CX350C
Tier 4
Crawler Excavator

SERVICE MANUAL

Part number 84402832
1st edition English
August 2011

CASE CONSTRUCTION

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 84402832

Order the manual at mid-west-tech.com >

CONTENTS

GENERAL INFORMATION. 3
Safety 4
ROPS Judgment Method 6
Standard Torque Data For Cap Screws And Nuts 10

84402832 NA - May 2011
1001-1

Copyright © 2011 CNH FRANCE S.A.
PRINTED IN FRANCE

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8...
Order the manual at mid-west-tech.com >

CONTENTS

Overall (CX350C) 3
- Main Data 3
- Performance 3
- Main Unit Dimensions 3
- Engine 3
- Cooling System 4
- Upper Side Work System 4
- Operating Device 4
- Swing Units 5
- Travel Lower Body 5
- Hydraulic Equipment 6
  - Hydraulic Device 6
  - Control Valve and Cylinder 6
- Capacities, Filters 6
  - Coolant and Oil Capacities 6
  - Hydraulic Oil Filters 6
  - Fuel Filter 6

84402832 NA - May 2011
1002A-1

Copyright © 2011 CNH FRANCE S.A.
PRINTED IN FRANCE

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8... Order the manual at mid-west-tech.com >

CONTENTS

Main Equipment Table . . . 3
Lower Component . . . 3
- Travel Unit . . . 3
- Take-up Roller . . . 3
- Upper Roller . . . 3
- Lower Roller . . . 3
- Recoil Spring . . . 3
- Shoe (CX350C) . . . 4

Upper Component . . . 5
- Swing Unit (CX350C) . . . 5

Engine-related . . . 6
- Engine . . . 6
- DPD . . . 6
- Air Cleaner (double element) . . . 6
- Radiator . . . 6

Hydraulic Device . . . 7
- Hydraulic Pump . . . 7

Control-related . . . 8
- Control Valve . . . 8
- Solenoid Valve (4 stack) . . . 8
- Remote Control Valve (left/right, travel operations) . . . 9
- Remote Control Valve for Left/Right Operations . . . 9
- Remote Control Valve for Travel Operations . . . 9
- Remote Control Valve Characteristic Diagram . . . 9
- Operation Remote Control Valve Control Diagram . . . 9
- Travel Remote Control Valve Control Diagram . . . 10
- Cushion Valve (heat circuit, with shuttle valve) . . . 11
- Center Joint . . . 11

Backhoe Attachment . . . 11
- Cylinder . . . 11

Copyright © 2011 CNH FRANCE S.A.
PRINTED IN FRANCE

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8... Order the manual at mid-west-tech.com >

Electrical Wiring Diagram

ANNOTATION:

1. *When assembling the ground terminals marked with a *, it should be confirmed that the frame seating surface is not coated.*
   If the surface is coated, assembly should be performed after removing the coating.
2. *The clamp positions of the electrical wiring that comes out from connectors should be adjusted so that the wiring does not form sharp rounded shapes. (R = 10 mm or more)*

a	Marking position: Align white tape of harness	c	Detail of battery
b	Install the battery indicator in such a way that it is completely visible	d	Detail of battery box

*1	KSR13401 (harness; wire (frame main))	*3	M8 (battery accessory)	*5	Starter relay (engine accessory)
*2	M10 (battery accessory)	*4	Glow relay (engine accessory)		

Code	Part name	Q'ty	Code	Part name	Q'ty
1	Holder; Battery	1	6	Battery 180G51 (with terminal)	2
2	Cable; Battery relay (starter)	1	7	Cable; Battery bridge	1
3	Bracket; Battery relay	1	8	Cable; Battery B+ relay	1
4	Relay; Changeover (24 V)	1	9	Cable; Battery ground	1
5	Relay; Battery	1	10	Harness; Wire (diode)	1

CN. D17	Round terminal M8 (battery relay B) red ID tape	CN. D26	Fuse 15 A CONT (2-pin)
CN. D18	Round terminal M8 (battery relay IGN) Wire color: red	CN. D27	Starter relay B/C (2-pin)
CN. D19	Round terminal M8 (battery relay IGN) Wire color: white	CN. D28	Starter relay S/E (2-pin)
CN. D20	Round terminal M4 (battery relay coil 1) Wire color: green	CN. D29	Glow relay coil (2-pin)
CN. D21	Round terminal M4 (battery relay coil 2) Wire color: red stripe on white background	CN. D30	Glow relay 1 (1-pin)
CN. D22	Battery relay GND (1-pin)	CN. D31	Glow relay 2 (1-pin)
CN. D23	Fuse 50 A +B (2-pin)	CN. D68	Switch; LLC tank (2-pin)
CN. D24	Fuse 60 A ST (2-pin)	CN. D80	Harness; Beacon (2-pin)
CN. D25	Fuse 65 A IGN (2-pin)	CN. D86	Relay; Condenser (5-pin)

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 84402832
Order the manual at mid-west-tech.com >

Symptom	Cause	Countermeasure
The parking brake is released, but startup is weak.	1. The parking brake is not fully released. (Orifice of release pressure path is clogged.)	1. Check the orifice clog.
	2. Debris is caught in the relief valve.	2. Clean the relief valve, and then inspect or replace the seat surface.
	3. Seizing of sliding section	3. Inspect and repair or replace the sliding parts.

Rotation speed does not reach the setting value.

Symptom	Cause	Countermeasure
Rotation speed does not reach the setting value.	1. Insufficient oil flow amount	1. Check the pump discharge volume and the oil pressure path up to the motor.
	2. The shoe, cylinder block, or valve plate shows signs of wear or serious damage.	2. Inspect and repair or replace the part (s).

The brake does not operate.

Symptom	Cause	Countermeasure
The brake does not operate.	Parking brake operation problem a) Wear on the friction plate b) Broken spring	Inspect and repair or replace the brake piston, friction plate, and spring(s).
The reverse brake works.	Spool operation defect a) Sticking of the spool and main unit b) Sticking of the check valve or debris is caught in the check valve c) Orifice hole is clogged.	Repair or replace.

Oil leak

Symptom	Cause	Countermeasure
Oil leak	1. Bolt and plug loosening	1. Retighten to the specified torque.
	2. Gouging of O-ring(s)	2. Replace the O-ring.
	3. Leak inside gear casing	3. Replace the oil seal(s).

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8... Order the manual at mid-west-tech.com >

Job code	39105AB10

⚠ CAUTION

- **Stop the machine on a level location with good footing.**
- **Be sure to stop the engine before beginning work.**
- **When working together with others, always be sure to exchange signals and pay adequate attention to safety.**
- **Always wear protective devices (protective eyewear and safety shoes, etc.) when working with a hammer.**
- **Be sure to inspect the nylon sling and other lifting equipment before beginning work.**
- **Do not stand or pass under the suspended load.**

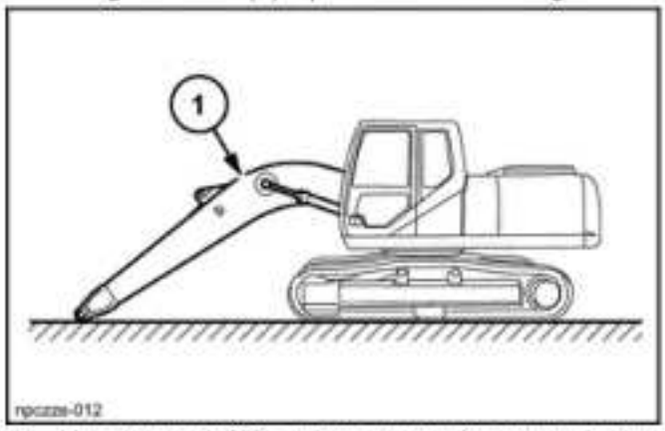
Items to prepare

- Wrenches (10 mm, 19 mm, 22 mm, 30 mm, 36 mm, 41 mm)
- Hexagon wrench (12 mm)
- Slide hammer (24 mm)
- Nylon sling (with the required lifting capacity)
- Liftcrane (with the required lifting capacity)
- Marking pen
- Cap
- Plug
- Rag
- Striking rod
- Cleaning fluid
- Wood piece
- Square wooden pieces
- Wire

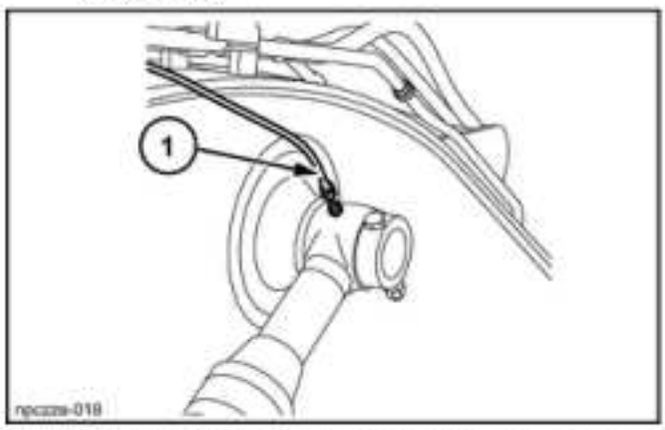
Removal of Boom

- Remove the bucket. (For details, see "Removal and Installation of Bucket".)
- Remove the bucket link. (For details, see "Removal and Installation of Bucket Link".)
- Remove the bucket cylinder. (For details, see "Removal and Installation of Bucket Cylinder".)
- Remove the arm cylinder. (For details, see "Removal and Installation of Arm Cylinder".)
- Remove the arm. (For details, see "Removal and Installation of Arm".)
- This section explains the procedure for when attaching the boom cylinder to the frame.
  When removing the boom cylinder too, see "Removal and Installation of Boom Cylinder".

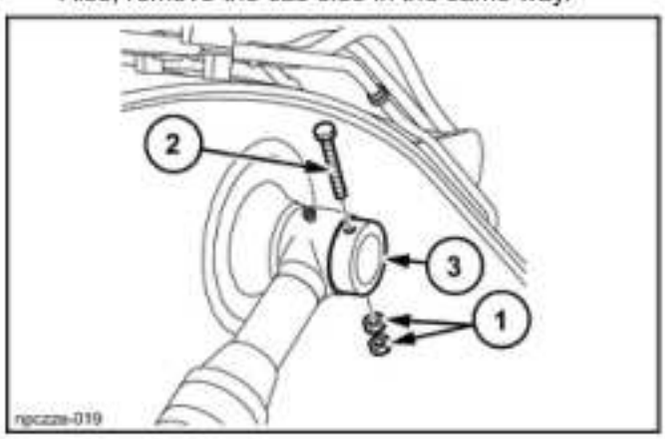
1. Bring the boom (1) top in contact with the ground.



2. Use a wrench (19 mm) to remove the grease hoses on the left and right sides (1).
   - Use caps or plugs to prevent any entry of water, dust or dirt.

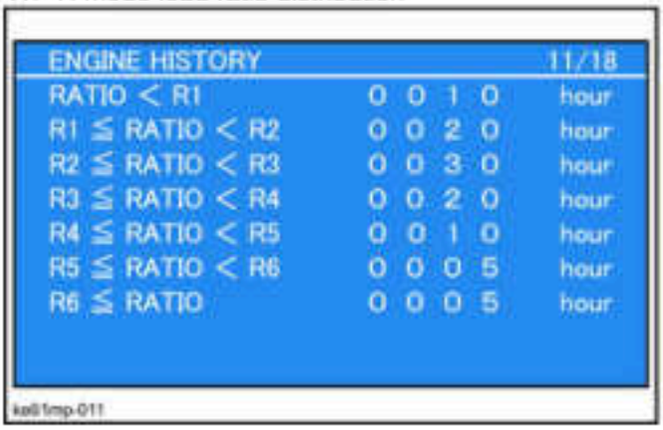


3. Use a wrench (36 mm) to remove the double nuts (1) and bolt (2), and then remove the fastening ring (3).
   Also, remove the cab side in the same way.



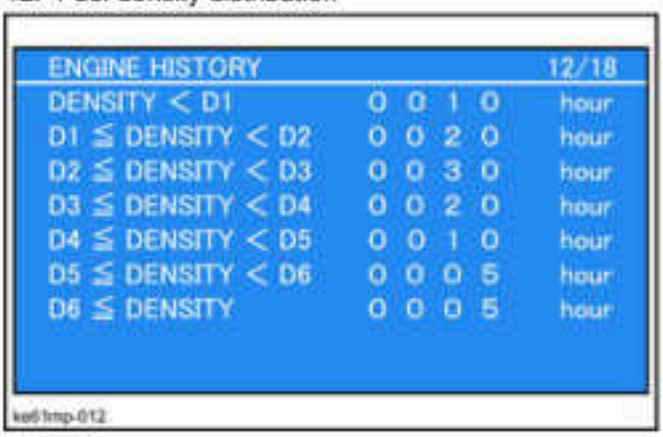
MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8... Order the manual at mid-west-tech.com >

11. H mode load ratio distribution



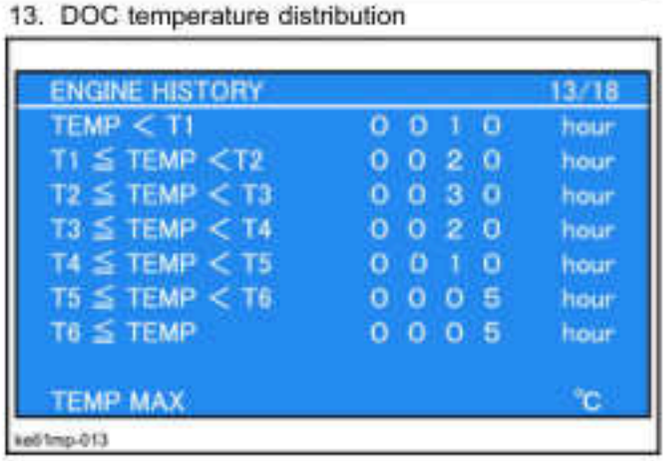
RATIO < R1	hour	R < 30
R1 ≦ RATIO < R2	hour	30 ≦ R < 40
R2 ≦ RATIO < R3	hour	40 ≦ R < 50
R3 ≦ RATIO < R4	hour	50 ≦ R < 60
R4 ≦ RATIO < R5	hour	60 ≦ R < 70
R5 ≦ RATIO < R6	hour	70≦ R < 80
R6 ≦ RATIO	hour	80 ≦ R

12. Fuel density distribution



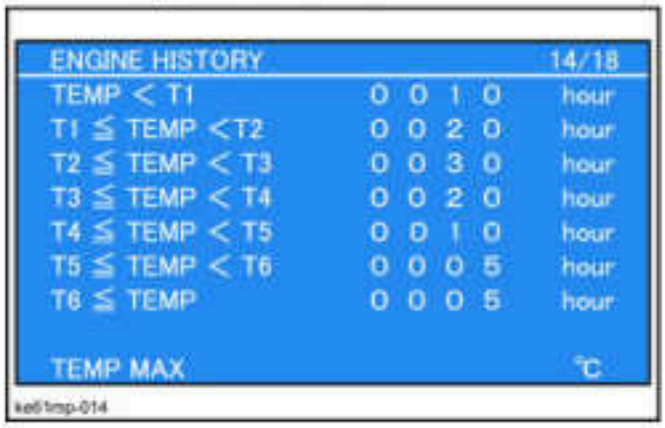
DENSITY < D1	hour	D < D1
D1 ≦ DENSITY < D2	hour	D1 ≦ D < D2
D2 ≦ DENSITY < D3	hour	D2 ≦ D < D3
D3 ≦ DENSITY < D4	hour	D3 ≦ D < D4
D4 ≦ DENSITY < D5	hour	D4 ≦ D < D5
D5 ≦ DENSITY < D6	hour	D5 ≦ D < D6
D6 ≦ DENSITY	hour	D6 ≦ D

13. DOC temperature distribution



TEMP. < T1	hour	T < 200
T1 ≦ TEMP. < T2	hour	200 ≦ T < 300
T2 ≦ TEMP. < T3	hour	300 ≦ T < 400
T3 ≦ TEMP. < T4	hour	400 ≦ T < 500
T4 ≦ TEMP. < T5	hour	500 ≦ T < 600
T5 ≦ TEMP. < T6	hour	600 ≦ T < 700
T6 ≦ TEMP.	hour	700 ≦ T
-	-	-
TEMP. MAX	°C	Maximum temperature

14. DPD temperature distribution



TEMP. < T1	hour	T < 200
T1 ≦ TEMP. < T2	hour	200 ≦ T < 300
T2 ≦ TEMP. < T3	hour	300 ≦ T < 400
T3 ≦ TEMP. < T4	hour	400 ≦ T < 500
T4 ≦ TEMP. < T5	hour	500 ≦ T < 600
T5 ≦ TEMP. < T6	hour	600 ≦ T < 700
T6 ≦ TEMP.	hour	700 ≦ T
-	-	-
TEMP. MAX	°C	Maximum temperature

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8... Order the manual at mid-west-tech.com >

4 - ELECTRICAL SYSTEM

Section 4020A - 4040

CX350C
Tier 4
Crawler Excavator

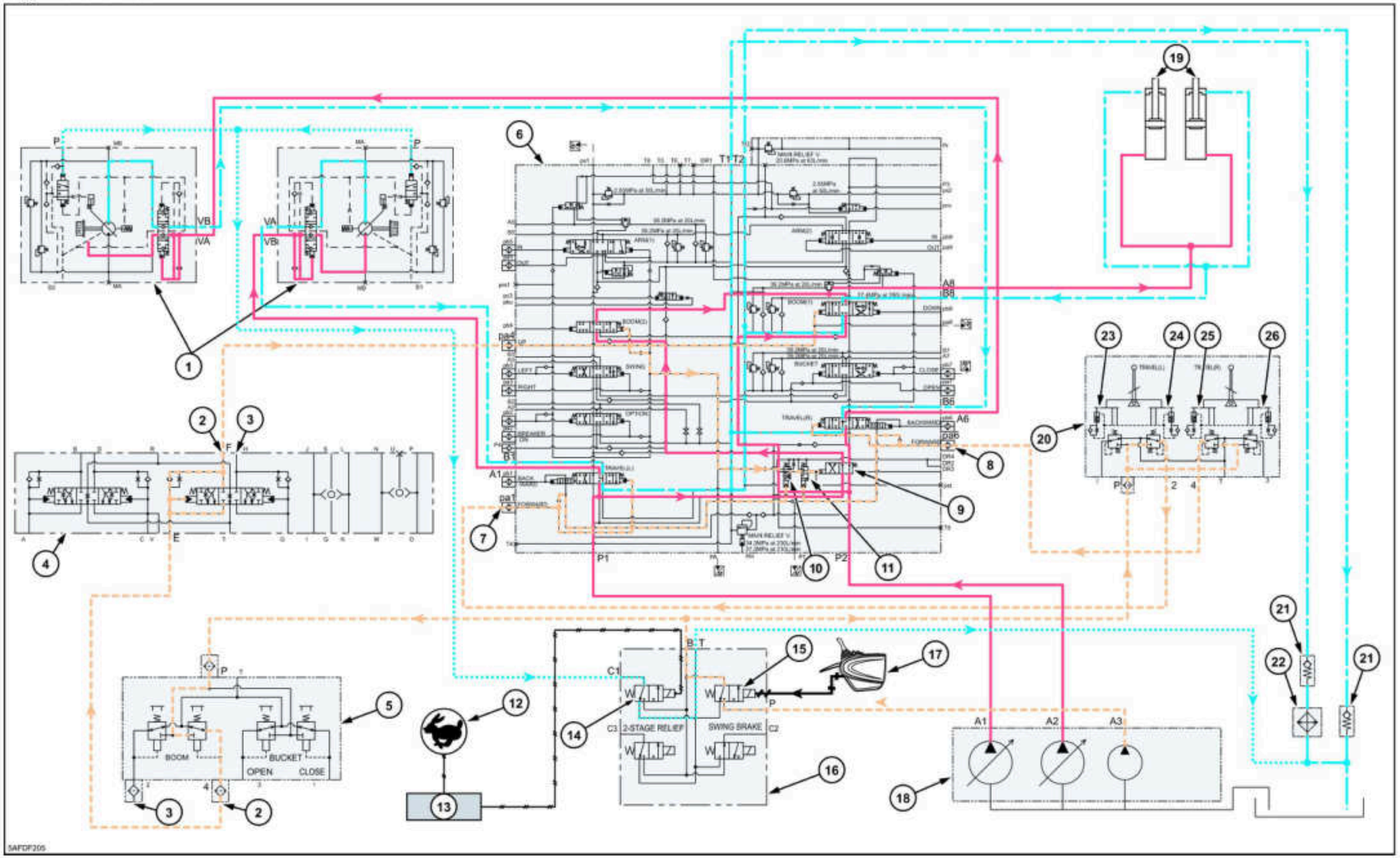
SERVICE MANUAL

Part number 84541713
1st edition English
August 2011

CASE CONSTRUCTION

MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 8440... Order the manual at mid-west-tech.com >

Straight travel circuit



MidWestTech | Case CX350C Tier 4 Crawler Excavator Service Manual | Publication 84402832
Order the manual at mid-west-tech.com >