621F
721F
Tier 4B
Wheel Loader

OPERATOR'S MANUAL

Part number 47566024
1st edition English
November 2014

CASE CONSTRUCTION

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publication 47... Order the manual at mid-west-tech.com >

Contents

1 GENERAL INFORMATION

Note to the Owner 1-1
Electro-magnetic compatibility (EMC) 1-4
Product identification 1-5
Operator's manual storage on the machine 1-7
Machine orientation 1-9
Identification of machine components 1-10

2 SAFETY INFORMATION

Safety rules and signal word definitions 2-1
Safety rules — California Proposition 65 Warning 2-2
Personal safety 2-3
Safety rules 2-4
Seat belts 2-12
Support strut and service link 2-13
Utility safety 2-15
Ecology and the environment 2-16
Hand signals 2-18
Safety signs 2-24

3 CONTROLS AND INSTRUMENTS

Access to operator's platform

Proper entry and exit 3-1

Operator's seat

Overview 3-2

Forward controls

Front console 3-7
Steering column 3-8
Pedal controls 3-10
Parking brake 3-12

Left-hand side controls

Transmission controls 3-13
Joystick steering 3-15

Right-hand side controls

Overview 3-17
Two function valve 3-19
Three function valve 3-23
Four function valve 3-27
Wrist rest 3-29

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

Exterior controls
Hood switch and master disconnect 3-30

Instrument cluster
Overview 3-33
Status and warning icons 3-34
Display settings 3-45
Keypad 3-46
Operator preferences 3-54

Side console
Overview 3-64
Switch operations 3-65
Climate controls 3-70

Climate controls
Cab air louvers 3-72
Windows 3-74

4 OPERATING INSTRUCTIONS

Commissioning the unit
Before starting the engine 4-1
Run in period of a new machine 4-2

Starting the unit
Starting the engine 4-3
Operating in extreme temperatures 4-5
Cold temperature operation 4-6
Transport/service link 4-8

Stopping the unit
Stopping the engine 4-11

Moving the unit
Before operating the transmission 4-12
Ride control 4-13
Control levers 4-14
Auxiliary forward, neutral, reverse (F-N-R) switch 4-19
Automatic mode 4-23
Loader functions 4-25

5 TRANSPORT OPERATIONS

Road transport
Safety rules 5-1

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

Recovery transport

Transporting the machine 5-2
Moving a disabled machine 5-5

6 WORKING OPERATIONS

Loader specifications

Operating tips 6-1
Changing loader attachments 6-4
Coupling to the attachment 6-6
Uncoupling the attachment 6-9
Joystick operation 6-13

7 MAINTENANCE

General information

Servicing 7-1
Support strut for loader lift arm 7-3
Releasing pressure in the hydraulic system 7-5
Biodiesel - Biodiesel fuels 7-7
Fluids and lubricants 7-9
Selective Catalytic Reduction (SCR) - Overview 7-17
Selective Catalytic Reduction (SCR) system 7-24

Maintenance planning

Maintenance chart 7-37

Daily inspection

General 7-39

Every 10 hours

Engine oil 7-43

Every 50 hours

Bucket/attachment grease fittings 7-44
Grease machine and attachments 7-45
Hydraulic oil level 7-46
Transmission oil level 7-47
Engine coolant 7-48

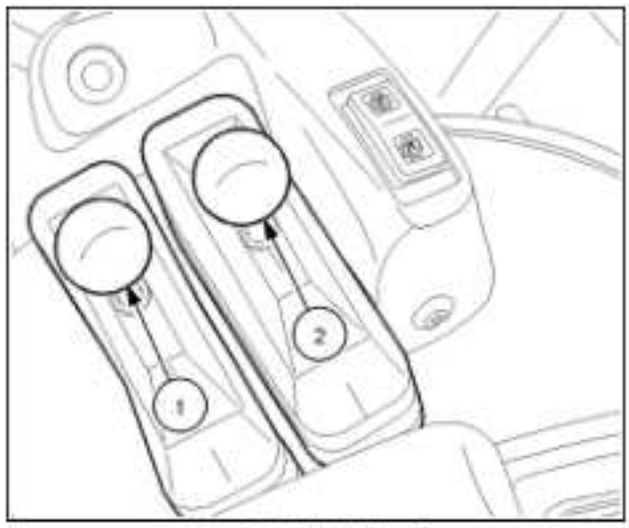
Initial 100 hours

Wheel torque 7-49
Change engine oil and filter (Initial) 7-50
Selective Catalytic Reduction system - Clean in-line supply filter (Initial) 7-52
Fuel prefilter (Initial) 7-53
Fuel filter (Initial) 7-54

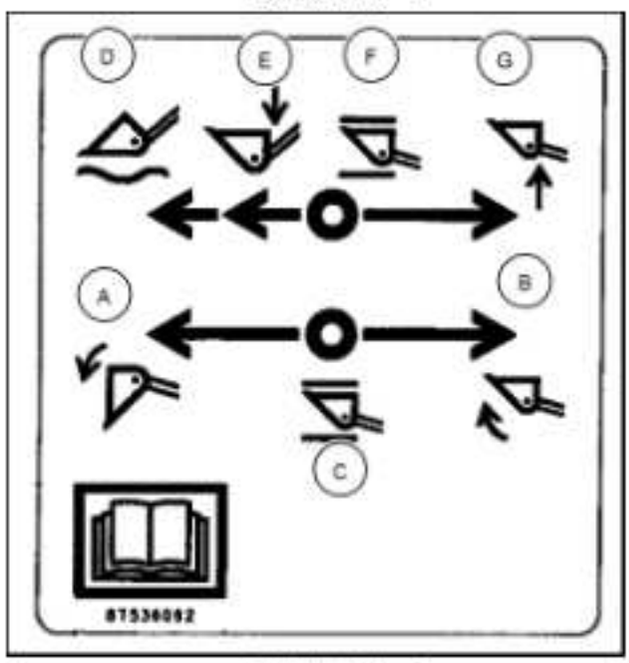
MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

Two function valve - two control levers

1. BUCKET CONTROL
   - A. DUMP
   - B. ROLLBACK
   - C. HOLD - The loader arms and bucket will not move when the control lever is in the HOLD position. When released, the control lever will automatically return to the HOLD position. You must manually move the control lever from the FLOAT position to the HOLD position
2. LIFT ARM CONTROL
   - D. FLOAT (Detent) This is a detent position. When in the FLOAT (Detent) position, the loader bucket can follow the level of the ground without movement of the control lever.
   - E. LOWER
   - F. HOLD
   - G. RAISE



RCPH13WHL018BAH 4



RCPH13WHL026BAH 5

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

Maintenance planning

Maintenance chart

Maintenance action	Cleaning	Change fluid	Grease	Check	Replace	Drain fluid	Adjust	Page no.
Daily inspection								
General				■				7-39
Every 10 hours								
Engine oil				■				7-43
Every 50 hours								
Bucket/attachment grease fittings			■					7-44
Grease machine and attachments			■					7-45
Hydraulic oil level				■				7-46
Transmission oil level				■				7-47
Engine coolant				■				7-48
Initial 100 hours								
Wheel torque				■				7-49
Change engine oil and filter (Initial)			■					7-50
Selective Catalytic Reduction system - Clean in-line supply filter (Initial)				■				7-52
Fuel prefilter (Initial)					■			7-53
Fuel filter (Initial)					■			7-54
Hydraulic oil filter (Initial)					■			7-55
Every 100 hours								
Grease fittings			■					7-56
Every 250 hours								
Grease drive shaft slip joints			■					
Cab air filter - Recirculation filter				■				7-59
Wheels and tires				■				7-61
Every 500 hours								
Engine oil and filter					■			7-63
Fuel prefilter					■			7-65
Fuel filter					■			7-66
Fuel tank sediment						■		7-67
Axle oil level				■				7-68
Roll over protective structure				■				7-69
Battery fluid level				■				7-72
DEF/AdBlue® tank vent filter					■			7-73
Selective Catalytic Reduction system - Clean in-line supply filter				■				7-74
Every 1000 hours								
Pivot points			■					7-75
Articulation fittings			■					7-76
Hydraulic oil filter					■			7-77
Drive belt					■			7-78
Cab air filter - Recirculation filter					■			7-80
Replacing the engine breather filter					■			7-82
Every 1500 hours								
Change front and rear axle oil						■		7-83
Transmission fluid and filter				■				7-85
Transmission breather					■			7-87
Calibrating the gear box							■	7-88

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

Weight adjustments

621F Weight Adjustment Specifications

Z-Bar Applications

Tire Option	Operating Weight	Tipping Load Adjustment (straight)	Tipping Load Adjustment (40° turn)
20.5 x 25 12 ply L2	**-45 kg (-100 lb)**	**-33 kg (-73 lb)**	**-29 kg (-64 lb)**
20.5 x 25 12 ply L3	**104 kg (229 lb)**	**75 kg (165 lb)**	**66 kg (146 lb)**
Standard counterweight	**-387 kg (-853 lb)**	**-917 kg (-2022 lb)**	**-768 kg (-1693 lb)**

NOTE: *Unit equipped with **2.1 m³ (2.75 yd³)** bucket, GP pin on bucket w/edge, 20.5R25 XTLA TL tires, ROPS cab with heater and air conditioner, lights, full counterweight, standard batteries, front and rear fenders, full fuel and urea tank, heavy counterweight **885 kg (1950 lb)**, and **79 kg (175 lb)** operator.*

XR Applications

Tire Option	Operating Weight	Tipping Load Adjustment (straight)	Tipping Load Adjustment (40° turn)
20.5 x 25 12 ply L2	**-45 kg (-99 lb)**	**-29 kg (-64 lb)**	**-26 kg (-57 lb)**
20.5 x 25 12 ply L3	**104 kg (229 lb)**	**66 kg (146 lb)**	**58 kg (128 lb)**

NOTE: *Unit equipped with **1.9 m³ (2.50 yd³)** bucket, GP pin on bucket w/edge, 20.5R25 XTLA TL tires, ROPS cab with heater and air conditioner, lights, full counterweight, standard batteries, front and rear fenders, full fuel and urea tank, heavy counterweight **885 kg (1950 lb)**, and **79 kg (175 lb)** operator.*

XT Applications

Tire Option	Operating Weight	Tipping Load Adjustment (straight)	Tipping Load Adjustment (40° turn)
20.5 x 25 12 ply L2	**-45 kg (-99 lb)**	**-30 kg (-66 lb)**	**-27 kg (-60 lb)**
20.5 x 25 12 ply L3	**104 kg (229 lb)**	**69 kg (152 lb)**	**61 kg (134 lb)**

NOTE: *Unit equipped with **1.9 m³ (2.50 yd³)** bucket, CNH w/edge and CNH coupler, 20.5R25 XTLA TL tires, ROPS cab with heater and air conditioner, lights, full counterweight, standard batteries, front and rear fenders, full fuel and urea tank, heavy counterweight **885 kg (1950 lb)**, and **79 kg (175 lb)** operator.*

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >

CASE

F SERIES WHEEL LOADER
TIER 4 FINAL SCR DEF QUICK REFERENCE GUIDE

DIESEL EXHAUST FLUID (DEF) FACTS & TIPS

- DEF is a non toxic aqueous liquid urea (32.5%) solution and water (67.5%). DEF is neither explosive nor harmful to the environment and is classified under the minimum risk category of transportable fluids.
- DEF quality is defined by ISO 22241-1. The American Petroleum Institute (API) has a voluntary certification program for DEF. To ensure DEF satisfies the requirement of ISO 22241-1, look for the API® DEF Certification Mark.℠
- Do not use anti-gelling or freeze point additive to DEF. This will dilute the urea content having a negative impact with the system's operation.
- Personal Protection Equipment (PPE) is not required under normal conditions. If splashing is likely, wear goggles and gloves.
- DEF shelf life varies with storage ambient temperature. (Storage Guidelines, Fig. 1).

Fig. 1

DEF STORAGE GUIDELINES

Up to 30 °F (0 °C) 36 months
51° to 77 °F (25 °C) 18 months
78° to 86 °F (30 °C) 12 months
87° to 95 °F (35 °C) 6 months

FUEL

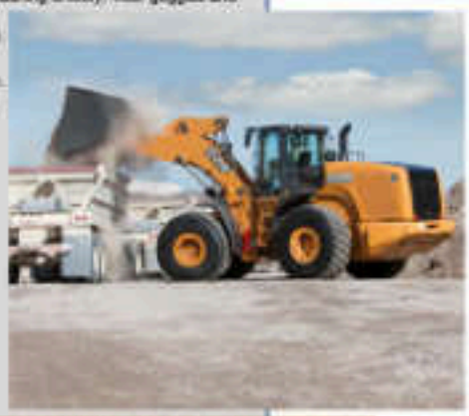
- Use only grade #2D (S15) diesel fuel that meets SAE J313 or D97581 Specification.
- If operating in very cold climates it is acceptable to use a mixture of #1D (S15) and #2D (S15) fuel.

BIO DIESEL

- Use only Biodiesel blends that meet EN14212 or ASTM D6751 Specifications.
- B5, B7 and B20 are approved blends. B100 is NOT approved. Blends over B5 may cause loss of engine power and shorten engine oil filter and fuel filter service intervals.
- Bio Diesel blends that do not meet certification can cause damage to the engine, fuel system and after treatment system.

OIL

- Use CASE AKCELA multi-viscosity engine oil to ensure long life and service in all working conditions. Consult the temperature range chart to determine the proper oil viscosity.
- Engine oil type CJ-4 is an acceptable alternative.
- Low ash oil is not required.

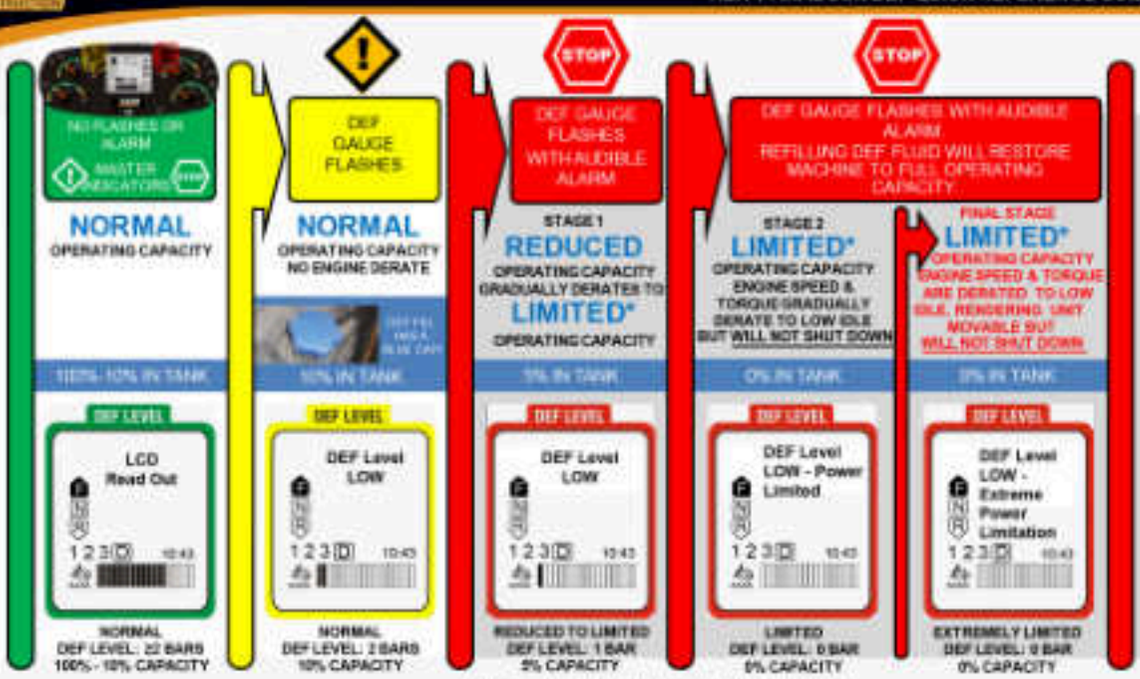


Consult operator's or service manual for specification and operating range details.
Keep this quick reference guide with the operators manual and accessible to the operator at all times.

LEIL14WHL0001FA 2

CASE

F SERIES WHEEL LOADER
TIER 4 FINAL SCR DEF QUICK REFERENCE GUIDE



LEIL14WHL0002FA 3

MidWestTech | Case 621F, 721F Tier 4B Wheel Loader Operator's Manual | Publicatio... Order the manual at mid-west-tech.com >