1650M
Tier 4
Crawler Dozer

PIN NCDC16500 and above
PIN NDDC16500 and above
PIN NEDC16000 and above
PIN NFDC16000 and above

OPERATOR'S MANUAL

Part number 47713494
2nd edition English
April 2015
Replaces part number 845 12743

CASE CONSTRUCTION

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 47713494 Order the manual at mid-west-tech.com >

Contents

1 GENERAL INFORMATION

Note to the owner 1-1
Intended use 1-3
Electro-Magnetic Compatibility (EMC) 1-4
Product identification 1-5
Operator's manual storage on the machine 1-7
Machine orientation 1-8
Machine components 1-9
Selective Catalytic Reduction (SCR) exhaust treatment - Product overview 1-11

2 SAFETY INFORMATION

Safety rules and signal word definitions 2-1
Safety rules 2-2
Safety rules — California Proposition 65 Warning 2-9
Operator's seat belt 2-10
Ecology and the environment 2-11
Hand signals 2-12
Safety signs 2-15

3 CONTROLS AND INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

Proper entry and exit 3-1

OPERATOR'S SEAT

Operator's seat 3-4
Seat belt 3-6

FORWARD CONTROLS

Ignition switch 3-7
Foot controls 3-8
Front console 3-10
Status and warning icons 3-13
Selective Catalytic Reduction (SCR) exhaust treatment - Overview 3-21
Multi-function display 3-24
Switch overview and operation 3-26

LEFT-HAND SIDE CONTROLS

Control levers 3-29

RIGHT-HAND SIDE CONTROLS

Dozer blade control lever 3-32
Bulldozer blade control lever 3-35
Ripper control lever 3-37

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

OVERHEAD CONTROLS
Climate control system 3-38
Cab air louvers 3-39

EXTERIOR CONTROLS
Master disconnect switch 3-41
Telematics 3-42

DISPLAY
Navigating the multi-function display screen 3-43
Operator preferences 3-51
Right-hand control lever 3-53

4 OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT
Before starting the engine 4-1
Run in period of a new machine 4-2
Starting the engine 4-3
Operating in extreme temperatures 4-5
Cold temperature operation 4-6

STOPPING THE UNIT
Parking the machine 4-8

MOVING THE UNIT
Operating the machine 4-9
Direction control lever 4-12
Machine settings 4-14
Hydrostatic drive speed controls 4-18
Deceleration or transmission pedal 4-19

5 TRANSPORT OPERATIONS

ROAD TRANSPORT
Tow procedure 5-1
Moving a disabled machine 5-5
Transporting by truck or trailer 5-9

PREPARING FOR ROAD TRANSPORT
Lifting the machine 5-12
Transport dimensions 5-13

6 WORKING OPERATIONS

GENERAL INFORMATION
Dozer blade 6-1

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

Dozer blade pitch adjustment (if equipped) 6-3
Bulldozer blade adjustment (if equipped) 6-4
Ripper 6-10
Track systems 6-11
Undercarriage wear 6-13
Engine starting aids 6-19

7 MAINTENANCE

GENERAL INFORMATION

Advice 7-1
Torque charts - Minimum tightening torques for normal assembly 7-2
Torque - Hydraulic tubes and fittings - Standard torque data for hydraulics 7-6
Servicing 7-9
Releasing pressure in the hydraulic system 7-11
Hydraulic and hydrostatic drive fluid 7-13
Cab floor and seat access 7-14
Recommended engine oil for operating temperature ranges 7-16
Fluids and lubricants 7-17
General specification - Diesel fuel 7-19
General specification - Biodiesel fuels 7-20
Engine cooling system - Basic instructions 7-22
Selective Catalytic Reduction (SCR) system 7-24

MAINTENANCE CHART

Maintenance chart 7-25

Daily inspection

General 7-27

Every 10 hours

Engine oil 7-31
Engine coolant 7-32
Hydraulic oil 7-34
Grease points 7-35
Bulldozer blade (optional) grease points 7-40

Initial 20 hours

Track shoe bolt torque 7-44

Every 50 hours

Fuel pre-filter - Drain condensation 7-45

Initial 100 hours

Change engine oil and filter (Initial) 7-46
Replace hydraulic oil filters (Initial) 7-49
Fuel filter (Initial) 7-51

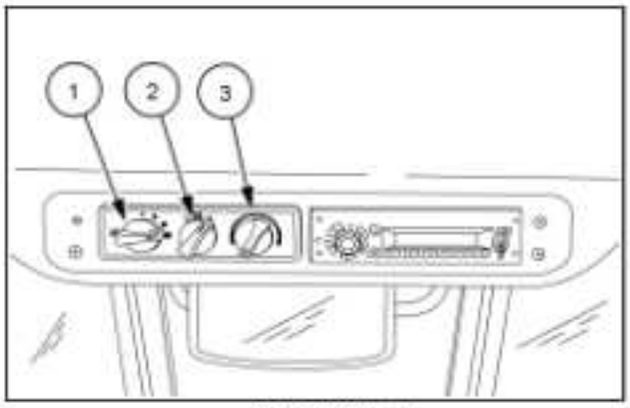
MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

OVERHEAD CONTROLS

Climate control system

Operating the climate control system

The climate control panel is located on the upper front cab frame above the operator's head.



RAPH12D0230BAA 1

- Fan control
  Set the four-speed fan at the desired comfort setting. Turn the fan control knob **(1)** in one step increments clockwise to increase fan speed. Turn the fan control knob **(1)** to the 12 o'clock position for OFF.
- Heat and air conditioning control
  The heat and air-conditioning control knob **(2)** has three positions. OFF is the far left position. Turn the heat and air-conditioning control knob **(2)** clockwise to the next position for heat (straight up). Turn the heat and air-conditioning control knob **(2)** to the far right indicated by the snowflake for air-conditioning.
- Temperature control
  Use the temperature control knob **(3)** to adjust to the desired cab temperature. Blue markings indicate cooler temperatures. Red markings indicate warmer temperatures when using the heater. The heat and air-conditioning knob **(2)** turn these functions on and off.

NOTICE: *If your machine is equipped with a water shut-off valve, it should be left ON for all temperature operating conditions.*

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

Initial 100 hours

Change engine oil and filter (Initial)

Change the engine oil and filter when the hour meter registers 100 hours for a new machine during the initial run-in period. Change the engine oil and filter every 500 hours thereafter or more frequently when the engine operating conditions are severe.

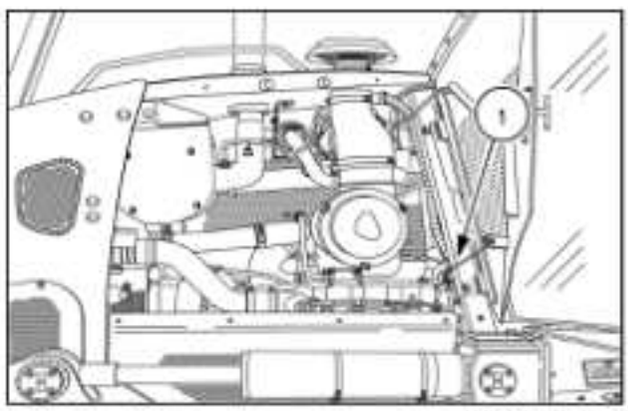
Prior operation:
Keep all unauthorized personnel clear of the area. Park the machine on level ground, in neutral with the parking brake applied, and the attachment lowered to the ground, turn off the engine, remove the key, and verify that engine components have cooled or avoid contact. Make sure that all residual pressure is relieved from circuits before beginning maintenance.

Service specifications	
Type of oil	**CASE AKCELA UNITEK NO. 1™ SBL CJ-4 SAE 10W-40**
Capacity (with filter change)	**16.4 l (17.3 US qt)**
Capacity (without filter change)	**15.6 l (16.5 US qt)**

1. Open the left-hand front and right-hand front access doors. Secure the access doors with the door struts **(1)**.
2. Remove the oil dipstick and the oil fill cap.

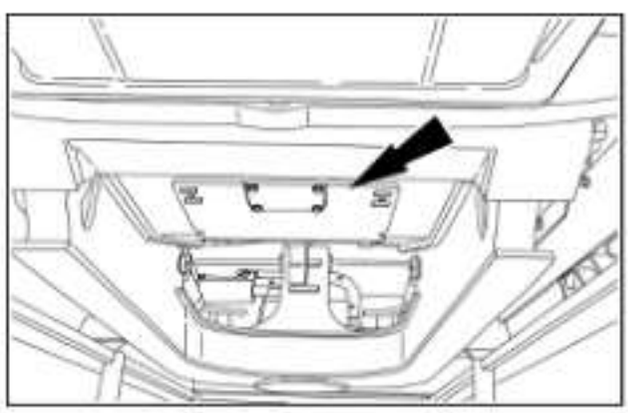
NOTE: *Oil drains faster when the oil is warm (but not hot) and the oil dipstick and oil fill cap is removed.*

3. Use a suitable container to collect the drained oil.



RAPH12DOZ2006AA 1

4. Remove the bolts and the engine oil access plate under the engine. Locate the oil drain plug.



RAPH12DOZ2008AA 2

NOTE: *If the machine is so equipped, and the special draining equipment is available, use the engine oil environmental drain located in the left side engine access door.*

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

Tracks - General specification

Track adjustment	Hydraulic
Track frame suspension	Pivot shaft and oscillating equalizer beam
Height of track shoe grouser	**55.5 mm (2.2 in)**
Track gauge	
XT	**1930.4 mm (76.0 in)**
WT/LGP	**2184 mm (86.0 in)**
Length of track on ground model with standard CASE Lubricated Track (CLT)	**3049.5 mm (120.1 in)**
Length of track on ground model with optional CASE Extended Life Track (CELT)	**3025.8 mm (119.1 in)**
Number of track shoe per side	45
Number of carrier rollers per side all models	2
Track rollers per side	8
CASE lubricated track (CLT)	Standard
CASE extended life track (CELT)	Optional

NOTE: *If machine is equipped with optional CELT chain ground pressure will be* ***0.7 kPa (0.1 psi)*** *greater.*

LT = Long Track

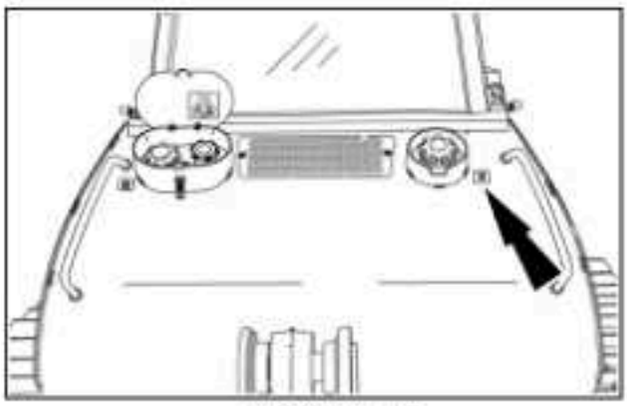
XLT = Extra Long Track

WT = Wide Track

LGP = Low Ground Pressure

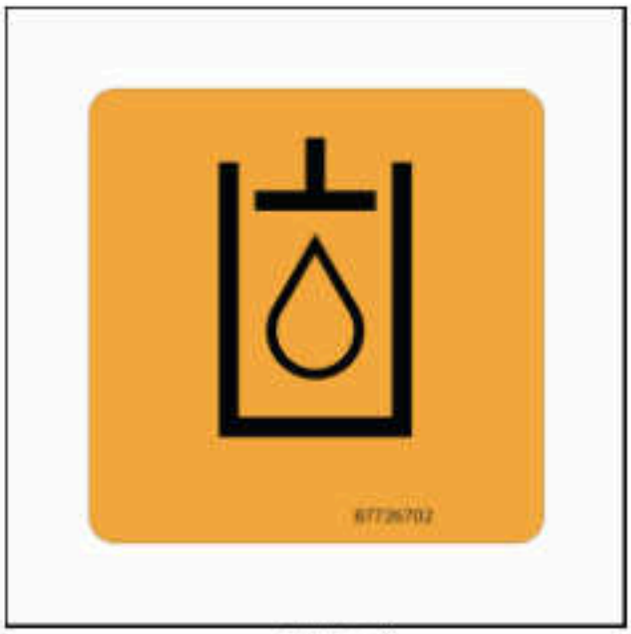
MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >

Hydraulic oil fill location



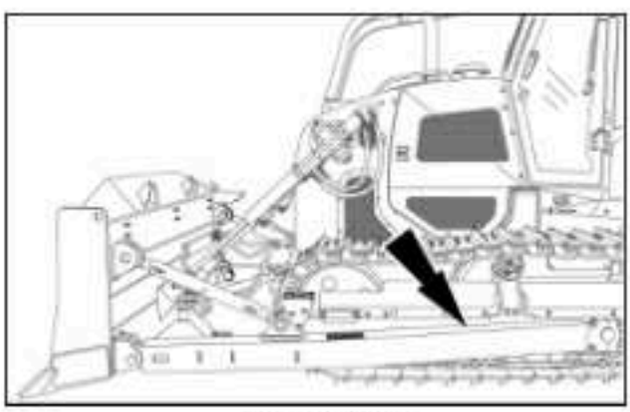
RAPH12DGZ128AA 42

This informational sign is located next to the hydraulic oil fill. It indicates the correct hydraulic oil fill location.
ISO sign number: 87726702



87726702 43

WARNING — Do Not Step (Optional dozer blade only)



RAL13DGZ1599AA 44

This WARNING safety sign is located on the bulldozer arm cylinder cover. One each side.
WARNING — Do Not Step. Fall hazard. Mount the machine with the optional bulldozer blade from the step on the push beam or from the rear of the machine.
ISO safety sign number: 134402



RGLT08YHL1908AL 45

MidWestTech | Case 1650M Tier 4 Crawler Dozer Operator's Manual | Publication 477... Order the manual at mid-west-tech.com >