CATERPILLAR®

Service Manual

Model
TH255C

S/N JK200150 & After
S/N JK300150 & After

31200927

Revised
July 31, 2013

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

SECTION CONTENTS

Section	Subject	Page
Section 1		
Safety Practices		**1-1**
1.1	Introduction	1-2
1.2	Disclaimer	1-2
1.3	Operation & Maintenance Manual	1-2
1.4	Do Not Operate Tags	1-2
1.5	Safety Information	1-2
1.6	Safety Instructions	1-3
1.7	Safety Decals	1-4
Section 2		
General Information and Specifications		**2-1**
2.1	Replacement Parts and Warranty Information	2-2
2.2	Torque Charts	2-3
2.3	Specifications	**2-11**
2.4	Fluids, Lubricants and Capacities	2-13
2.5	Maintenance Schedule	2-16
2.6	Lubrication Schedule	2-19
Section 3		
Boom		**3-1**
3.1	Boom System Component Terminology	3-2
3.2	Safety Information	3-3
3.3	Two Section Boom System	3-3
3.4	Boom Assembly Maintenance	3-3
3.5	Boom Wear Pads	3-9
3.6	Quick Coupler Assembly	3-10
3.7	Forks	3-11
3.8	Boom Prop (If Equipped)	3-12
3.9	Emergency Boom Lowering Procedure	3-13
3.10	Troubleshooting	3-15
Section 4		
Cab		**4-1**
4.1	Operator Cab Component Terminology	4-2
4.2	Safety Information	4-3
4.3	Operator Cab	4-3
4.4	Cab Components	4-3
4.5	Cab Removal	4-10
4.6	Cab Installation	4-11

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

Section	Subject	Page
Section 5		
Axles, Drive Shafts, Wheels and Tires		**5-1**
5.1	Axle, Drive Shaft and Wheel Component Terminology	5-2
5.2	Safety Information	5-3
5.3	General Information	5-3
5.4	Axle Assemblies	5-3
5.5	Drive Shafts	5-9
5.6	Wheels and Tires	5-10
5.7	Steering Angle Adjustment	5-11
5.8	Brakes	5-11
5.9	Towing a Disabled Machine	5-12
Section 6		
Transmission		**6-1**
6.1	Transmission Assembly Component Terminology	6-2
6.2	Safety Information	6-3
6.3	Transmission Description	6-3
6.4	Transmission Specifications	6-3
6.5	Transmission Replacement	6-3
Section 7		
Engine		**7-1**
7.1	Introduction	7-2
7.2	Engine Serial Number	7-4
7.3	Specifications and Maintenance Information	7-4
7.4	Engine Cooling System	7-4
7.5	Engine Electrical System	7-7
7.6	Fuel System	7-8
7.7	Engine Exhaust System	7-9
7.8	Air Cleaner Assembly	7-10
7.9	Engine Replacement	7-11
Section 8		
Hydraulic System		**8-1**
8.1	Hydraulic Component Terminology	8-3
8.2	Safety Information	8-4
8.3	General Information	8-4
8.4	Specifications	8-4
8.5	Hoses, Tube Lines, Fittings, Etc.	8-4
8.6	Hydraulic Pressure Diagnosis	8-5
8.7	Hydraulic Schematic	8-7
8.8	Hydraulic Reservoir	8-10
8.9	Hydraulic System Pump	8-11
8.10	Front Drive Motor	8-12
8.11	Control Valves	8-13
8.12	Hydraulic Cylinders	8-26

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

Section	Subject	Page
Section 9		
Electrical System		**9-1**
9.1	Electrical Component Terminology	9-3
9.2	Safety Information	9-4
9.3	Fuses and Relays	9-4
9.4	Electrical System Schematics	9-7
9.5	Engine Start Circuit	9-15
9.6	Charging Circuit	9-17
9.7	Electrical System Components	9-18
9.8	Window Wiper/Washer	9-19
9.9	Cab Heater/AC and Fan	9-21
9.10	Switches, Solenoids and Senders	9-22
9.11	Load Stability Indicator System (CE & AUS)	9-26
9.12	Hand Held Analyzer (CE & AUS)	9-32
9.13	Diagnostic Trouble Codes (DTC) on Ground Module	9-34
9.14	Engine Diagnostic Trouble Code EMR4	9-42

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

2.3.4 Engine Performance Specifications

Description	
Engine Make/Model	CAT TD L4
Displacement	177 in³ (2.9 L)
Low Idle	975 - 1075 rpm
High Idle	2300 - 2400 rpm
Horsepower	74 HP (55 kW) @ 2300 rpm
Peak Torque	192 lb-ft (260 Nm) @ 1800 rpm
Fuel Delivery	Fuel Injection
Air Cleaner	Dry Type, Replaceable Primary and Safety Elements

2.3.5 Tires

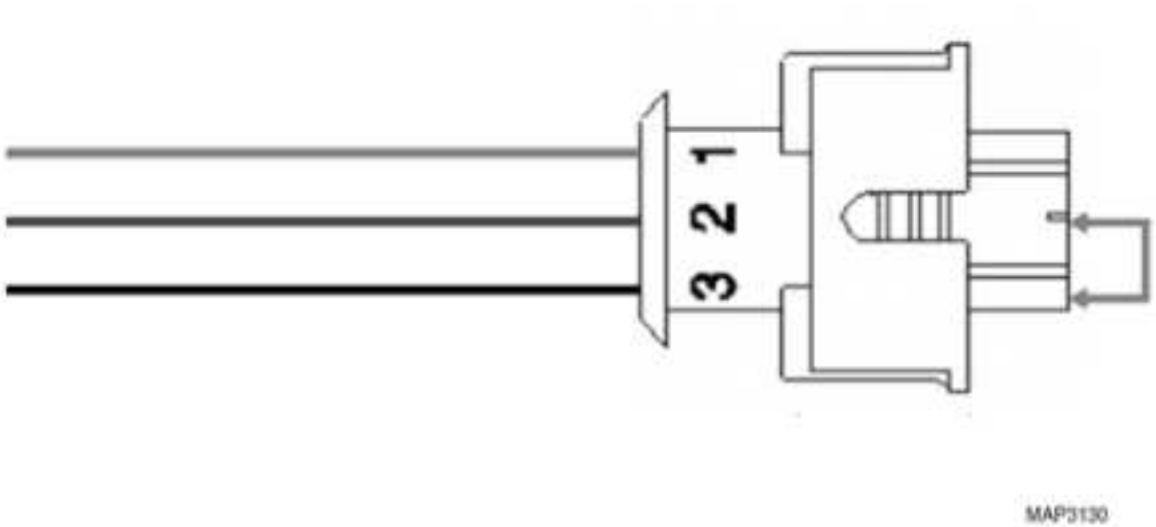
Note: *Standard wheel lug nut torque is 220 lb-ft (300 Nm).*

Note: *Pressures for Foam filled tires are for initial fill ONLY.*

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
12–16.50 (305/70D16.5)	Duraforce DT	Bias 12 Ply	Pneumatic	80 psi (5,5 bar)
			Foam - Approximately 220 lb (100 kg)	
14–17.50 (355/70D17.5)	Outrigger	Bias 14 Ply	Pneumatic	70 psi (4,8 bar)
			Foam - Approximately 220 lb (100 kg)	
10.5–18	MPT-01 TL	Bias 16 Ply	Pneumatic	87 psi (6,0 bar)
33x12–20	Non–Marking (White)			

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

6.3 SIGNAL WIRE TEST



MAP3130

To test for a broken signal wire from the sensor to the ECU, a jumper wire can be installed from the ground terminal at the sensor connector to the signal wire at the same connector.

- If the circuit high fault code goes passive and a circuit low fault is produced, the signal wire is intact.
- If the circuit high fault code stays active, the signal wire is broken.

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

7.1.92 KWP Code 835

KWP CODE	SPN CODE	ERROR PATH	
835	523906	PSPOvrTemp	
SPN GROUP	Not Available	SPN NAME	Manufacturer Assignable SPN
FMI-NO.	12	FMI-INFO	Not Available
		COMPONENT	Fuel feed pump

Short Description

- ECU detects too high temperature in powerstage of fuel pump circuit.
- Electrical fuel pre-supply pump; powerstage over temperature, Temperature is over limit.

System Reaction

- Powerstage in ECU is switched off.
- Permanent light, entry into error memory.
- Measurement in case of error: Not available.

Power Reduction

- No reduction.

Possible Reason for Error

- Relay defective.
- Wiring problem in fuel pump relay circuit.

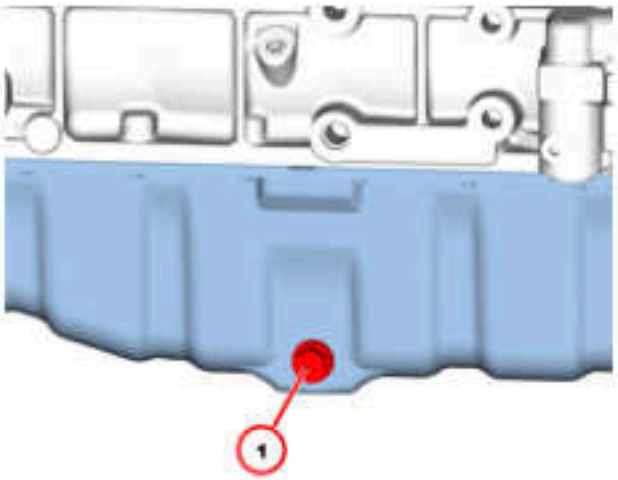
Possible Consequence

- Diagnostic lamp on. E
- Engine shut off due to missing fuel pressure.
- Start function is locked (no damage on further parts).

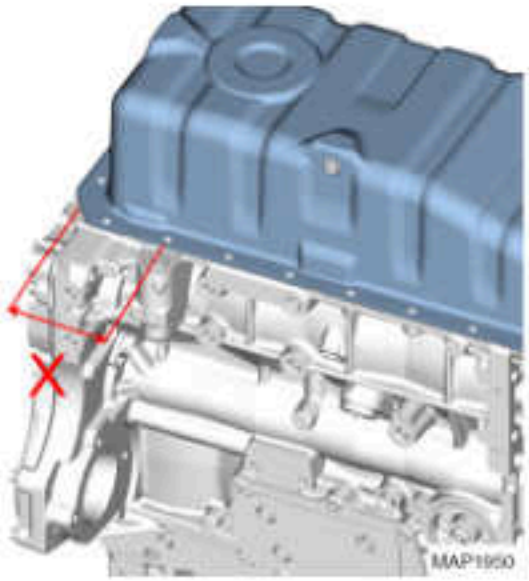
Actions for Repair

- Check fuel pump relay if necessary replace it.
- Check wiring of fuel feed pump circuit.

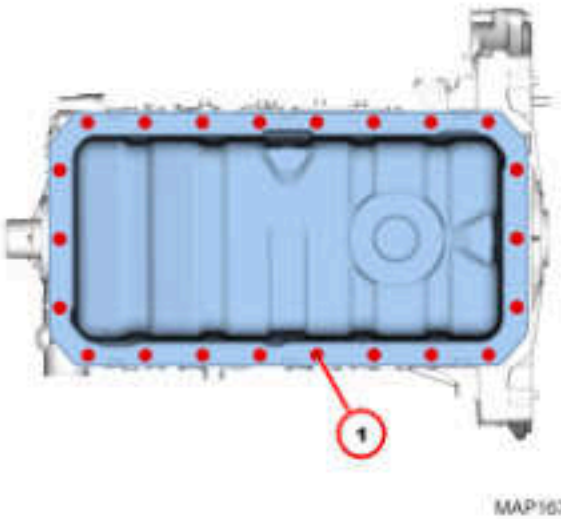
MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >



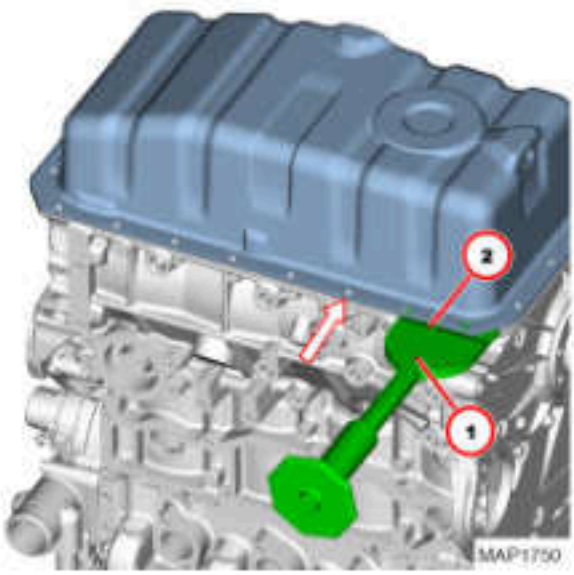
1. Unscrew locking screw (**1**).
2. Remove sealing ring.
3. Drain lubricating oil, collect and dispose of according to regulations.



Attention
Area X:
It is not permissible to drive in the separating tool in this area.



4. Unscrew all screws (**1**).



5. Drive in separating tool (**1**) to the stop (**2**).

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927 Order the manual at mid-west-tech.com >

CAT TH255C

DEUTZ TCD2.9 ENGINE



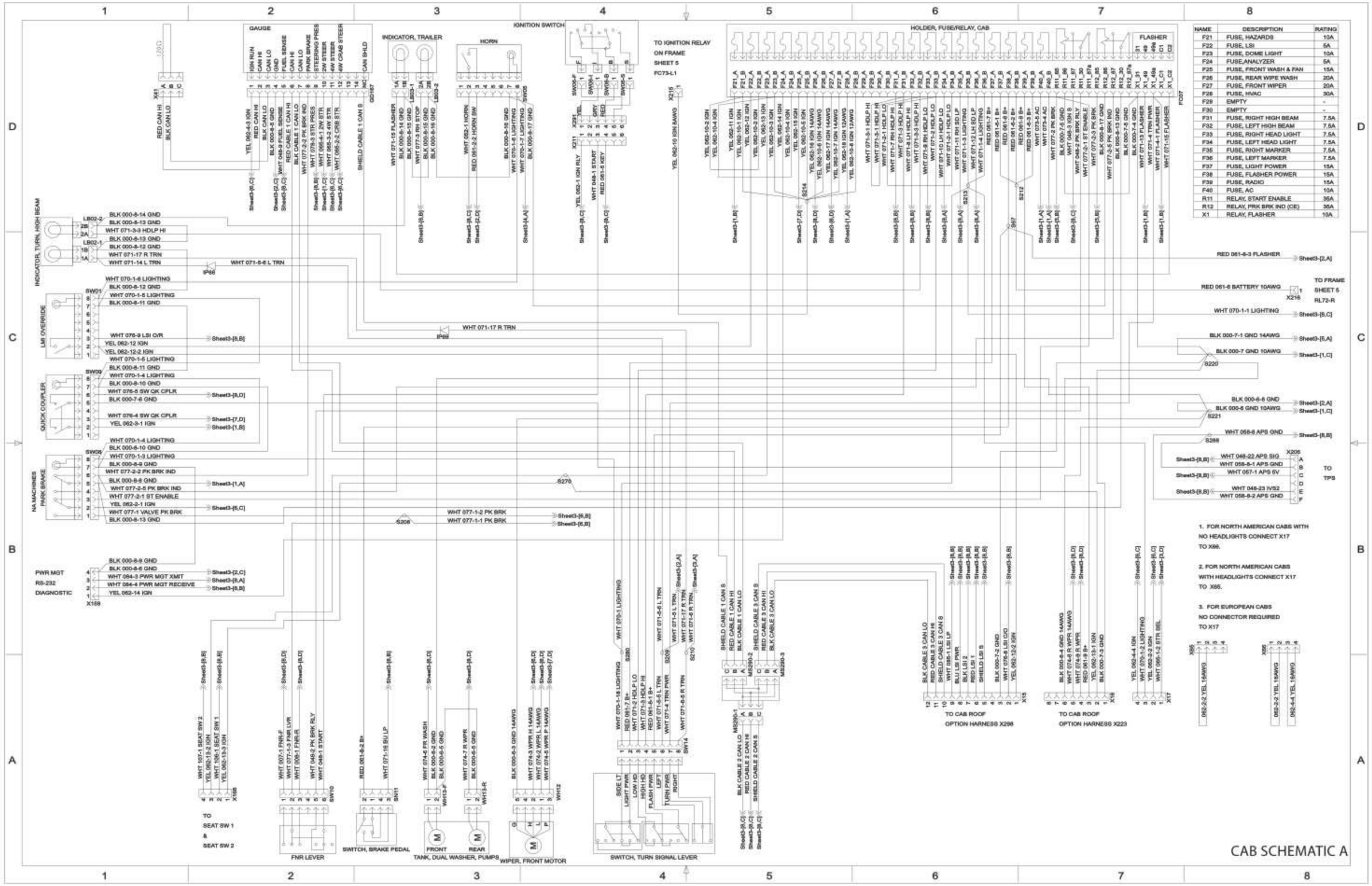
BUILDING CONSTRUCTION PRODUCTS

Caterpillar: Confidential Green

CATERPILLAR®
TODAY'S WORK. TOMORROW'S WORLD.™

MidWestTech | Caterpillar TH255C Telehandler Service Manual | Publication 31200927

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



NAME	DESCRIPTION	RATING
F21	FUSE, HAZARDS	10A
F22	FUSE, LSI	5A
F23	FUSE, DOME LIGHT	10A
F24	FUSE,ANALYZER	5A
F25	FUSE, FRONT WASH & FAN	15A
F26	FUSE, REAR WIPE WASH	20A
F27	FUSE, FRONT WIPER	20A
F28	FUSE, HVAC	30A
F29	EMPTY	-
F30	EMPTY	-
F31	FUSE, RIGHT HIGH BEAM	7.5A
F32	FUSE, LEFT HIGH BEAM	7.5A
F33	FUSE, RIGHT HEAD LIGHT	7.5A
F34	FUSE, LEFT HEAD LIGHT	7.5A
F35	FUSE, RIGHT MARKER	7.5A
F36	FUSE, LEFT MARKER	7.5A
F37	FUSE, LIGHT POWER	15A
F38	FUSE, FLASHER POWER	15A
F39	FUSE, RADIO	15A
F40	FUSE, AC	10A
R11	RELAY, START ENABLE	35A
R12	RELAY, PRK BRK IND (CE)	35A
X1	RELAY, FLASHER	10A

CATERPILLAR®

TH255C S/N JK200150
TH255C S/N JK300150

TH255C
Electrical Schematic
31200929

Sheet 2 of 9
July 11, 2013 - B

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