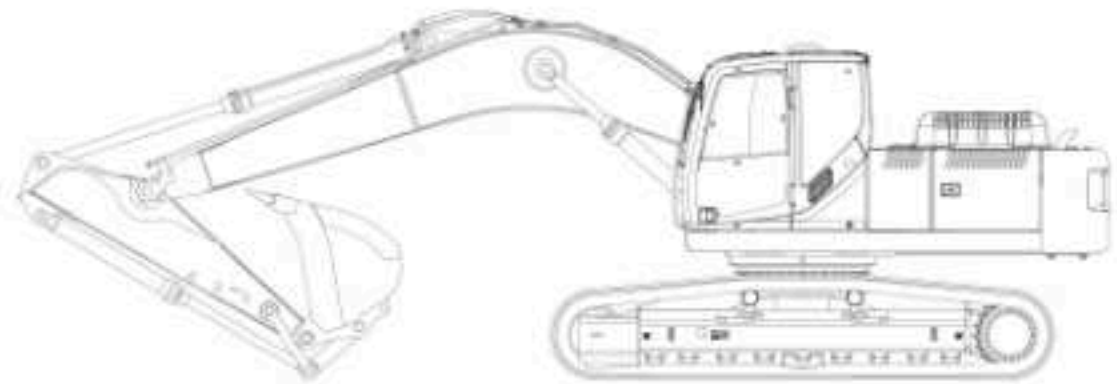
SERVICE MANUAL

E385C
Crawler Excavator



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NEW HOLLAND CONSTRUCTION

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TRAVEL DEVICE

Reduction gear unit		Epicycloidal, two-stage planetary type
Model		M4V290 / 170F-RG6.5F
Gearbox ratio		40.467
Gearbox oil quantity		9.5 L (2.5 gal)
Gearbox oil specification		Gear oil SAE90 API GL4 or GL5
Travel motor		Two speed, axial piston swash plate type
Displacement	high speed	290.7 cm^3/rev (17.7 in^3/rev)
	low speed	170.1 cm^3/rev (10.4 in^3/rev)
Max. flow		294 L/min (78 gal/min)
Max. gearbox output torque	high speed	37600 Nm (27730 lbf·ft)
	low speed	64260 Nm (47392 lbf·ft)
Parking brake torque		902 Nm (665 lbf·ft)
Min. pressure parking brake release		1.54 MPa (223 psi)
Relief valve set pressure	cracking	35.8–37.8 MPa (5191–5481 psi)
	total flow	34.3 MPa (4974 psi)
Max. drain pressure	continuos	0.2 MPa (29 psi)
	intermittent	0.98 MPa (142 psi)
Mass		399 kg (880 lbs)

CYLINDERS

Use	**Cylinder bore / Rod Dia.** mm (in)	**Stroke** mm (in)	**Center distance of pins Full extend B / Full retract A** mm (in)	**Cushion**	**Mass** kg (lbs)
Boom	Ø 140 / Ø 100 (5.51 / 3.94)	1550 (61.02)	3651 / 2101 (143.74 / 82.72)	With cushion on rod side	295 (650)
Arm	Ø 170 / Ø 120 (6.69 / 4.72)	1788 (70.39)	4281 / 2493 (168.54 / 98.15)	With cushion on both sides	504 (1111)
Bucket	Ø 150 / Ø 100 (5.91 / 3.94)	1193 (46.97)	3005 / 1812 (118.31 / 71.34)	With cushion on rod side	265 (584)
Bucket (BEH version)	Ø 150 / Ø 100 (5.91 / 3.94)	1250 (49.21)	3085 / 1835 (121.46 / 72.24)	With cushion on rod side	270 (595)

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8.2 Troubleshooting

1. Gauge cluster is powered on but picture does not appear and it shows blue screen.

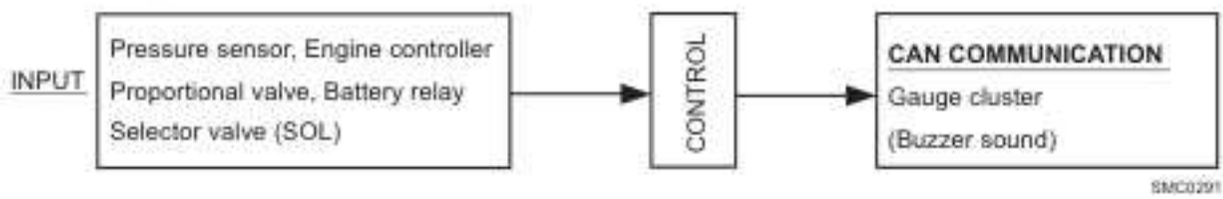
No.	Parts	Parts/Normal condition	Corrective action
1	Power-supply box to Cab harness	Make sure that connector between power-supply box and cab harness is connected.	Check connections.
2	Cable to Cab harness	Make sure that connector between cable and cab harness is connected.	Check connections.
3	Cable to Camera cable	Make sure that connector between cable and camera cable should is connected.	Check connections.
4	Fuse & Relay box	Make sure that No. 30 fuse (5A) did not melt down.	Replace fuse.
5	Setting of camera	Make sure that camera (1) of service adjustment1 is on, and camera (2) and camera (3) are off.	Check the setting.

2. Gauge cluster is powered on but picture does not appear and it shows fuel consumption graph or logo.

No.	Parts	Parts/Normal condition	Corrective action
1	Setting of camera	Make sure that camera (1) of service adjustment1 is on.	Check the setting.

3.2 SELF DIAGNOSIS DISPLAY

1. Outline
   This function identifies abnormality of control I/O signal like pressure, proportional valve, etc. during machine operation through self diagnosis. The failed items are displayed on multi display of gauge cluster. For connector No. and pin No., refer to the section "Mechatro Control Equipment" explained later. Electric circuit diagram or harness is available to identify wire No. and wire color.
2. I/O configuration



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Table 82

Error code	**G042**		
Trouble	Mechatro controller direct input speed sensor and received data from engine controller are overrun.		
Judging condition	Engine rpm input is 3000 rpm or more. (Only trouble history).		
Symptom	Operate without problem.		
Control in the event of failure	Normal control		
Returned in normal condition	It returns automatically in normal condition.		
Service diagnosis checking screen	Screen No.	2	G-3 MEAS 1 (for mechatro controller)
	Screen No.	2	G-3 MEAS 2 (receive from engine controller)
	Screen No.		

	Checking object	Checking contents and remedy
1	• Engine speed sensor SE-13	Measure the resistance between terminals of speed sensor. Normal value: 1.6~2.0k Ω .
2	• Wiring between engine speed sensor and controller CN-136F CN-106F	Check wiring for possible failure according to the wiring checking procedure and repair it if necessary. Especially check wiring for false disconnection and noise included.
3	• Wiring between ECU engine speed sensor and controller pressure sensor and controller	Check wiring for possible failure according to the wiring checking procedure and repair it if necessary. Especially check wiring for false disconnection and noise included.
4	• Mechatro controller	Check that the error is corrected after replacement of controller. (Controller is broken by only applying power to grounding of signal).
5	• Engine controller	Check that the error is corrected after replacement of controller.

Table 83

Error code	**G043** When cranking is executed for five seconds or more, this error code might be displayed. In case that the engine does not start, check by the table of section "Troubleshooting (by trouble) - 3. Engine". Execute the following check when the error code G043 is displayed after starting the engine		
Trouble	Mechatro controller direct input speed sensor and received data from engine controller are disconnected.		
Judging condition	Voltage of alternator is 24V or more, and speed sensor and receipt data from engine controller indicate excess low engine rpm.		
Symptom	Engine speed down may cause extension by abrupt loading.		
Control in the event of failure	Enter 0 rpm for engine speed. Enter 0 for ESS power shift command.		
Returned in normal condition	It returns automatically in normal condition.		
Service diagnosis checking screen	Screen No.	2	G-3 MEAS 1 (for mechatro controller)
	Screen No.	2	G-3 MEAS 2 (receive from engine controller)
	Screen No.		

	Checking object	Checking contents and remedy
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5	• Engine controller	Check that the error is corrected after replacement of controller.

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DISASSEMBLY

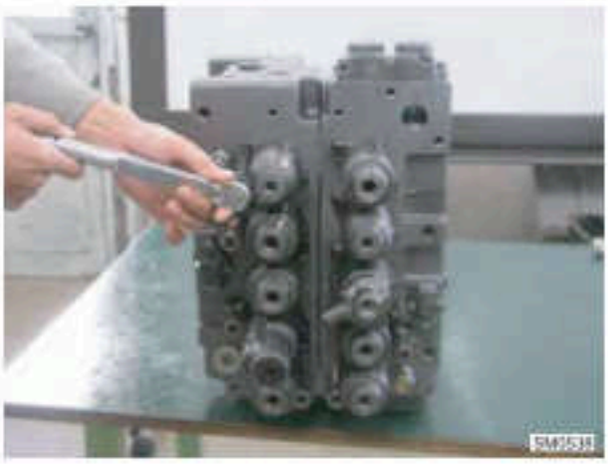
Place the control valve on a work bench so as to locate back pressure check valve upwards.



ATTENTION: *disassemble the valve in a clean place, and be careful not to damage flange surfaces or plate mounting surfaces.*

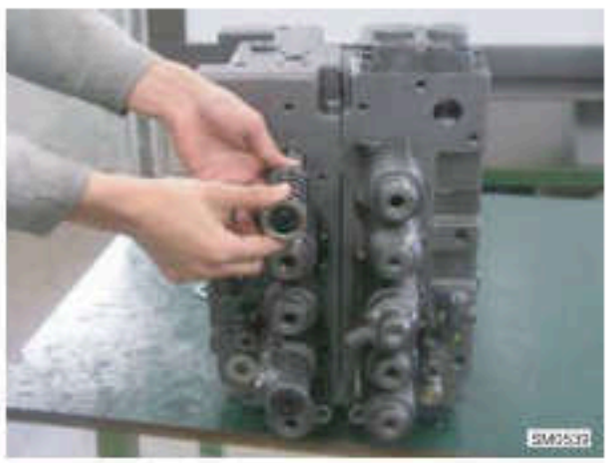
1. Disassembling P1 unload spool

1.1 Loosen the socket bolts (**273**) and remove the spring cover (**202**) and the O-ring (**261**) for P1 unload spool.



1.2 Draw out, from casing B (**102**), as a assy of P1 unload spool (**309**), spring seat (**331**), springs (**327**), (**329**), stopper (**336**) and bolt (**333**).

ATTENTION: *when drawing out the spool assy, use care so as not to score casing B (**102**).*



1.3 Fix the P1 unload spool assy with vise via a protective plate (aluminum plate, etc.) and remove bolt (**333**). Then separate spring seat (**331**), springs (**327**), (**329**) and stopper (**336**) from P1 unload spool (**309**).



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