SERVICE MANUAL

E215C EVO

Crawler Excavator

Part number 48034215
English
June 2016

NEW HOLLAND CONSTRUCTION

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Hydraulic swing system - Special tools

Tools for assembly and disassembly

The necessary tools for assembly and disassembly are indicated in Tables.
The bolts and plugs used vary for each type, so prepare tools based on examination beforehand.

Name	Size	Bolt width	Applicable part code	Tools
Hexagon socket head bolt	M20	**17 mm (0.669 in)**	401	Hexagon wrench
Relief valve	M33 x P1.5	**41 mm (1.614 in)**	051	Hexagon wrench, socket wrench
ROMH plug	M33 x P1.5	**17 mm (0.669 in)**	469	Hexagon wrench
ROH plug	PF 1/4	**6 mm (0.236 in)**	467	Hexagon wrench

NOTE: *If there are variances with the plugs and bolts listed above, see the assembly cross-section diagram.*

Tools	Dimensions	
Screwdriver	Flathead	Medium-sized x 2
Steel rod	About size **10 mm (0.394 in)** x **8 mm (0.315 in)** x **200 mm (7.874 in)**	1
Hammer	Plastic hammerHammer	1 each
Torque wrench	Torque adjustment rangeFor **5 - 10 N·m (3.69 - 7.38 lb ft)** For **10 - 15 N·m (7.38 - 11.06 lb ft)** For **40 - 275 N·m (29.50 - 202.83 lb ft)** For **75 - 550 N·m (55.32 - 405.66 lb ft)**	
Slide hammer bearing puller		
Brake piston removal jig	See the next page	

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Travel motor - Troubleshooting

Problem	Possible Cause	Correction
Piston motor troubleshooting The motor does not rotate	There is an operation problem in a piece of equipment other than the piston motor or reduction gear	After investigating whether pressure is reaching the motor inlet side, investigate the causes of problems and countermeasures for each piece of equipment and perform inspection and repair
	If the cause is in the motor itself, there is dirt clogging an operation section or there is an operation problem	Perform disassembly and clean and remove dirt from parts before reassembling the motor If parts are damaged due to dirt, replace the parts
	Motor inlet side pressure is low	Operate the main relief valve of the circuit and raise the set pressure
	There is abnormal wear on the sliding sections of the piston motor and pressurized oil is escaping	Perform disassembly and replace abnormally worn parts After completely removing surface scratching, burrs, etc. and cleaning, perform reassembly
	Damage is occurring with the main parts of the piston motor. In this instance, abnormal noise is coming from the piston motor	Perform disassembly and replace damaged parts. Perform reassembly after cleaning parts
	The load on the piston motor is too large and the relief valve is operating	Investigate the load conditions and adjust the load to an amount appropriate to the set pressure of the relief valve
Piston motor troubleshooting Motor rotation speed is insufficient	The cause resides in the hydraulic pump, pressure control valve, flow control valve, etc. Required oil flow is not being supplied to the piston motor and rotation is insufficient	After investigating whether the required flow is being supplied to the piston motor inlet side, investigate the causes of problems and countermeasures for each piece of equipment and perform inspection and repair
	Pressurized oil is moving from the high-pressure side to the low-pressure side due to wear on the sliding sections of the piston motor (volume efficiency reduction), and speed is insufficient	Perform disassembly, investigate the status of wear on the sliding sections of the piston motor, and perform repair and replacement according to the maintenance standards
	There is looseness in the piston motor base plate fastening bolts. Internal leaking is increased and speed is insufficient	Retighten the base plate fastening bolts to the specified torque
Piston motor troubleshooting Motor rotation variation is high	There is wear on the sliding sections of the piston motor and high-pressurized oil is leaking and flowing out from the drain port, which is causing speed to greatly decrease and causing rotation variation	Perform disassembly, check the status of wear on the sliding sections, and perform repair or replacement according to the maintenance standards
	When going down an incline, the double counter balance valve is causing hunting and rotation variation	Perform disassembly, check the status of wear on the double counter balance valve, and perform repair or replacement according to the maintenance standards
Piston motor troubleshooting Noise is high	The shaft is touching driven parts due to problems with shaft core alignment, and this is producing noise	Make the shaft core alignment accurate
	There is wear or damage on the piston motor bearings or damage has occurred on springs, etc. and noise is being produced	Perform disassembly and replace damaged parts such as bearings or springs. Perform reassembly after cleaning parts
Piston motor troubleshooting Oil leak	There is looseness in bolts on matching surfaces, etc. and oil leaking is occurring	Retighten the fastening bolts the specified torque

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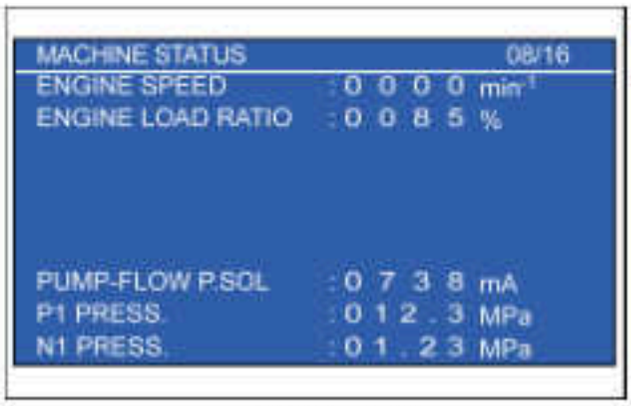
Wiring harnesses - Electrical schematic sheet 35 - Air-conditioning system

Type	Components	Connectors/link	Description
Motor	M5		Motor actuator (fresh/recirculate)
Motor	M6		Motor actuator (mode)
Motor	M7		Motor actuator (air mix)
Connector	CN.B20	**CN.B20**	
Connector	CN.F7	**CN.F7**	Motor actuator (air mix)
Connector	CN.F8	**CN.F8**	Motor actuator (mode)
Connector	CN.F9	**CN.F9**	Motor actuator (fresh/recirculate)

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8. Engine

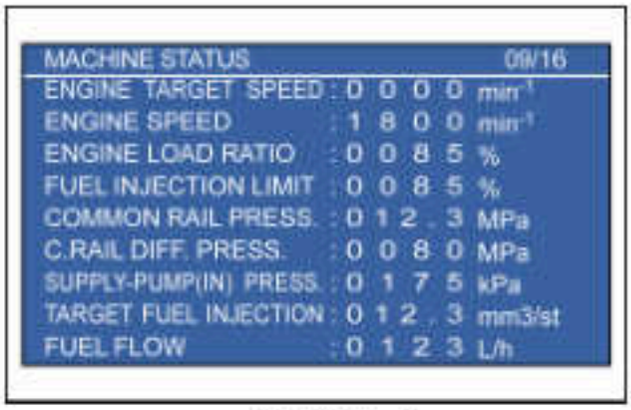
ENGINE SPEED	min^{-1} (rpm)	Engine speed
ENGINE LOAD RATIO	%	Engine load ratio
PUMP-FLOW P.SOL.	mA	Actual milli-amp for flow proportional valve
P1 PRESS.	MPa (psi)	P1 pressure
N1 PRESS.	MPa (psi)	N1 pressure



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9. Engine

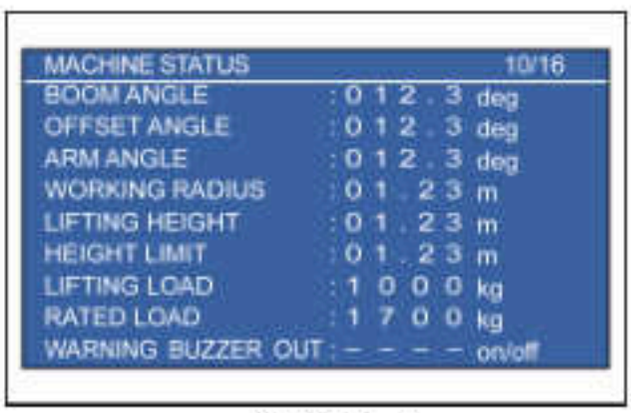
ENGINE TARGET SPEED	min^{-1} (rpm)	Engine target speed
ENGINE SPEED	min^{-1} (rpm)	Engine speed
ENGINE LOAD RATIO	%	Engine load ratio
FUEL INJECTION LIMIT	%	Fuel injection quantity limit level
COMMON RAIL PRESS.	MPa (psi)	Common rail pressure
C. RAIL DIFF. PRESS.	MPa (psi)	Common rail differential pressure
SUPPLY-PUMP (IN) PRESS.	kPa (psi)	Supply pump inlet pressure
TARGET FUEL INJECTION	mm^3 /st	Target fuel injection quantity
FUEL FLOW	L/h	Fuel flow



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10. Work radius and height

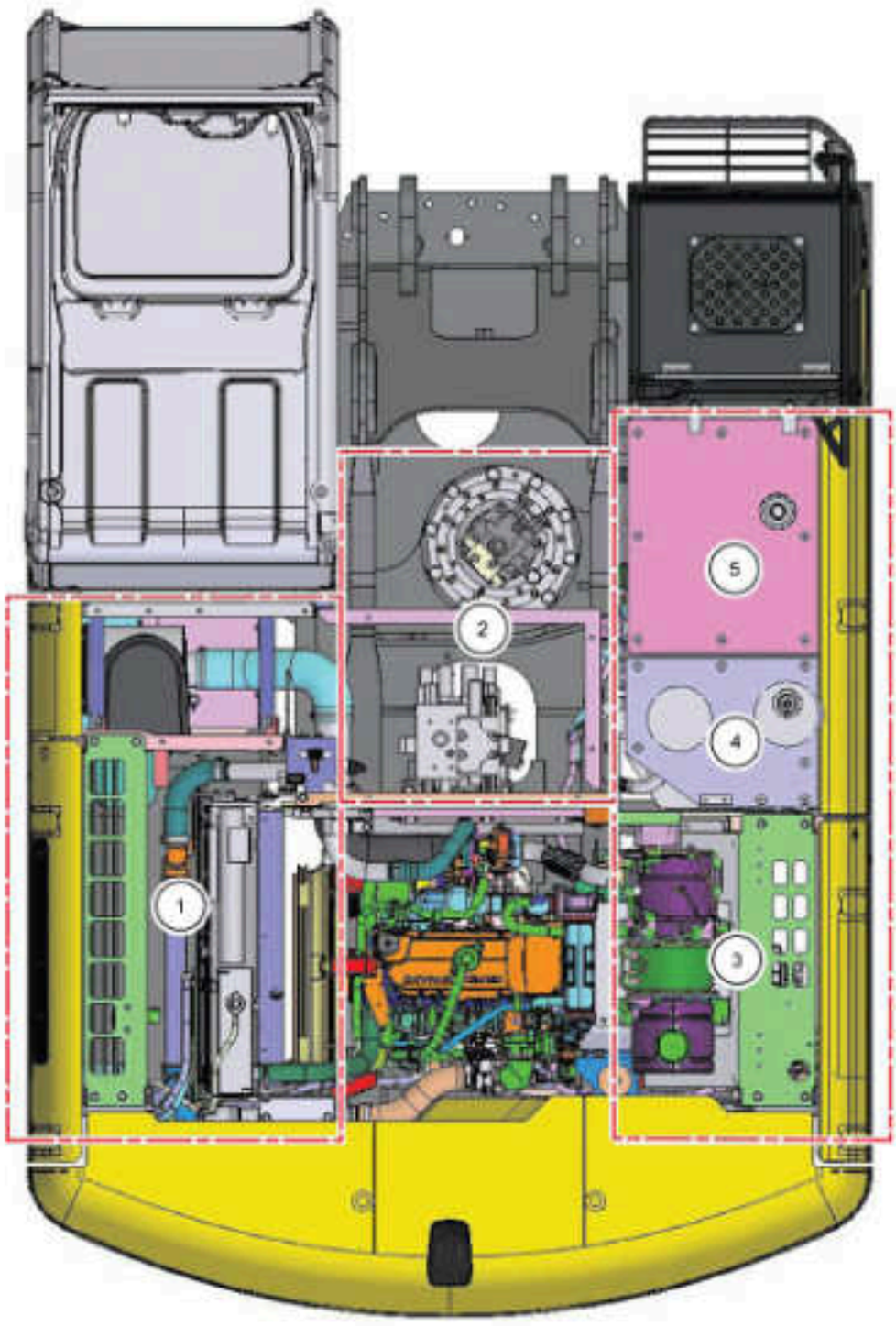
BOOM ANGLE	deg	Boom angle
OFFSET ANGLE	deg	Offset angle
ARM ANGLE	deg	Arm angle
WORKING RADIUS	m (ft.)	Work radius
LIFTING HEIGHT	m (ft.)	Hanging work height
HEIGHT LIMIT	m (ft.)	Hanging height limit
LIFTING LOAD	kg (lb)	Actual load
RATED LOAD	kg (lb)	Rated load
WARNING BUZZER OUT	on/off	Warning buzzer output



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Hydraulic systems - Overview



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