Product: New Holland RG140.B/RG170.B/RG200.B Motor Grader Service Repair Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-rg140-b-rg170-b-rg200-b-motor-grader-service-repair-manual/

SERVICE MANUAL

RG140.B / RG170.B / RG200.B

Motor Grader

Part number 48050423
English
January 2017

Sample of manual. Download All 1143 pages at:
https://www.arepairmanual.com/downloads/new-holland-rg140-b-rg170-b-rg200-b-motor-grader-service-repair-manual/

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Product: New Holland RG140.B/RG170.B/RG200.B Motor Grader Service Repair Manual
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NEW HOLLAND
CONSTRUCTION

SERVICE MANUAL

RG140.B
RG170.B
RG200.B

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Link Product / Engine

Product	Market Product	Engine
RG140.B Acionamento direto TIER 3 [HBZN0140TAF02301 -]	Latin America	F4HE9687W*J101
RG140.B Transmissão do conversor de torque, TIER 3 [NAAF08001 -]	Latin America	F4HE9687W*J101
RG170.B Transmissão do conversor de torque, TIER 3 [NAAF09000 -]	Latin America	F4HE9687C*J100
RG200.B Transmissão do conversor de torque, TIER 3 [HBZN0200TBAF00511 -]	Latin America	F4HE9687K*J105
RG200.B Transmissão do acionamento direto, TIER 3 [NAAF11000 -]	Latin America	F4HE9684L*J100

Contents

INTRODUCTION

Contents

INTRODUCTION

(*) See content for specific models

Safety rules - Batteries

RG140.B	LA
RG170.B	LA
RG200.B	LA

⚠ WARNING

Improper operation or service of this machine can result in an accident.
Before working on any component(s) of the electrical circuit, put the starter switch key in the off (shut down) position. When disconnecting batteries, always disconnect the negative (-) cable first. When reconnecting batteries, always connect the negative (-) cable last.
Failure to comply could result in death or serious injury.

W0264A

⚠ WARNING

Electrical shock hazard!
Before working on any part of the electrical system, disconnect the battery ground cable. Complete all electrical work before connecting the cable.
Failure to comply could result in death or serious injury.

W0129A

⚠ WARNING

Battery gas can explode!
To prevent an explosion: 1. Always disconnect the negative (-) battery cable first. 2. Always connect the negative (-) battery cable last. 3. Do not short circuit the battery posts with metal objects. 4. Do not weld, grind, or smoke near a battery.
Failure to comply could result in death or serious injury.

W0011A

⚠ WARNING

Explosion hazard!
When jump-starting the machine, connect and disconnect the jumper cables exactly as indicated in this manual. DO NOT connect the jumper cables to the machine battery terminals. Make sure no persons are near the connecting points before starting the engine. Start the engine from the operator's seat.
Failure to comply could result in death or serious injury.

W0342A

⚠ WARNING

Explosive gas!
Batteries emit explosive hydrogen gas and other fumes while charging. Ventilate the charging area. Keep the battery away from sparks, open flames, and other ignition sources. Never charge a frozen battery.
Failure to comply could result in death or serious injury.

W0005A

⚠ WARNING

Hazardous chemicals!
Battery electrolyte contains sulfuric acid. Contact with skin and eyes could result in severe irritation and burns. Always wear splash-proof goggles and protective clothing (gloves and aprons). Wash hands after handling.
Failure to comply could result in death or serious injury.

W0006A

⚠ WARNING

Battery gas can explode!
To prevent an explosion: 1. Always disconnect the negative (-) battery cable first. 2. Always connect the negative (-) battery cable last. 3. Do not short circuit the battery posts with metal objects. 4. Do not weld, grind, or smoke near a battery.
Failure to comply could result in death or serious injury.

W0011A

⚠ WARNING

Explosion hazard!
If battery electrolyte is frozen, attempting to charge the battery or jump-start the engine can cause the battery to explode. Always keep batteries at full charge to prevent frozen battery electrolyte. Never charge a frozen battery.
Failure to comply could result in death or serious injury.

W0203A

⚠ WARNING

Improper operation or service of this machine can result in an accident.
An error connecting auxiliary starting cables or short-circuiting battery terminals can cause an accident. Connect auxiliary starting cables as instructed in this manual.
Failure to comply could result in death or serious injury.

W0263A

⚠ WARNING

Explosion hazard!
Batteries emit explosive gases. Always ventilate when using in an enclosed area or when charging. Keep the battery away from sparks, open flames, and other ignition sources.
Failure to comply could result in death or serious injury.

W0369A

⚠ WARNING

Eye injury hazard!
Wear eye protection when jump-starting the machine and when charging the battery.
Failure to comply could result in death or serious injury.

W0382A

⚠ WARNING

Chemical hazard!
Battery acid can cause severe burns. Some batteries have a ventilation tube. If there is battery acid in the tube, this acid can be released when the battery is turned upside down. If you turn the battery upside down, point the ventilation tube away from you and any other people in the area.
Failure to comply could result in death or serious injury.

W1084A

Safety rules

RG140.B	LA
RG170.B	LA
RG200.B	LA

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual and on machine safety signs, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

⚠ DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.

⚠ WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury. The color associated with WARNING is ORANGE.

⚠ CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine damage or property damage. The color associated with Notice is BLUE.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine damage or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Torque - Minimum tightening torques for normal assembly

RG140.B	LA
RG170.B	LA
RG200.B	LA

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

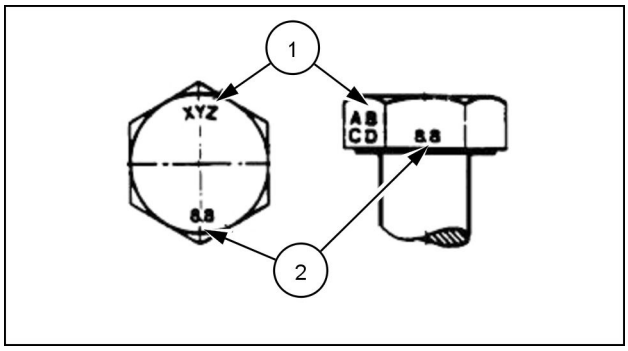
NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

METRIC FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.4 N·m (21 lb in)	3.2 N·m (28 lb in)	3.5 N·m (31 lb in)	4.6 N·m (41 lb in)	2.2 N·m (19 lb in)	3.1 N·m (27 lb in)
M5	4.9 N·m (43 lb in)	6.5 N·m (58 lb in)	7.0 N·m (62 lb in)	9.4 N·m (83 lb in)	4.4 N·m (39 lb in)	6.4 N·m (57 lb in)
M6	8.3 N·m (73 lb in)	11 N·m (96 lb in)	12 N·m (105 lb in)	16 N·m (141 lb in)	7.5 N·m (66 lb in)	11 N·m (96 lb in)
M8	20 N·m (179 lb in)	27 N·m (240 lb in)	29 N·m (257 lb in)	39 N·m (343 lb in)	18 N·m (163 lb in)	27 N·m (240 lb in)
M10	40 N·m (30 lb ft)	54 N·m (40 lb ft)	57 N·m (42 lb ft)	77 N·m (56 lb ft)	37 N·m (27 lb ft)	53 N·m (39 lb ft)
M12	70 N·m (52 lb ft)	93 N·m (69 lb ft)	100 N·m (74 lb ft)	134 N·m (98 lb ft)	63 N·m (47 lb ft)	91 N·m (67 lb ft)
M16	174 N·m (128 lb ft)	231 N·m (171 lb ft)	248 N·m (183 lb ft)	331 N·m (244 lb ft)	158 N·m (116 lb ft)	226 N·m (167 lb ft)
M20	350 N·m (259 lb ft)	467 N·m (345 lb ft)	484 N·m (357 lb ft)	645 N·m (476 lb ft)	318 N·m (235 lb ft)	440 N·m (325 lb ft)
M24	607 N·m (447 lb ft)	809 N·m (597 lb ft)	838 N·m (618 lb ft)	1118 N·m (824 lb ft)	552 N·m (407 lb ft)	

IDENTIFICATION

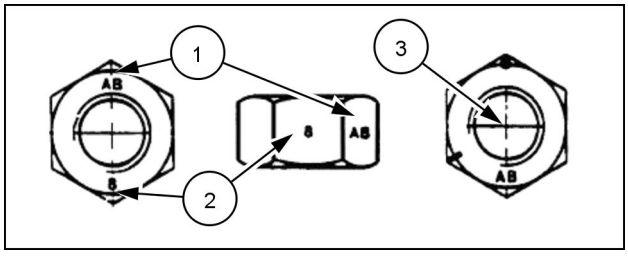
Metric Hex head and carriage bolts, classes 5.6 and up



20083680 1

1. Manufacturer's Identification
2. Property Class

Metric Hex nuts and locknuts, classes 05 and up



20083681 2

1. Manufacturer's Identification
2. Property Class
3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60°** apart indicate Class 10 properties, and marks **120°** apart indicate Class 8.

INCH NON-FLANGED HARDWARE

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**8 N·m (71 lb in)**	**11 N·m (97 lb in)**	**12 N·m (106 lb in)**	**16 N·m (142 lb in)**	**8.5 N·m (75 lb in)**	**12.2 N·m (109 lb in)**
5/16	**17 N·m (150 lb in)**	**23 N·m (204 lb in)**	**24 N·m (212 lb in)**	**32 N·m (283 lb in)**	**17.5 N·m (155 lb in)**	**25 N·m (220 lb in)**
3/8	**30 N·m (22 lb ft)**	**40 N·m (30 lb ft)**	**43 N·m (31 lb ft)**	**57 N·m (42 lb ft)**	**31 N·m (23 lb ft)**	**44 N·m (33 lb ft)**
7/16	**48 N·m (36 lb ft)**	**65 N·m (48 lb ft)**	**68 N·m (50 lb ft)**	**91 N·m (67 lb ft)**	**50 N·m (37 lb ft)**	**71 N·m (53 lb ft)**
1/2	**74 N·m (54 lb ft)**	**98 N·m (73 lb ft)**	**104 N·m (77 lb ft)**	**139 N·m (103 lb ft)**	**76 N·m (56 lb ft)**	**108 N·m (80 lb ft)**
9/16	**107 N·m (79 lb ft)**	**142 N·m (105 lb ft)**	**150 N·m (111 lb ft)**	**201 N·m (148 lb ft)**	**111 N·m (82 lb ft)**	**156 N·m (115 lb ft)**
5/8	**147 N·m (108 lb ft)**	**196 N·m (145 lb ft)**	**208 N·m (153 lb ft)**	**277 N·m (204 lb ft)**	**153 N·m (113 lb ft)**	**215 N·m (159 lb ft)**
3/4	**261 N·m (193 lb ft)**	**348 N·m (257 lb ft)**	**369 N·m (272 lb ft)**	**491 N·m (362 lb ft)**	**271 N·m (200 lb ft)**	**383 N·m (282 lb ft)**
7/8	**420 N·m (310 lb ft)**	**561 N·m (413 lb ft)**	**594 N·m (438 lb ft)**	**791 N·m (584 lb ft)**	**437 N·m (323 lb ft)**	**617 N·m (455 lb ft)**
1	**630 N·m (465 lb ft)**	**841 N·m (620 lb ft)**	**890 N·m (656 lb ft)**	**1187 N·m (875 lb ft)**	**654 N·m (483 lb ft)**	**924 N·m (681 lb ft)**

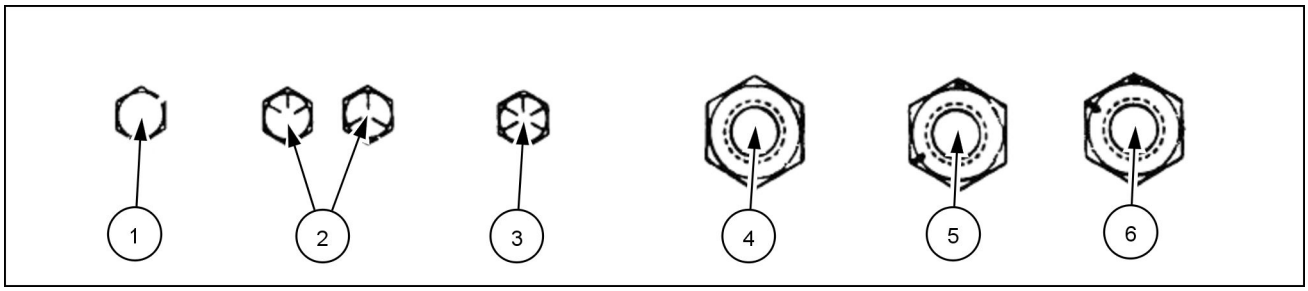
NOTE: *For Imperial Units,* ***1/4 in*** *and* ***5/16 in*** *hardware torque specifications are shown in pound-inches.* ***3/8 in*** *through* ***1 in*** *hardware torque specifications are shown in pound-feet.*

INCH FLANGED HARDWARE

NOM-INAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrF W/ Gr5 BOLT	LOCKNUT GrG W/ Gr8 BOLT
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**9 N·m (80 lb in)**	**12 N·m (106 lb in)**	**13 N·m (115 lb in)**	**17 N·m (150 lb in)**	**8 N·m (71 lb in)**	**12 N·m (106 lb in)**
5/16	**19 N·m (168 lb in)**	**25 N·m (221 lb in)**	**26 N·m (230 lb in)**	**35 N·m (310 lb in)**	**17 N·m (150 lb in)**	**24 N·m (212 lb in)**
3/8	**33 N·m (25 lb ft)**	**44 N·m (33 lb ft)**	**47 N·m (35 lb ft)**	**63 N·m (46 lb ft)**	**30 N·m (22 lb ft)**	**43 N·m (32 lb ft)**
7/16	**53 N·m (39 lb ft)**	**71 N·m (52 lb ft)**	**75 N·m (55 lb ft)**	**100 N·m (74 lb ft)**	**48 N·m (35 lb ft)**	**68 N·m (50 lb ft)**
1/2	**81 N·m (60 lb ft)**	**108 N·m (80 lb ft)**	**115 N·m (85 lb ft)**	**153 N·m (113 lb ft)**	**74 N·m (55 lb ft)**	**104 N·m (77 lb ft)**
9/16	**117 N·m (86 lb ft)**	**156 N·m (115 lb ft)**	**165 N·m (122 lb ft)**	**221 N·m (163 lb ft)**	**106 N·m (78 lb ft)**	**157 N·m (116 lb ft)**
5/8	**162 N·m (119 lb ft)**	**216 N·m (159 lb ft)**	**228 N·m (168 lb ft)**	**304 N·m (225 lb ft)**	**147 N·m (108 lb ft)**	**207 N·m (153 lb ft)**
3/4	**287 N·m (212 lb ft)**	**383 N·m (282 lb ft)**	**405 N·m (299 lb ft)**	**541 N·m (399 lb ft)**	**261 N·m (193 lb ft)**	**369 N·m (272 lb ft)**
7/8	**462 N·m (341 lb ft)**	**617 N·m (455 lb ft)**	**653 N·m (482 lb ft)**	**871 N·m (642 lb ft)**	**421 N·m (311 lb ft)**	**594 N·m (438 lb ft)**
1	**693 N·m (512 lb ft)**	**925 N·m (682 lb ft)**	**979 N·m (722 lb ft)**	**1305 N·m (963 lb ft)**	**631 N·m (465 lb ft)**	**890 N·m (656 lb ft)**

IDENTIFICATION

Inch Bolts and free-spinning nuts

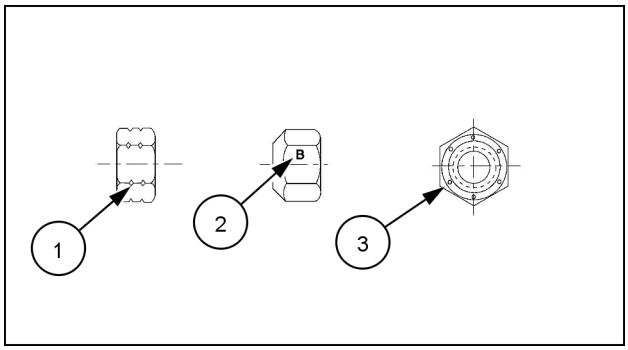


20083682 3

Grade Marking Examples

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks **120°** Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks **60°** Apart

Inch Lock Nuts, All Metal (Three optional methods)



20090268 4

Grade Identification

Grade	Corner Marking Method (1)	Flats Marking Method (2)	Clock Marking Method (3)
Grade A	No Notches	No Mark	No Marks
Grade B	One Circumferential Notch	Letter B	Three Marks
Grade C	Two Circumferential Notches	Letter C	Six Marks

Maintenance chart and Lubrication

RG140.B	LA 6 x 3 torque converter --- LA Tier 1
RG170.B	LA 6 x 3 torque converter --- LA Tier 0 --- LA Tier 2
RG200.B	LA 8 x 8 direct drive --- LA Tier 0 --- LA Tier 2

	SERVICE POINTS	A	B	C	D	E	F
As Required (AR)	Air cleaner (Note 1)	1	AR				
	Hydraulic filter (Note 2)	1	AR				
	Cab Air Filter (if equipped)	1	AR				
	Batteries (See Electrical System)	2					AR
10 hours or daily	Engine oil level (including filters)	1	10				
	Radiator (coolant level) (Note 3)	1	10				
	Transmission Oil Level (warm, engine running) (Transmission)	1	10				
	Differential Lock Oil Filter (if equipped)	1	10				
50 hours or every week	Fuel Reservoir Filter (wash screen)	1					50
	Fuel Water Separator (drain water)	2					50
	Hydraulic tank (complete system)	1	50				
100 hours or every 15 days	Moldboard Lift Cylinder Pivots	4			100		
	Moldboard Lift Cylinders Balls	2			100		
	Moldboard Side Shift Cylinders Balls	2			100		
	Articulation of Tilt Cylinders	2			100		
	Moldboard Tilt Pivots	2			100		
	Articulation Cylinders Pivots	4			100		
	Articulation Bearings	2			100		
	Drawbar Ball and Socket	1			100		
250 hours or every 1 month	Alternator and Air Conditioner Belt	2	250				
	Universal Joints and Drive Shaft	2			250		
	Circle Turn Gearbox Oil Level	1	250				
	Differential Lock Oil Filter (if equipped)	1		250			
	Front Axle Articulation Pin	2			250		
	Front Wheel Lean Bar Pivots	2			250		
	Front Wheel Lean Cylinder Pivots	2			250		
	Front Wheel Knuckle Lean Pivots	4			250		
	Knuckle King Pin Bearings	4			250		
	Moldboard Lift Cylinder Articulation Bearings	2			250		
	Tandem Swing Bearing	2			250		
	Tires Condition and Pressure	6	250				
	Cab Air Filter (if equipped)	1					250
	Steering Bar Ball Joints	4			250		
	Moldboard Articulation Pivots	4			250		
	Moldboard Side Shift Terminal Pivots	2			250		
	Engine Oil and Oil Filter	2		250			
500 hours or every 3 months	Fuel Filters and Water Separator	2		500			
	Fuel Tank Drain Plug (drain sediment)	1					500
	Hydraulic System Oil Filter	1		500			
	Transmission Oil Filter (Note 4) (Transmission)	1		500			
	Transmission Oil Filter (Transmission)	2		500			
	Front Wheel Bearing Grease	2		500			
	Tandem Wheel Shafts Bearings (Graziano)	8			500		
	Tandem Case Oil Level	2	500				
	Rear Axle Differential and Planetary Gear Oil Level (Graziano)	1	500				
	ROPS Fixing Bolts Torque	16				500	
	Seat Belts Fixing Bolts Torque	2				500	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

	SERVICE POINTS	A	B	C	D	E	F
1000 hours or every 6 months	Transmission Screen (Transmission)	1					1000
	Transmission Oil (Note 4) (Transmission)	1		1000			
	Transmission Oil (Transmission)	1		1000			
	Engine Valves Clearance	12				1000	
	Circle Turn Gear Housing Oil	1		1000			
	Alternator and Air Conditioning Belts	2		1000			
	Air Cleaner Elements (See Air Cleaner System)	2		1000			
	Tandem Case Oil	2		1000			
2000 hours or every year	Rear Axle Differential and Planetary Gear Oil (Graziano)	1		2000			
	Hydraulic System Oil (Note 5)	1		2000			
	Engine Coolant	2		2000			
	Turbocharger Fixing Bolts Torque	4				2000	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

ATTENTION: *See* ***Consumables*** *for specifications and detailed capacities about Fluids and Lubricants.*

NOTE: *(1) – Carry out maintenance on the air filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "AIR FILTER".*

NOTE: *(2) – Carry out maintenance on the hydraulic filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "HYDRAULIC FILTER".*

NOTE: *(3) – Check the coolant level in the expansion tank if the main stop display (Critical Warnings – RED) shows "COOLANT LEVEL".*

NOTE: *(4)- Change the transmission fluid and replace the filter after the first 100 hours of operation.*

NOTE: *(5)- Change every 2000 hours or once a year, whichever comes first.*

Maintenance chart and Lubrication

RG140.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP
RG170.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP
RG200.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP

	SERVICE POINTS	A	B	C	D	AND	F
As Required (AR)	Air cleaner (Note 1)	1	AR				
	Hydraulic filter (Note 2)	1	AR				
	Cab Air Filter (if equipped)	1	AR				
	Batteries (See Electrical System)	2					AR
10 hours or daily	Engine oil level (including filters)	1	10				
	Radiator (coolant level) (Note 3)	1	10				
	Transmission Oil Level (warm, engine running) (Transmission 6X3 Torque Converter 8X4 Direct Drive)	1	10				
	Differential Lock Oil Filter (if equipped)	1	10				
50 hours or every week	Fuel Reservoir Filter (wash screen)	1					50
	Fuel Water Separator (drain water)	2					50
	Hydraulic tank (complete system)	1	50				
100 hours or every 15 days	Moldboard Lift Cylinder Pivots	4			100		
	Moldboard Lift Cylinders Balls	2			100		
	Moldboard Side Shift Cylinders Balls	2			100		
	Articulation of Tilt Cylinders	2			100		
	Moldboard Tilt Pivots	2			100		
	Articulation Cylinders Pivots	4			100		
	Articulation Bearings	2			100		
	Drawbar Ball and Socket	1			100		
250 hours or every 1 month	Alternator and Air Conditioner Belt	2	250				
	Universal Joints and Drive Shaft	2			250		
	Circle Turn Gearbox Oil Level	1	250				
	Differential Lock Oil Filter (if equipped)	1		250			
	Front Axle Articulation Pin	2			250		
	Front Wheel Lean Bar Pivots	2			250		
	Front Wheel Lean Cylinder Pivots	2			250		
	Front Wheel Knuckle Lean Pivots	4			250		
	Knuckle King Pin Bearings	4			250		
	Moldboard Lift Cylinder Articulation Bearings	2			250		
	Tandem Swing Bearing	2			250		
	Tires Condition and Pressure	6	250				
	Cab Air Filter (if equipped)	1					250
	Steering Bar Ball Joints	4			250		
	Moldboard Articulation Pivots	4			250		
	Moldboard Side Shift Terminal Pivots	2			250		
500 hours or every 3 months	Fuel Filters and Water Separator	2		500			
	Fuel Tank Drain Plug (drain sediment)	1					500
	Engine Oil and Oil Filter	2		500			
	Hydraulic System Oil Filter	1		500			
	Transmission Oil Filter (Note 4) (Transmission)	1		500			
	Transmission Oil Filter (Transmission)	2		500			
	Front Wheel Bearing Grease	2		500			
	Tandem Wheel Shafts Bearings (Graziano)	8			500		
	Tandem Case Oil Level	2	500				
	Rear Axle Differential and Planetary Gear Oil Level (Graziano)	1	500				
	ROPS Fixing Bolts Torque	16				500	
	Seat Belts Fixing Bolts Torque	2				500	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

	SERVICE POINTS	A	B	C	D	AND	F
1000 hours or every 6 months	Transmission Screen (Transmission)	1					1000
	Transmission Oil (Note 4) (Transmission)	1		1000			
	Transmission Oil (Transmission)	1		1000			
	Engine Valves Clearance	12				1000	
	Circle Turn Gear Housing Oil	1		1000			
	Alternator and Air Conditioning Belts	2		1000			
	Air Cleaner Elements (See Air Cleaner System)	2		1000			
	Tandem Case Oil	2		1000			
2000 hours or every year	Rear Axle Differential and Planetary Gear Oil (Graziano)	1		2000			
	Hydraulic System Oil (Note 5)	1		2000			
	Engine Coolant	2		2000			
	Turbocharger Fixing Bolts Torque	4				2000	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

ATTENTION: *See* ***Consumables*** *for specifications and detailed capacities about Fluids and Lubricants.*

NOTE: *(1) – Carry out maintenance on the air filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "AIR FILTER".*

NOTE: *(2) – Carry out maintenance on the hydraulic filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "HYDRAULIC FILTER".*

NOTE: *(3) – Check the coolant level in the expansion tank if the main stop display (Critical Warnings – RED) shows "COOLANT LEVEL".*

NOTE: *(4)- Change the transmission fluid and replace the filter after the first 100 hours of operation.*

NOTE: *(5)- Change every 2000 hours or once a year, whichever comes first.*

Maintenance chart and Lubrication

RG170.B	LA 8 x 8 direct drive --- LA AWD --- LA Tier 3-VHP
RG200.B	LA 8 x 8 direct drive --- LA AWD --- LA Tier 3-VHP

	SERVICE POINTS	A	B	C	D	E	F
As Required (AR)	Air cleaner (Note 1)	1	AR				
	Hydraulic filter (Note 2)	1	AR				
	Cab Air Filter (if equipped)	1	AR				
	Batteries (See Electrical System)	2					AR
10 hours or daily	Engine oil level (including filters)	1	10				
	Radiator (coolant level) (Note 3)	1	10				
	Transmission oil level (warm, engine running)	1	10				
	Differential Lock Oil Filter (if equipped)	1	10				
50 hours or every week	Fuel Reservoir Filter (wash screen)	1					50
	Fuel Water Separator (drain water)	2					50
	Hydraulic tank (complete system)	1	50				
100 hours or every 15 days	Moldboard Lift Cylinder Pivots	4			100		
	Moldboard Lift Cylinders Balls	2			100		
	Moldboard Side Shift Cylinders Balls	2			100		
	Articulation of Tilt Cylinders	2			100		
	Moldboard Tilt Pivots	2			100		
	Articulation Cylinders Pivots	4			100		
	Articulation Bearings	2			100		
	Drawbar Ball and Socket	1			100		
250 hours or every 1 month	Alternator and Air Conditioner Belt	2	250				
	Universal Joints and Drive Shaft	2			250		
	Circle Turn Gearbox Oil Level	1	250				
	Differential Lock Oil Filter (if equipped)	1		250			
	Front Axle Articulation Pin	2			250		
	Front Wheel Lean Bar Pivots	2			250		
	Front Wheel Lean Cylinder Pivots	2			250		
	Front Wheel Knuckle Lean Pivots	4			250		
	Knuckle King Pin Bearings	4			250		
	Moldboard Lift Cylinder Articulation Bearings	2			250		
	Tandem Swing Bearing	2			250		
	Tires Condition and Pressure	6	250				
	Cab Air Filter (if equipped)	1					250
	Steering Bar Ball Joints	4			250		
	Moldboard Articulation Pivots	4			250		
	Moldboard Side Shift Terminal Pivots	2			250		
500 hours or every 3 months	Fuel Filters and Water Separator	2		500			
	Fuel Tank Drain Plug (drain sediment)	1					500
	Front Wheel Drive (AWD) Pump Filter (Note 6)	1		500			
	Engine Oil and Oil Filter	2		500			
	Hydraulic System Oil Filter	1		500			
	Transmission Oil and Oil Filter	1		500			
	Front Wheel Bearing Grease	2		500			
	Tandem Wheel Shafts Bearings (Graziano)	8			500		
	Tandem Case Oil Level	2	500				
	Rear Axle Differential and Planetary Gear Oil Level (Graziano)	1	500				
	ROPS Fixing Bolts Torque	16				500	
	Seat Belts Fixing Bolts Torque	2				500	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

	SERVICE POINTS	A	B	C	D	E	F
1000 hours or every 6 months	Transmission Screen	1					1000
	Transmission Oil	1		1000			
	Engine Valves Clearance	12				1000	
	Circle Turn Gear Housing Oil	1		1000			
	Alternator and Air Conditioning Belts	2		1000			
	Air Cleaner Elements (See Air Cleaner System)	2		1000			
	Front Wheel Drive (AWD) Gear Housing Oil (Note 5)	2		1000			
	Tandem Case Oil	2		1000			
2000 hours or every year	Rear Axle Differential and Planetary Gear Oil (Graziano)	1		2000			
	Hydraulic System Oil (Note 4)	1		2000			
	Engine Coolant	2		2000			
	Turbocharger Fixing Bolts Torque	4				2000	
A – Points / B – Check / C – Change / D – Lubricate / E – Adjust / F – Clean / Drain							

ATTENTION: *See* ***Consumables*** *for specifications and detailed capacities about Fluids and Lubricants.*

NOTE: *(1) – Carry out maintenance on the air filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "AIR FILTER".*

NOTE: *(2) – Carry out maintenance on the hydraulic filter element if the main warning display (Non-Critical Warnings – YELLOW) shows "HYDRAULIC FILTER".*

NOTE: *(3) – Check the coolant level in the expansion tank if the main stop display (Critical Warnings – RED) shows "COOLANT LEVEL".*

NOTE: *(4)- Change every 2000 hours or once a year, whichever comes first.*

NOTE: *(5) – Change the oil in the front wheel drive gear housings after the first 100 hours of operation.*

NOTE: *(6) – Replace the front wheel drive pump hydraulic filter after the first 100 hours.*

Consumables

RG140.B	LA 6 x 3 torque converter --- LA Tier 1
RG170.B	LA 6 x 3 torque converter --- LA Tier 0 --- LA Tier 2
RG200.B	LA 8 x 8 direct drive --- LA Tier 0 --- LA Tier 2

Fuel Reservoir

Specifications	No. 2 DIESEL
Total capacity	**341 l** (**90 US gal**)

Engine Oil

Specifications	**NEW HOLLAND AMBRA SUPER GOLD 15W-40**
Capacity with a filter change	
Capacity without a filter change	

Engine Cooling System

Specifications	**50%** Water + **50% NEW HOLLAND AMBRA AGRIFLU**
Total capacity	**32 l** (**8.5 US gal**)

Hydraulic System

Specifications	**NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL**
Total capacity	**180 l** (**47.6 US gal**)
Tank with a filter	**90 l** (**23.8 US gal**)

Transmission

Specifications	
Refill capacity (with filter change)	
Refill capacity (without filter change)	

Power Rear Axle

Specifications	**NEW HOLLAND AMBRA LIMITED SLIP ADDITIVE**
Central compartment (differential)	RG140.B Models – **40 l** (**10.6 US gal**) RG170.B Models – **44 l** (**11.6 US gal**) RG200.B Models – **44 l** (**11.6 US gal**)

Tandem and Brakes

Specifications	**NEW HOLLAND AMBRA TRX 20W-40**
Refill capacity	**69 l** (**18.2 US gal**)

Circle Turn Gear Reducer

Specifications	**NEW HOLLAND AMBRA HYPOIDE 90**
Refill	**2.8 l** (**0.7 US gal**)

Grease fitings

Specifications	**NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**
Rear Ripper/Scarifier/Blade	–
Front Axle Wheel Hubs/Bearings	–

Consumables

RG140.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP
RG170.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP
RG200.B	LA 6 x 3 torque converter --- LA 8 x 8 direct drive --- LA Tier 3-VHP

Fuel Reservoir

Specifications	No. 2 DIESEL
Total capacity	**341 l** (**90 US gal**)

Engine Oil

Specifications	**NEW HOLLAND AMBRA SUPER GOLD 15W-40**
Capacity with a filter change	**16 l** (**4.2 US gal**)
Capacity without a filter change	**15 l** (**4.0 US gal**)

Engine Cooling System

Specifications	**50%** Water + **50% NEW HOLLAND AMBRA AGRIFLU**
Total capacity	**32 l** (**8.5 US gal**)

Hydraulic System

Specifications	For a Cold Climate – **NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL** For a Tropical Climate – **NEW HOLLAND AMBRA HYDROSYSTEM 68 HV**
Total capacity	**180 l** (**47.6 US gal**)
Tank with a filter	**90 l** (**23.8 US gal**)

Transmission

Specifications	
Refill capacity (with filter change)	
Refill capacity (without filter change)	

Power Rear Axle

Specifications	**NEW HOLLAND AMBRA LIMITED SLIP ADDITIVE**
Central compartment (differential)	RG140.B Models – **40 l** (**10.6 US gal**) RG170.B Models – **44 l** (**11.6 US gal**) RG200.B Models – **44 l** (**11.6 US gal**)

Tandem and Brakes

Specifications	**NEW HOLLAND AMBRA TRX 20W-40**
Refill capacity	**69 l** (**18.2 US gal**)

Circle Turn Gear Reducer

Specifications	**NEW HOLLAND AMBRA HYPOIDE 90**
Refill	**2.8 l** (**0.7 US gal**)

Grease fitings

Specifications	**NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**
Rear Ripper/Scarifier/Blade	–
Front Axle Wheel Hubs/Bearings	–

Consumables

RG170.B	LA 8 x 8 direct drive --- LA AWD --- LA Tier 3-VHP
RG200.B	LA 8 x 8 direct drive --- LA AWD --- LA Tier 3-VHP

Fuel Reservoir

Specifications	No. 2 DIESEL
Total capacity	**341 l** (**90 US gal**)

Engine Oil

Specifications	**NEW HOLLAND AMBRA SUPER GOLD 15W-40**
Capacity with a filter change	**16 l** (**4.2 US gal**)
Capacity without a filter change	**15 l** (**4.0 US gal**)

Engine Cooling System

Specifications	**50%** Water + **50% NEW HOLLAND AMBRA AGRIFLU**
Total capacity	**32 l** (**8.5 US gal**)

Hydraulic System

Specifications	For a Cold Climate – **NEW HOLLAND AMBRA MASTERTRAN™ HYDRAULIC TRANSMISSION OIL** For a Tropical Climate – **NEW HOLLAND AMBRA HYDROSYSTEM 68 HV**
Total capacity	**200 l** (**52.8 US gal**)
Tank with a filter	**90 l** (**23.8 US gal**)

Transmission

Specifications	
Refill capacity (with filter change)	
Refill capacity (without filter change)	

Power Rear Axle

Specifications	**NEW HOLLAND AMBRA LIMITED SLIP ADDITIVE**
Central compartment (differential)	**44 l** (**11.6 US gal**)

Tandem and Brakes

Specifications	**NEW HOLLAND AMBRA TRX 20W-40**
Refill capacity	**69 l** (**18.2 US gal**)

Circle Turn Gear Reducer

Specifications	**NEW HOLLAND AMBRA HYPOIDE 90**
Refill	**2.8 l** (**0.7 US gal**)

Front Wheel Reducer

Specifications	**NEW HOLLAND AMBRA LIMITED SLIP ADDITIVE**
Refill capacity	**4.1 l** (**1.1 US gal**)

Grease fitings

Specifications	**NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**
Rear Ripper/Scarifier/Blade	–
Front Axle Wheel Hubs/Bearings	–

Conversion factors

RG140.B	LA
RG170.B	LA
RG200.B	LA

Area

Metric System to U.S. System	U.S. System to Metric System
1 m² = 10.76391 ft²	**1 ft² = 0.09290 m²**
1 ha = 2.47105 ac	**1 ac = 0.40469 ft²**
m² – Square meter / ft² – Square foot / ha – Hectare / ac – Acre	

Force

Metric System to U.S. System	U.S. System to Metric System
1 N = 3.59694 oz	**1 oz = 0,27801 N**
1 N = 0.22481 lb	**1 lb = 4.44822 N**

Length

Metric System to U.S. System	U.S. System to Metric System
1 mm = 0.03937 in	**1 in = 25.4 mm**
1 m = 3.28084 ft	**1 ft = 0.30480 m**
1 km = 0.62137 miles	**1 miles = 1.60934 km**

Mass

Metric System to U.S. System	U.S. System to Metric System
1 kg = 2.20462 lb	**1 lb = 0.45359 kg**
1 g = 0.03527 oz	**1 oz = 28.34952 g**

Mass/Area

Metric System to U.S. System	U.S. System to Metric System
1 kg/ha = 0.89300 lbs/ac	**1 lbs/ac = 1.11982 kg/ha**

Mass/Energy

Metric System to U.S. System	U.S. System to Metric System
1 g/kWh = 0,00164 lb/(HP/h)	1 lb/(HP/h) = **608,277 g/kWh**

Mass/Volume

Metric System to U.S. System	U.S. System to Metric System
1 kg/m³ = 1.68556 lb/yd³	**1 lb/yd³ = 0.59328 kg/m³**

Horse Power

Metric System to U.S. System	U.S. System to Metric System
1 kW = 1.35962 Hp	**1 Hp = 0.73550 kW**

Pressure

Metric System to U.S. System			U.S. System to Metric System		
1 bar	=	14.50377 lbf/in²	1 lbf/in²	=	**0.06894 bar**
1 kPa	=	0,14503 lbf/in²	1 lbf/in²	=	**6,89475 kPa**

Engine coolant

Metric System to U.S. System			U.S. System to Metric System		
1 °C	=	**((1.8 x ° C) + 32) °F**	**1 °F**	=	**(0.56 x (° F - 32)) °C**

Torque

Metric System to U.S. System			U.S. System to Metric System		
1 N·m	=	**0.73756 lb ft**	**1 lb ft**	=	**1.35582 N·m**
1 N·m	=	**8.85075 lb in**	**1 lb in**	=	**0.11298 N·m**

Velocity

Metric System to U.S. System			U.S. System to Metric System		
1 km/h	=	**0.62137 mph**	**1 mph**	=	**1.60934 km/h**

Volume

Metric System to U.S. System			U.S. System to Metric System		
1 cm³	=	**0.06102 in³**	**1 in³**	=	**16.38706 in³**
1 m³	=	**35.31467 ft³**	**1 ft³**	=	**0.02832 m³**
1 m³	=	**1.30795 yd³**	**1 yd³**	=	**0.76455 m³**
1 ml	=	**0.03381 US fl oz**	**1 US fl oz**	=	**29.57353 ml**
1 litre	=	**1.05669 US qt**	**1 US qt**	=	**0.94635 litre**
1 litre	=	**0.87988 l**	**1 l**	=	**1.13652 litre**
1 litre	=	**0.26417 l**	**1 l**	=	**3.78541 litre**
1 litre	=	**0.21997 l**	**1 l**	=	**4.54610 litre**

Volume/Time

Metric System to U.S. System			U.S. System to Metric System		
1 l/min	=	**0.26417 US gpm**	**1 US gpm**	=	**3.78541 l/min**
1 l/min	=	**0.21997 UK gpm**	**1 UK gpm**	=	**4.54610 l/min**

Product: New Holland RG140.B/RG170.B/RG200.B Motor Grader Service Repair Manual
Full Download: https://www.arepairmanual.com/downloads/new-holland-rg140-b-rg170-b-rg200-b-motor-grader-service-repair-manual/

NEW HOLLAND
CONSTRUCTION

SERVICE MANUAL

Transmission

RG140.B
RG170.B
RG200.B

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