

# SUMMARY OF OECD TEST 2411-NEBRASKA SUMMARY 693

## AGCO RT 110A DIESEL

### 24 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1084 rpm)</b>					
116.9 (87.1)	2200	7.58 (28.68)	0.462 (0.281)	15.42 (3.04)	
<b>Standard Power Take-off Speed(1000 rpm)</b>					
137.5 (102.5)	2030	7.93 (30.00)	0.410 (0.250)	17.35 (3.42)	
<b>Maximum Power (1 hour)</b>					
141.3 (105.4)	1900	7.80 (29.51)	0.393 (0.239)	18.12 (3.57)	

#### VARYING POWER AND FUEL CONSUMPTION

116.9 (87.1)	2200	7.58 (28.68)	0.462 (0.281)	15.42 (3.04)	Air temperature
99.9 (74.5)	2215	6.99 (26.47)	0.498 (0.303)	14.30 (2.82)	72°F (22°C)
74.8 (55.8)	2221	5.83 (22.06)	0.554 (0.337)	12.84 (2.53)	Relative humidity
50.2 (37.4)	2231	4.53 (17.14)	0.643 (0.391)	11.07 (2.18)	47%
25.2 (18.8)	2240	3.28 (12.43)	0.926 (0.563)	7.68 (1.51)	Barometer
--	2247	2.21 (8.37)	--	--	30.4" Hg (103.0 kPa)

Maximum Torque - 445.8 lb.-ft. (604.4 Nm) at 1400 rpm  
 Maximum Torque Rise - 59.9%  
 Torque rise at 1750 engine rpm - 51%

#### DRAWBAR PERFORMANCE (Unballasted - Front Drive Engaged) FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—12th(3A) Gear</b>									
89.3 (66.6)	6140 (27.3)	5.45 (8.78)	2199	3.5	0.543 (0.330)	13.06 (2.57)	181 (83)	46 (8)	30.2 (102.3)
<b>75% of Pull at Maximum Power—12th(3A) Gear</b>									
68.1 (50.8)	4610 (20.5)	5.54 (8.92)	2208	2.3	0.593 (0.361)	11.96 (2.36)	180 (82)	46 (8)	30.2 (102.3)
<b>50% of Pull at Maximum Power—12th(3A) Gear</b>									
46.0 (34.3)	3075 (13.7)	5.61 (9.03)	2223	1.7	0.687 (0.418)	10.31 (2.03)	180 (82)	46 (8)	30.2 (102.3)
<b>75% of Pull at Reduced Engine Speed—14th(3B) Gear</b>									
68.1 (50.8)	4585 (20.4)	5.57 (8.96)	1850	2.7	0.511 (0.311)	13.89 (2.74)	178 (81)	46 (8)	30.2 (102.3)
<b>50% of Pull at Reduced Engine Speed—14th(3B) Gear</b>									
45.6 (34.0)	3050 (13.6)	5.61 (9.03)	1850	2.0	0.588 (0.358)	12.06 (2.38)	178 (81)	46 (8)	30.2 (102.3)

**Location of tests:** Groupement d'Antony, Parc de Touvoise, BP 44 Antony, France 92163

**Dates of tests:** November 2007 - January 2008  
 Cab sound tests - March 31, 2010

**Manufacturer:** AGCO S.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.855  
**Fuel weight** 7.12 lbs/gal (0.853 kg/l) **Oil SAE** 15W40 **API service classification** CH4  
**Transmission and hydraulic lubricant** BP Terrac Tractan 9 10W/40 **Front axle lubricant** BP Terrac Tractan 9 10W/40

**ENGINE:** Make Sisu Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler  
**Serial No.** T09020 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.252" x 4.724" (108.0 mm x 120.0 mm) **Compression ratio** 18.5 to 1 **Displacement** 402 cu in (6596 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

**CHASSIS:** **Type** front wheel assist **Serial No.** S127019 **Tread width** rear 54.1" (1375 mm) to 86.8" (2205 mm) front 62.9" (1597 mm) to 80.0" (2033 mm) **Wheelbase** 109.4" (2780 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (6) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.01 (1.62) second 1.21 (1.95) third 1.42 (2.29) fourth 1.71 (2.75) fifth 2.01 (3.24) sixth 2.42 (3.90) seventh 2.73 (4.39) eighth 3.27 (5.27) ninth 3.85 (6.19) tenth 4.63 (7.45) eleventh 5.44 (8.76) twelfth 5.54 (8.91) thirteenth 6.55 (10.54) fourteenth 6.66 (10.71) fifteenth 7.81 (12.57) sixteenth 9.40 (15.13) seventeenth 11.05 (17.79) eighteenth 12.77 (20.55) nineteenth 13.30 (21.41) twentieth 15.35 (24.70) twenty-first 18.02 (29.00) twenty-second 21.68 (34.89) twenty-third 24.86 (40.00) twenty-fourth 24.86 (40.00) reverse 1.01 (1.62), 1.21 (1.95), 1.42 (2.29), 1.71 (2.75), 2.01 (3.24), 2.42 (3.90), 2.73 (4.39), 3.27 (5.27), 3.85 (6.19), 4.63 (7.45), 5.44 (8.76), 5.54 (8.91), 6.55 (10.54), 6.66 (10.71), 7.81 (12.57), 9.40 (15.13), 11.05 (17.79), 12.77 (20.55), 13.30 (21.41), 15.35 (24.70), 18.02 (29.00), 21.68 (34.89), 24.86 (40.00), 24.86 (40.00)

**DRAWBAR PERFORMANCE**  
**(Unballasted - Front Drive Engaged)**  
**MAXIMUM POWER IN SELECTED GEARS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crankshaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cooling med	Air dry bulb	Barom. inch Hg (kPa)
3th(1C) Gear									
41.8 (31.2)	12680 (56.4)	1.24 (1.99)	2203	15.0	0.759 (0.462)	9.34 (1.84)	178 (81)	43 (6)	30.2 (102.3)
4th(1D) Gear									
50.7 (37.8)	12635 (56.2)	1.50 (2.42)	2203	14.5	0.707 (0.430)	10.04 (1.98)	178 (81)	43 (6)	30.2 (102.3)
5th(1E) Gear									
59.1 (44.1)	12555 (55.8)	1.77 (2.84)	2202	13.9	0.678 (0.412)	10.47 (2.06)	178 (81)	45 (7)	30.2 (102.3)
6th(1F) Gear									
73.2 (54.6)	12320 (54.8)	2.23 (3.59)	2197	9.7	0.610 (0.371)	11.62 (2.29)	178 (81)	45 (7)	30.2 (102.3)
7th(2A) Gear									
81.1 (60.5)	12530 (55.7)	2.43 (3.89)	2186	12.2	0.573 (0.348)	12.39 (2.44)	178 (81)	45 (7)	30.2 (102.3)
8th(2B) Gear									
98.4 (73.4)	12400 (55.2)	2.98 (4.79)	2160	10.0	0.531 (0.323)	13.35 (2.63)	180 (82)	45 (7)	30.2 (102.3)
9th(2C) Gear									
103.1 (76.9)	11295 (50.2)	3.42 (5.50)	2112	7.0	0.505 (0.307)	14.06 (2.77)	171 (77)	45 (7)	30.2 (102.3)
10th(2D) Gear									
107.1 (79.9)	9610 (42.7)	4.18 (6.73)	2056	4.9	0.480 (0.292)	14.77 (2.91)	180 (82)	45 (7)	30.2 (102.3)
11th(2E) Gear									
105.3 (78.5)	8565 (38.1)	4.61 (7.42)	1912	4.5	0.461 (0.281)	15.38 (3.03)	180 (82)	46 (8)	30.2 (102.3)
12th(3A) Gear									
125.0 (93.2)	10205 (45.4)	4.59 (7.39)	1902	6.1	0.448 (0.272)	15.84 (3.12)	181 (83)	46 (8)	30.2 (102.3)
13th(2F) Gear									
103.1 (76.9)	6950 (30.9)	5.56 (8.95)	1899	3.3	0.468 (0.285)	15.16 (2.99)	180 (82)	46 (8)	30.2 (102.3)
14th(3B) Gear									
126.2 (94.1)	8430 (37.5)	5.61 (9.03)	1904	4.2	0.444 (0.270)	15.99 (3.15)	183 (84)	46 (8)	30.2 (102.3)
15th(3C) Gear									
127.0 (94.7)	7240 (32.2)	6.58 (10.59)	1899	3.9	0.438 (0.267)	16.18 (3.19)	185 (85)	46 (8)	30.2 (102.3)
*16th(3D) Gear									
124.7 (93.0)	5975 (26.6)	7.83 (12.60)	1899	3.8	0.448 (0.272)	15.84 (3.12)	183 (84)	46 (8)	30.2 (102.3)
*17th(3E) Gear									
121.5 (90.6)	4915 (21.9)	9.27 (14.92)	1904	3.3	0.459 (0.279)	15.44 (3.04)	187 (86)	46 (8)	30.2 (102.3)

\* Front Drive Disengaged

**Clutch** multiple wet disc operated by foot pedal  
**Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together  
**Steering** hydrostatic **Power take-off** 540 rpm at 1976 engine rpm or 1000 rpm at 2030 engine rpm  
**Unladen tractor mass** 14725 lb (6680 kg)

**NOTE 1:** The performance figures on this report are the result of replacing the electronic engine control module of the AGCO RT 120A with the AGCO RT 110A module.

**NOTE 2:** The engine on this tractor is electronically controlled to give 2 power levels. A "boosted" level is available when the PTO is engaged, tractor stationary, and when the tractor is operated in ranges 3 and 4.

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2411**, Nebraska Summary 693, May 5, 2010.

Roger M. Hoy  
 Director

M.F. Kocher  
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 J.A. Smith  
 Board of Tractor Test Engineers

**TIRES, BALLAST AND WEIGHT**

**Rear Tires** - No., size, ply & psi(kPa)  
**Front Tires** - No., size, ply & psi(kPa)  
**Height of Drawbar**  
**Static Weight with operator** - Rear  
 - Front  
 - Total

**Tested without ballast**

Two 480/80R42;\*\*,14(100)  
 Two 16.9R28;\*\*,16 (110)  
 23.6 in (600 mm)  
 8915 lb (4045 kg)  
 5975 lb (2710 kg)  
 14890 lb (6755 kg)

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 10th (2D) gear	68.8	68.2
Bystander		--

### HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	8810 lbs (39.2 kN)
i) Sustained pressure of the open relief valve:	2840 psi (196 bar)
ii) Pump delivery rate at minimum pressure:	29.5 GPM (111.7 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	27.2 GPM (102.8 l/min)
Delivery pressure:	2265 psi (156 bar)
Power:	35.9 HP (26.7 kW)

	OECD test		SAE test	
	inch	mm	inch	mm
A	28.7	730	28.1	715
B	11.6	295	11.6	295
C	13.9	354	13.9	354
D	13.0	330	13.0	330
E	7.9	200	11.4	290
F	11.0	280	11.0	280
G	34.4	875	34.4	875
H	1.7	43	1.7	43
I	15.3	389	15.3	389
J	23.4	595	23.4	595
K	21.4	544	21.4	544
L	43.5	1104	43.5	1104
M	24.8	629	24.8	629
N	37.1	943	37.1	943
O	8.1	207	10.8	275
P	47.4	1205	42.4	1077
Q	37.1	942	38.0	965
R	29.9	760	28.7	730

### THREE POINT HITCH PERFORMANCE SAE Test

Observed Maximum Pressure psi. (bar)	2840 (196)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	154 (68)
Location:	hydraulic sump
Category:	II
Quick attach:	None

#### SAE Static Test—System pressure 2560 psi (176 bar)

Hitch point distance to ground level in. (mm)	10.8 (275)	16.2 (411)	21.7 (552)	27.4 (695)	33.0 (837)	38.0 (965)
Lift force on frame lb	11395	11285	11240	11015	10565	9845
" " " " " " (kN)	(50.7)	(50.2)	(50.0)	(49.0)	(47.0)	(43.8)

