SERVICE MANUAL

Boomer™ 3040 CVT / Boomer™ 3045 CVT / Boomer™ 3050 CVT

Compact Tractor

PIN ZCMB11001 and above

Part number 48080061
2nd edition English
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NEW HOLLAND AGRICULTURE

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Link Product / Engine

Product	Market Product	Engine
Boomer™ 3040 CVT [ZCMB11001 -]	North America	N844
Boomer™ 3040 CVT [ZDMB11925 -]	North America	N844
Boomer™ 3045 CVT [ZCMB11001 -]	North America	N844L
Boomer™ 3045 CVT [ZDMB11925 -]	North America	N844L
Boomer™ 3050 CVT [ZCMB11001 -]	North America	N844L
Boomer™ 3050 CVT [ZDMB11925 -]	North America	N844L

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Spindle drive - Troubleshooting

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Boomer™ 3050 CVT	NA

Problem	Possible Cause	Correction
Loose Spindle	Worn bushing.	Replace bushing.
	Worn spindle shaft	Replace spindle shaft.
	Worn or damaged thrust bearing.	Replace thrust bearing.

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Fixed displacement pump - General specification

Boomer™ 3040 CVT	NA
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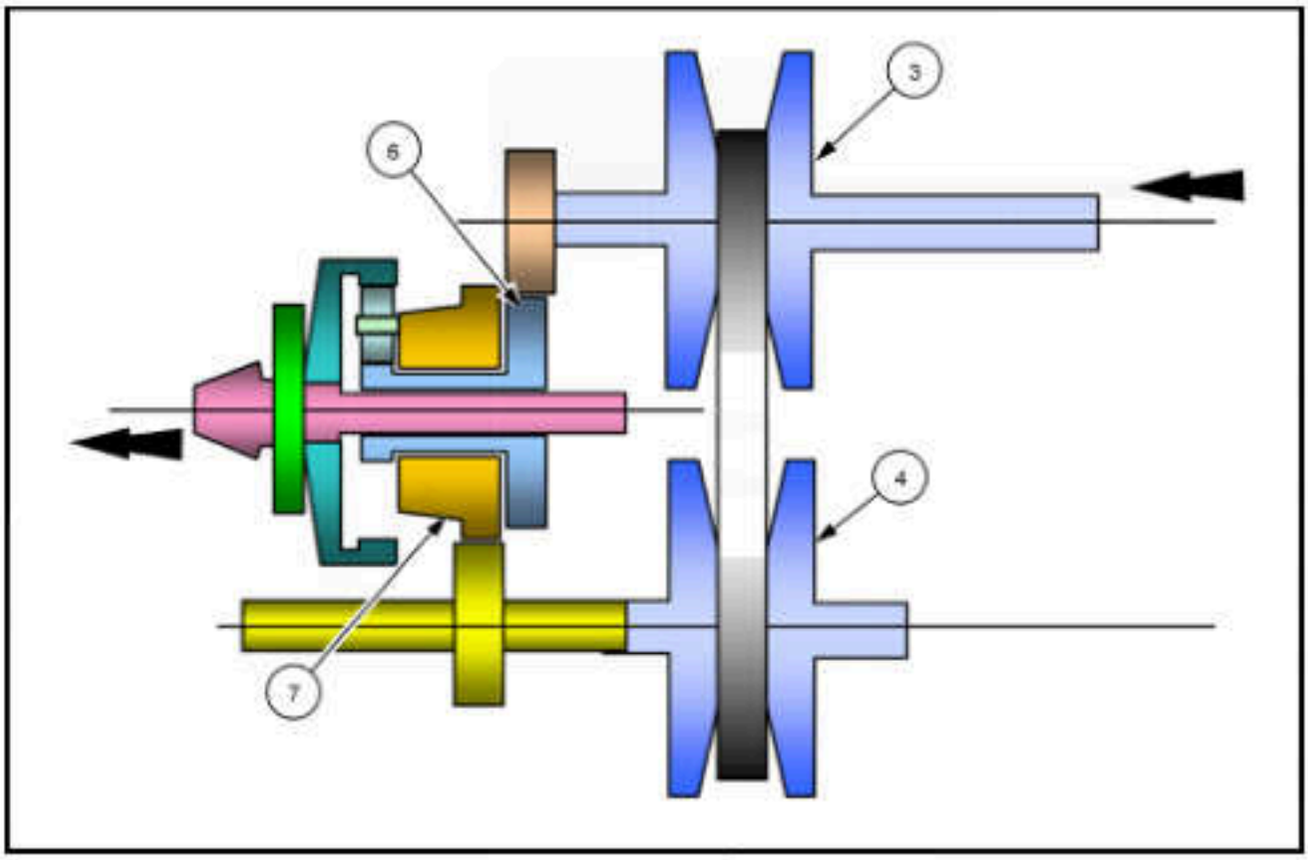
PUMP	
Type	Gear type, drawing oil from transmission housing.
Location	On the RH side of the engine.
Mounting	Fitted on engine timing case and driven by timing gears.
Drive	Engine timing gears.
Rotation (from drive end)	Clockwise.
Max. speed (with engine running at max. power rated speed RPM	**2600 RPM — 29.4 kW (40.0 Hp)** and **33.1 kW (45.0 Hp)** units **2800 RPM — 36.8 kW (50.0 Hp)** units
Corresponding normal flow rate-L/min (US gal/min)	**37.1 l (10 US gal) — 29.4 kW (40.0 Hp)** and **33.1 kW (45.0 Hp)** units **39.8 l (11 US gal) — 36.8 kW (50.0 Hp)** units
Max - Pressure — kpa (psi)	**17200 kPa (2495 psi)**

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Variator Assembly

The variator assembly **(2)** is an electro-hydraulically controlled variable speed transmission. The variator assembly consists of a gerotor style fixed displacement hydraulic pump, input drive pulley, output driven pulley, drive chain and mechanical torque sensor. The fixed displacement gerotor pump produces the oil flow for the complete transmission system except for the Forward/Reverse clutch which oil is supplied by the power steering hydraulic pump. The throat of the input and output pulleys are adjusted simultaneously by the use of both hydraulic and spring pressure to set the desired speed of the transmission. The driven output pulley also incorporates a mechanical torque sensor that acts similar to a mechanical governor. As the torque sensor senses torque rise it adjusts and increases the pressure to the input (P1) **(3)** and the output (P2) **(4)** pulleys to compensate and apply more force to the variator assembly. If the torque load increase to the point where the variator cannot hold the chain assembly safely, the transmission logic will dump the Forward/Reverse clutches and the unit will lose drive pressure, similar to blowing a pressure relief valve in a hydrostatic transmission.

Planetary Reduction

The planetary reduction **(5)** uses the speed from the input pulley assemblies to control the sun gear **(6)** and carrier **(7)**. By controlling the speed at which the sun gear turns in comparison to the carrier, we can reduce the high speed revolutions of the variator assembly to a usable drive piniion ratio. The drive pinion is the direct out put of the planetary assembly.

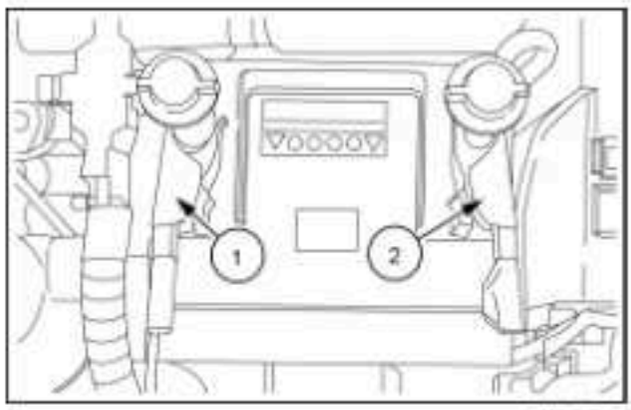
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Electrical system - Electrical test Relative compression test using DATAR

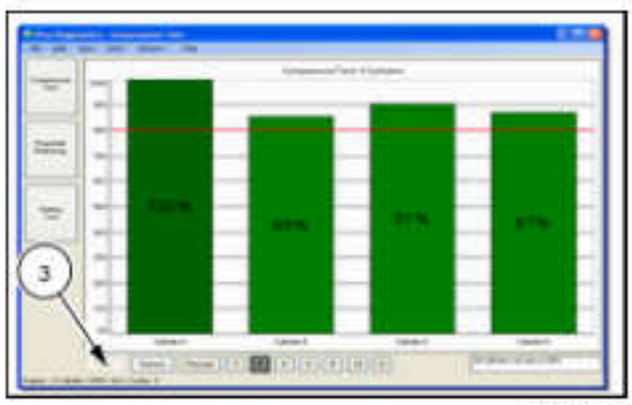
Boomer™ 3040 CVT	NA
Boomer™ 3045 CVT	NA
Boomer™ 3050 CVT	NA

The compression test is meant to be a first check. If the compression looks good, you can move on and investigate other components which might cause the fault. If the test detects a low cylinder, you should perform a manual compression test to verify the results.

1. Connect one end of the general BNC cables to channel A on the oscilloscope. On the other end, connect the large red alligator clip **(1)** to the red battery positive (+) cable, and the black clip **(2)** to the battery negative (-) cable.



2. Select the number of cylinders corresponding in the engine. To start the test, click the Start button **(3)** in the lower left corner. A new window with a progress indicator will appear. Wait until the message in the window is "Crank Engine". Crank the engine until the progress indicator reaches 100%.



NOTE: *In relative compression mode, the result is always scaled to show the highest cylinder at 100%. The bars are ordered according to the engine's firing order. The cylinders are names A, B, C and so on. With only a connection to the battery the software has no way of knowing which cylinder is number one. This may cause the result to be shifted if you run the test on the same engine more than once.*

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BOOMER 3040, 3045 AND 3050 COMPACT TRACTORS WITH CVT TRANSMISSION AND CAB

47431072

ELECTRICAL SCHEMATIC

2012 PRODUCTION

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COLOR ABBREVIATIONS

ABBREVIATION	COLOR
R	RED
T	TAN
W	WHITE
Y	YELLOW
B	BLACK
BR	BROWN
G	GREY
O	ORANGE
P	PINK
V	VIOLET (PURPLE)
DB	DARK BLUE
LB	LIGHT BLUE
DG	DARK GREEN
LG	LIGHT GREEN

NOTES:
1. FOR ELECTRICAL SYSTEM INSTRUCTIONS SEE ES-47084
2. DIAGRAM SHOWN WITH VEHICLE PARKED, POWER OFF, ALL CONTROLS IN NEUTRAL AND PARK BRAKE SET.

WIRE SIZE CHART

Square mm	AWG
0.5	20
0.8	18
1.0	16
2.0	14
3.0	12
5.0	10
8.0	8

WIRE HARNESS NAME

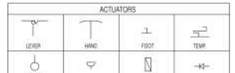
ABBREVIATION	HARNESS
HM	MAIN
HC	CHASSIS
HP	PANEL
HH	HOOD
HB	BATTERY CABLE
HR	ROOF

WIRING REFERENCES



CIRCUIT DIAGRAM LEGENDS

ACTUATORS



HOUSINGS



CONTACT CONFIGURATIONS



MISCELLANEOUS SYMBOLS



