540/540E/1000	1969/1546/1893
540E/1000/1000E	1546/1893/1621

- **Auto PTO:** The Auto PTO function, when selected, provides automatic engagement & disengagement of the rear PTO when using the three point linkage. Raising the 3 point linkage to a certain level will stop PTO rotation & lowering the linkage will restart the rotation. The stop/start position is adjustable and will be stored by the system.

- **GroundSpeed PTO:** A ground drive option on all models allows the PTO to be driven by the wheels. A lever situated to the operator’s right side disconnects drive from the engine and engages the ground drive system.

Output P.T.O. shaft	Anticlockwise (viewed from rear) Forward Travel
Selected P.T.O. 540 RPM	8.278 output shaft rotation /1 wheel turn
Method of operation	Manual lever selection: P.T.O. or Ground P.T.O.

- **Front PTO:** For tractors fitted with front linkage& PTO, a 6-spline shaft is provided. The CCW PTO shaft rotates at 1000rpm in an anticlockwise direction, (when looking from the front of the tractor). The front PTO is driven directly from the crankshaft and is actuated by a multi plate dry clutch. The maximum PTO capacity is 85KW.

Type	Fully independant 1000 RPM
Clutch type	Dry multidisc
Number of plates	6
Actuation	Electrohydraulic
Direction of rotation	anticlockwise
Engine speed at 1000 PTO speed	1920
Maximum PTO capacity (hp)	85kW @30 deg ambient

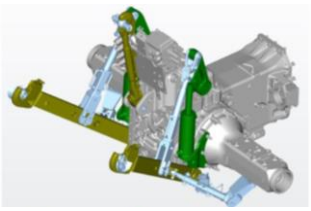
Hydraulics

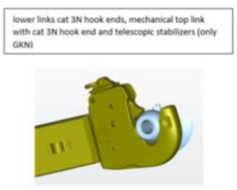
- **Pumps:** This is equipped with one steering gear pump and a variable displacement pump, which will supply hydraulic power to hydraulic trailer brakes, rear remotes, hitch, mid mount valves, front axle suspension. The Steering gear pump supplies high pressure to steering unit.

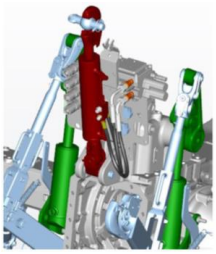
- **FILTERS**: Filtration is provided by a single suction unit.

- **3 Point Linkage**: This tractor is equipped with Rear Hydraulic Linkage electronically controlled via dedicated hitch valve; Front Linkage is controlled via Mid Mount Valves (MMV) or rear Electro Hydraulic Remotes.

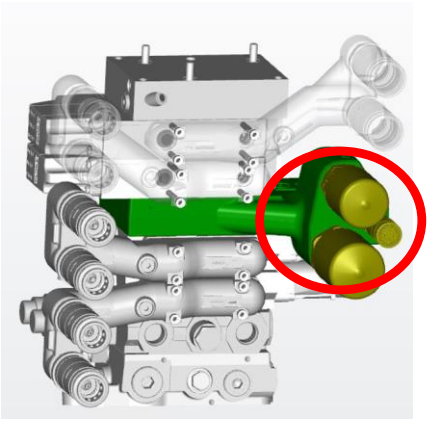
  Rear Links lift capacity - 5,506 Kgs
  (4,588kgs @ 610mm from ball ends)



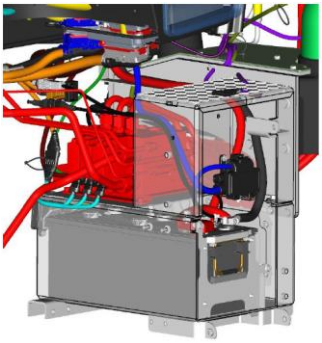




- **Auxiliary valves**: Rear Remote valves for auxiliary services are provided to connect hydraulically driven implements. To connect implements there are quick connect couplers with oil collection system. Mid mounted valves for auxiliary services are provided to connect hydraulically driven implements in the mid RHS or in the front of the tractor. Valves with 1, 2 or 3 electrohydraulic valve slices are available to power Front Linkages, Front Hydraulic Couplers, Front Loader or Mid Hydraulic Couplers. There is also Front Low Pressure Return Coupler. To connect implements to Front Hydraulic Couplers, there are quick connect couplers with oil collection system.

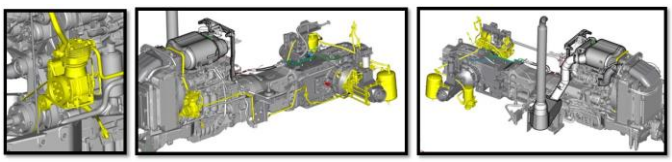


- **Mid Mount Valves:**
  One, Two or Three Mid Mount Valves can be specified (3 shown in the picture)



- **Power Beyond Valves:** All units have optional connections on the driveline for hydraulic power beyond, as well as the optional power beyond slice. Its Capable of full pump flow, which is Ideal for Implements with large oil requirements (vegetable harvesters , air drills etc) The fittings are Flat Face Couplers in line with ISO16028 standard.

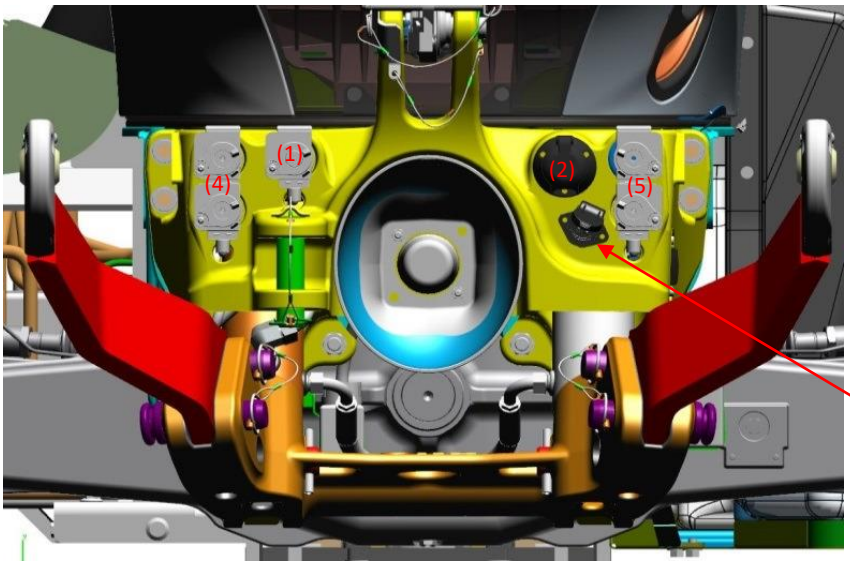
- **Trailer Brakes**: Either Hydraulic or pneumatic options available, not combined.

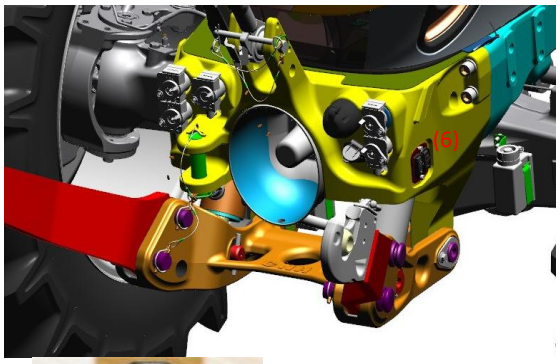


Integrated Front Linkage

- **FHPL:** A heavy-duty front linkage and PTO system is available for all models. The close coupled linkage is incorporated into the front support casting and incorporates two large diameter, double acting cylinders that provide lift through the full range. The front lift system is operated by Mid mount valve #1 or REAR Remote # 1, Front couplers are also available as an option connected to the MMV or the rear remote valves.

- Note: if front loader and FHPL are required together then the loader is operated from MMV and the FHPL from the rear remotes.



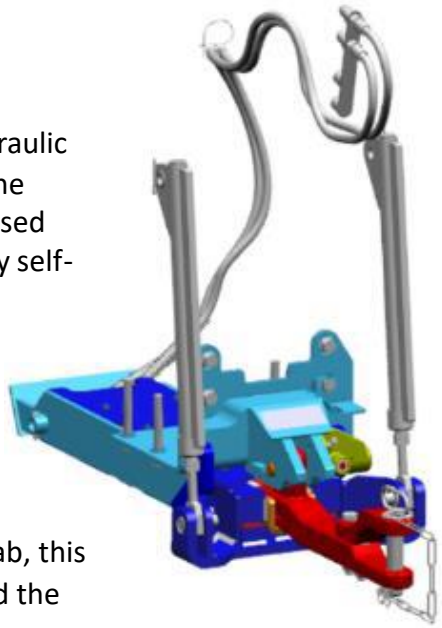


Front Linkage options include:

- Low Pressure return (1)
- ISO 7 Pin trailer socket (2)
- ISO 3 Pin Power socket (3)
- Right Hand Front Couplers (4)
- LH Front Couplers (5)
- External Up/Down control switches (6)

Front linkage	(KN)	(KG)
Lift cap 610 mm from ball ends, full range OECD 90% max system pressure	23 kN	2,345 Kgs
Category	2	

Automatic Pick Up Hitch - APUH



- **APUH:** A hydraulic type APUH that moves rearwards via a hydraulic ram is available. This improves visibility of the hitch hook from the operators seat and makes hook up easier. The pick up hitch is raised and lowered by means of the tractor hydraulic system and is fully self-supporting when locked in the operating (raised) position.

  Drawbar Pin = 32mm
  Vertical Load (Drawbar) 2000kg (Hook) 3000Kg

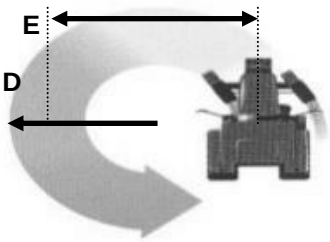
- **Operation:** A handle is mounted to the rear RH side of the cab, this releases the locking pin allowing the hitch to drop. Once lowered the hitch can be powered in or out by use of the spool valve.

- **K80 Ball:** A K80 ball hitch can be fitted if required, this will need to be a parts department order. The K80 ball is normally used on heavy tankers or trailed sprayers, sometimes its termed as a ball and spoon hitch.

Front Axle

- **Front Axle:** The class 1.75 front axle is offered in Fix or suspended versions with steering sensors for control of diff locks/4wd and utilised for GPS steering.

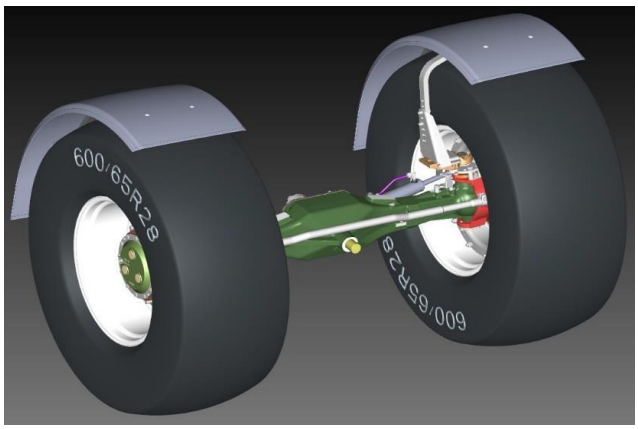
- **Suspended Front Axle:** The front axle suspension system is designed to maintain performance under all conditions by providing improved traction in the field and increased stability at higher transport speed. A manual override is fitted, allowing the front suspension to be locked for precision front linkage work or heavy breakout operations with FHPL. An automatic override restores suspension at speeds over 12 kph for comfort and safety.



- **Turnaround Measurements:** SAE J695 (Dec 98) turning radius measures the distance from the centre point of the circle to the centre of tyre contact with the road (D) The turnaround diameter is measured from the centre point of the rear axle in line with the drawbar (E)

	4WD Standard axle / Suspended
Turning Radius (D) (mm)	4201
Turnaround Diameter (E) (mm)	8402
Max Permissable axle load (Kg)	6200
Max Steering angle (°)	55

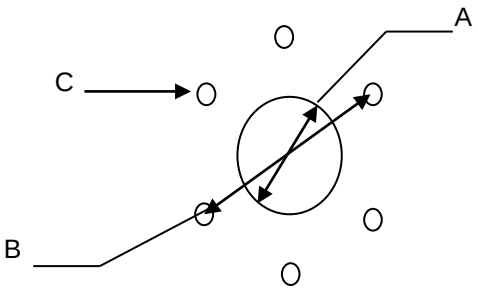
- **Front Fender Options:** The front fenders are swivel type which turn against the tractors chassis, 2 options are available to match front tyre widths.



Front Fender Option	400mm Wide Cover
	480mm Wide Cover
	Polypropylene

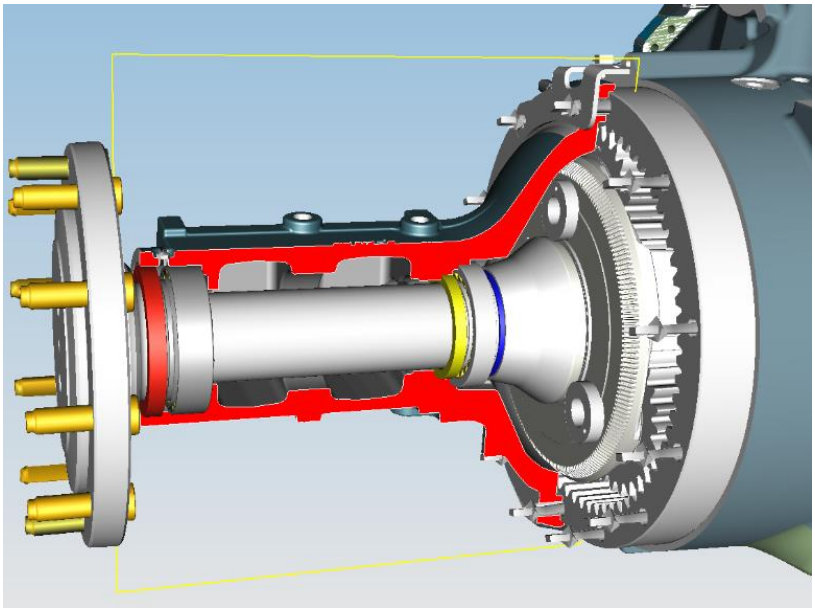
Axle Information

- **Front Axle:**



		Class 1.75
A	Dia. of clearance hole (mm)	290
B	Dia. to studs (mm)	330
C	Number of studs	8
	Diameter of studs (mm)	M16x1.5
	Torque (Nm)	245
	Inter Axle Ratio	1.352

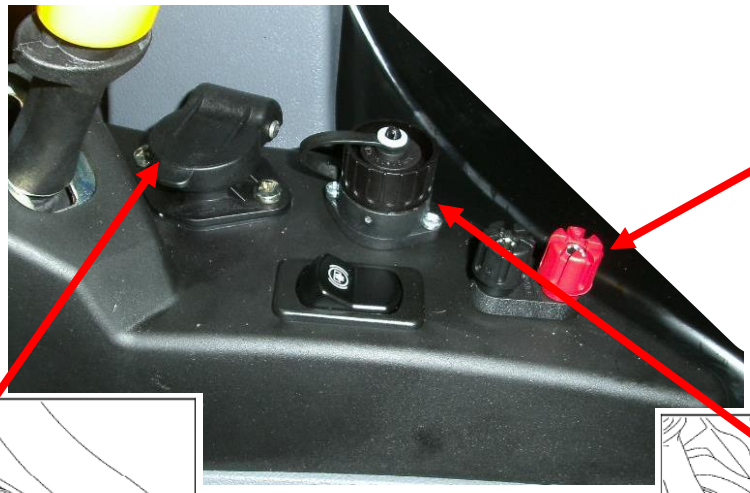
- **Rear Axle:**



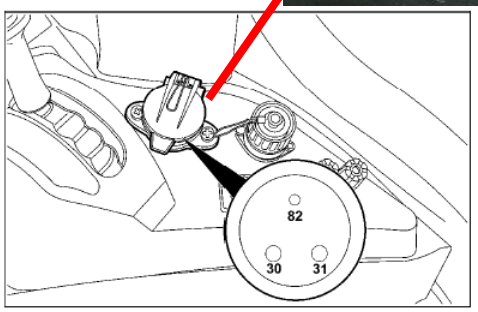
		Rear
A	Dia. of clearance hole (mm)	221
B	Dia. to studs (mm)	275
C	Number of studs	8
	Diameter of studs (mm)	M18x1.75
	Torque (Nm)	310
	Flange to Flange (mm)	1770

Operators Cab

- **Cab Information:** The cab is developed in fully compliance with the latest and most stringent standards. Four pillar 360° cab is in compliance with FOPS - OECD code 10 level. Cab noise level is on 69dB(A). Cab category level is on EN 15695. Cab includes a single piece screen that allows you to have an open and 360° view on the yard, in the field or on the road, Easy entry and exit from both sides of the cab via wide opening doors, large rigid non-slip steps and convenient grab rails. Door locks are operated with the ignition key with internal release levers on both doors. It has 5,45 square meters of tinted glass for excellent operator comfort and visibility. Curved glazing and doors have been designed to help reflect noise from entering the cab, A single piece rear window opens to two positions, ajar & to almost 90 degrees and is held in position by two gas struts. The rear window grab rail is designed to allow closing from LH or RH sides whilst retaining optimum visibility.

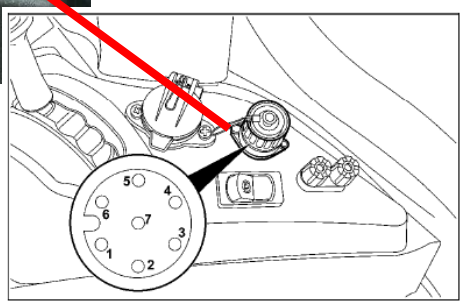


8 amp Power studs. 4mm diameter, Ignition switch supplied.



Pin No

30 25 amp Power Supply
31 Ground
82 10 amp Ignition Power Supply

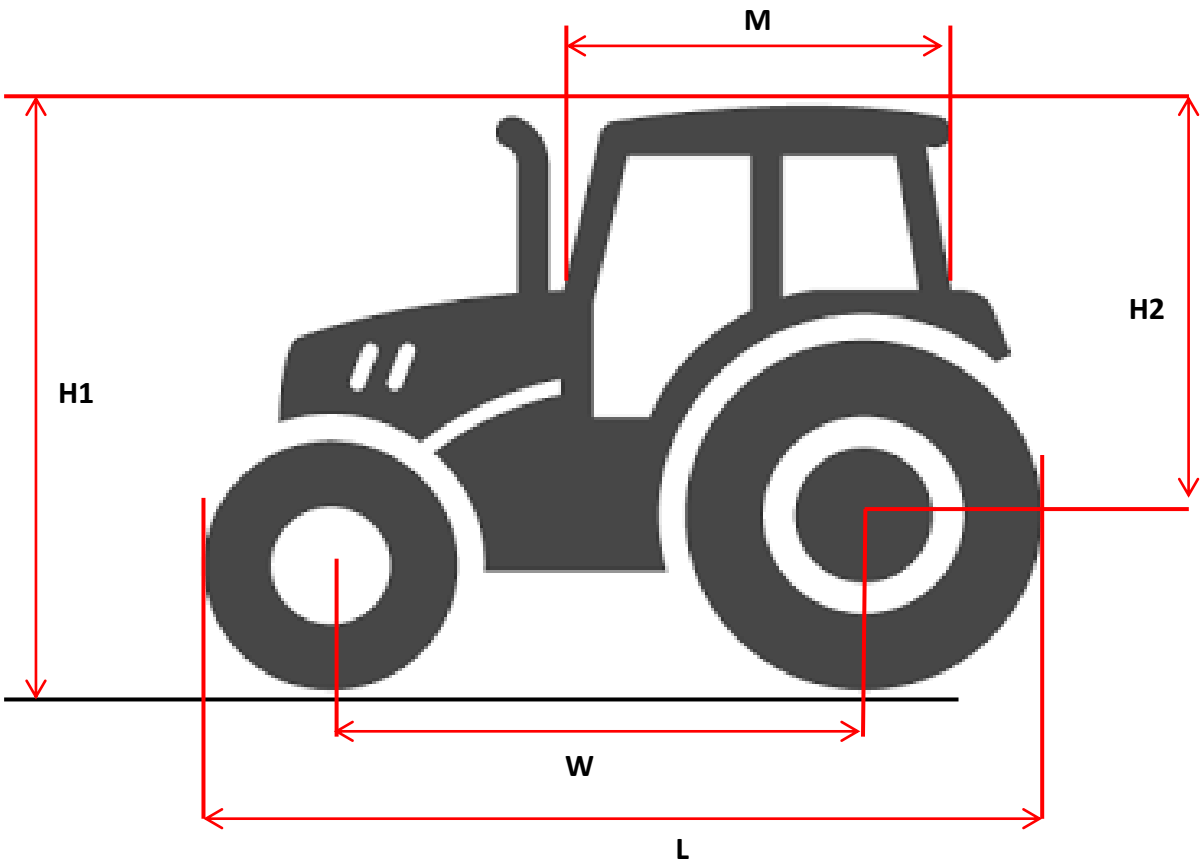


Pin No

1 True Ground Speed (Radar)
2 Theoretical Ground Speed
3 Rear PTO speed
4 Rear 3 point linkage status
5 Implement work status
6 5 amp Power supply (ignition)
7 Common ground connection

- **Lights:** An effective led work lamp system is provided for round the clock productivity. Up to 16 work lamps may be fitted to the cab & one pair are provided as standard in the front hood. These lamps are located on the front & rear roof, front light bar & lower section of the cab "c" pillars. Since the standard headlamps may be obstructed if a front loader or front linkage/implement is fitted high mount headlamps are available as an option. These are mounted to the A pillar light bar. For these headlamps there is a switch in the C-pillar and when they are turned on the standard headlamps fitted in 'the hood are deactivated.

Dimensions



ID	Description	Unit	Value
H1*	Total Height of Tractor - High Roof	mm	2835
H1*	Total Height of Tractor - Low Roof	mm	2730
M	Cab Length	mm	1635
W	Wheelbase - Std/Sus Axle	mm	2490
L	Total Length	mm	3790
H2	Height Center Rear Axle to Top Of Roof - Low Roof	mm	1955
H2	Height Center Rear Axle to Top Of Roof - High Roof	mm	2136
H2	Height Center Rear Axle to Top Of Roof - Panoramic Roof	mm	1980
*Measurements based on 600.65R38 rear & 480/65R28 Front Tyres			

New Holland DIA LIST & UNLOCKS

	Brand	New Holland	X	X	X	
	Engine Power	110 4 Cyl	X	-	-	
		120 4 Cyl	X	-	-	
		130 4 Cyl	-	X	-	
		140 4 Cyl	-	-	X	
Description		**DIA Kits Code**				Note & Constraint
ENGINE ACCESSORIES						
Cold Weather Pack (Block and Trans Heater 110V)		710206		-	-	-
Cold Weather Pack (Block and Trans Heater 240V)		719106	X	X	X	X
Fuel Cooler (4 Cyl)		719831	X	X	X	X
lockable Def and Fuel Cap		718221	X	X	X	X
MECHANICAL REAR REMOTES						
Additional remote from 2 to 3 (non configurable)		718715	X	X	X	X
Additional remote from 3 to 4 (non configurable)		710020	X	X	X	X
ELECTRIC REAR REMOTES						
Additional remote from 1 to 2		719411	X	X	X	X
DETENT KITS (for Non-Configurable Rear Mechanical Remotes)						
Permanent dentent kit for single RCV spool (close centre valves)		710362	X	X	X	X
Zero detent kit single RCV spool (close centre valves)		718362	X	X	X	X
Zero detent kit single (plus float) RCV spool (close centre valves)		719362	X	X	X	X
FREE OIL RETURN						
Hydraulic Free Flow Return pipe Kit		719979	X	X	X	X
Hydraulic Free Flow Return pipe Kit For FHPL		731244	X	X	X	X
Hydraulic Power beyond Slice with Flat face couplers		719143	X	X	X	X
MID MOUNT VALVES						
Electronic Mid Mount valve kit (1 Slice)		718223	X	X	X	X
Electronic Mid Mount valve kit (2 Slice)		719763	X	X	X	X
Electronic Mid Mount valve kit (3 Slice)		718229	X	X	X	X
ELECTRONIC JOYSTICKS						
JOYSTICK 3 BUTTON		719301	X	X	X	X
PROPORTIONAL JOYSTICK		719300	X	X	X	X
ADV JOYSTICK 3RD FUNCTION		731183	X	X	X	X
ADV JOYSTICK PROP FUNCTION		731184	X	X	X	X
HYDRAULIC TRAILER BRAKES						
Hydraulic Trailer Brake 2 Dual Line - Triple Piloting		731136	X	X	X	X
CUNA single Line		731137	X	X	X	X **Incompatible with front axle w/brakes;**
PNEUMATIC TRAILER BRAKES						
PNEUMATIC AIR BRAKE BASE KIT (Used with all finishing kits) + 12KPH SHUTTLE VALVE + ISO 7638		731071	X	X	X	X
UNIVERSAL PNEUMATIC AIR BRAKE FINISHING KIT		731246	X	X	X	X
UK PNEUMATIC AIR BRAKE FINISHING KIT		731247	X	X	X	X
REAR LINKAGE						
Hydraulic Top Link CAT2		719790	X	X	X	X **Require at least 3 rear remotes**
Hydraulic Top Link CAT3N		731248	X	X	X	X **Require at least 3 rear remotes**
LOADER (not include mmv and joystick)						
EUROPEAN FRONT LOADER BRACKET (STOLL)		718195	X	X	X	X towers and grill guard; **if not factory fitted the DIA 718086 SIDE RAILS is required;**
EUROPEAN SIDE RAILS		718086	X	X	X	X
PIPE KITS FOR MID MOUNT TO LOADER						
PIPES KIT FOR LOADER READY ELECTROHYDRAULIC MID MOUNT VALVE		718239	X	X	X	X
PIPES KIT FOR LIFE 3RD FUNCTION		731293	X	X	X	X
FRONT HPL AND PTO (for std. and susp. front axles)						
FHPL		731220	X	X	X	X
PTO W/FHPL		718273	X	X	X	X If tractor is already fitted with FHPL
FHPL & PTO		731221	X	X	X	X
LOWER LINKS CAT2		731242	X	X	X	X
LOWER LINKS CAT3N		731243	X	X	X	X
FRONT COUPLERS						
LH FRONT COUPLERS		718036	X	X	X	X
RH FRONT COUPLERS		718824	X	X	X	X
PIPE KITS FOR FHPL & PTO + FRONT COUPLERS						
PIPES KIT FOR FHPL REAR REMOTES VALVE		731222	X	X	X	X
PIPES KIT FOR FHPL ELECTROHYDRAULIC MID MOUNT VALVE		731223	X	X	X	X
PIPES KIT REAR REMOTES FOR LH FRONT COUPLERS		731224	X	X	X	X
PIPES KIT ELECTROHYDRAULIC MID MOUNT VALVE LH FRONT COUPLERS		731226	X	X	X	X
PIPES KIT ELECTROHYDRAULIC MID MOUNT VALVE RH FRONT COUPLERS		731227	X	X	X	X
7 PIN SOCKET ON FHPL SUPPORT & 3-PIN POWER SPCKET (40Amp)						
7 PIN SOCKET ON FHPL SUPPORT & 3-PIN POWER SPCKET (40Amp)		718966	X	X	X	X only in combination with FHPL DIA
FHPL ACCESSORIES						
ISOBUS 11783 MOUNTED ON FHPL		731161	X	X	X	X Rear ISOBUS Socket need to be present from Factory or DIA 719344 for rear socket need to be ordered as well
FHPL brackets to carry the springs for mowing application		731229	X	X	X	X
FRONT AND REAR WEIGHTS						
FRONT WEIGHT PACK W/ 10 PLTS (400Kg)		710227160	X	X	X	X
FRONT BALLAST MONOLITIC (600 kg)		718900080	X	X	X	X
REAR BALLAST (4 PLTS) (200 kg)		710471360	X	X	X	X
REAR BALLAST (6 PLTS) (300 kg)		718471070	X	X	X	X
FRONT FENDER						
DYNAMIC FRONT FENDERS (WIDTH=400mm) 4WD		718487	X	X	X	X
DYNAMIC FRONT FENDERS (WIDTH=480mm) 4WD		718826	X	X	X	X
REAR HITCHES AND DRAWBAR						
SWINGING DRAWBAR W/ 33 mm HOLE		719807	X	X	X	X **Incompatible with K80 welded**
SWINGING DRAWBAR W/ 29 mm HOLE		718913	X	X	X	X **Incompatible with K80 welded**
CAT. 'C' TRAILER HITCH		719932	X	X	X	X
CAT. 'D2' TRAILER HITCH		719932	X	X	X	X
CAT. 'D3' TRAILER HITCH		719947	X	X	X	X
Steering guides for K80 ball hitch		710534	X	X	X	X **Require K80 welded hitch;** K50 balls steering guides in addition to K80 ball hitch;
K80 ball drawbar -for Hyd APUH		710535	X	X	X	X
ROTARY BEACON						
1 BEACON RH DRIVE		718971	X	X	X	X
1 BEACON LH DRIVE		719639	X	X	X	X
2 BEACON		719622	X	X	X	X
MUNICIPALITY BEACON		731170	X	X	X	X
WORKLIGHTS & HEADLIGHTS						
Front headlights kit for top of sidelights LH dip NH		710177	X	X	X	X
Front headlights kit for top of sidelights RH dip NH		718177	X	X	X	X
2 x additional worklight for under side lights NH		710768	X	X	X	X
2 x worklamps on "C" Pillar NH		719766	X	X	X	X
INSTRUMENTS & PERFORMANCE MONITORS						
Bracket for mounting equipment monitors ('baler bar')		710686	X	X	X	X
Mounting bracket and harness for mounting FRED (includes 'baler bar' mounting bracket and harness--does not include screen)		719343	X	X	X	X
Isobus Harness and Socket for vehicles with FRED screens		719344	X	X	X	X
ELECTRICAL SOCKETS						
30A implement socket front of cab (inside)		719774	X	X	X	X
SEATS						
Instructional Seat with belt BASE MATERIAL(includes warning decal for NAR) NH		710036	X	X	X	X
Instruction seat with belt (NEW FABRIC – NH)(includes warning decal for NAR)		718248	X	X	X	X
CAB & PLATFORM						
Telescopic arms for Rear view Mirror (conversion kit - does not contain mirrors)		718794	X	X	X	X
Wide view internal mirror		719876	X	X	X	X
Sunshade for rear window		719570	X	X	X	X
LH rear cab storage box		716577	X	X	X	X
MISCELLANEOUS						
Reverse Alarm		719161	X	X	X	X
APUH viewing mirror		710960	X	X	X	X