

**F-SERIES WHEEL LOADERS
521F**

CASE
CONSTRUCTION



**FASTER,
FUEL EFFICIENT**

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EXPERTS FOR THE REAL WORLD
SINCE 1842

STANDARD PROCOVER PLUS PROTECTION PLAN

CONSTRUCTION EQUIPMENT MASTER PARTS SCHEDULE

This plan provides coverage for the components listed below when a failure occurs due to a defect in material or workmanship, and may provide coverage for additional components not listed when the damage is caused by or resulting from a covered failure of a listed component.

PREMIER COMPONENTS COVERED

ENGINE AND ALL INTERNAL LUBRICATED COMPONENTS WITHIN	TRANSMISSIONS/AXLES/HYDROSTATICS	ELECTRICAL	HYDRAULICS
Accessory Gears	Axle Housing	Alternator	Accumulator And Related Relief Valve
Air Intake Hose	Axle Shaft	Gauges	Brake Accumulator
Camshaft	Clutch Discs (Wet Only)	Horn	Brake Pressure Sensor
Camshaft Bearings	Clutch Plates (Wet Only)	Indicators	Brake Pump, Brake Valve
Camshaft Drive Gear	Control Rods	Instruments	Differential Lock Valve
Catalytic Converter	Counter Shaft Clutch	Electronic Joysticks	Fan Pumps And Motors
Charge Air Cooler	Differential Housing	Electric Motors	Hydraulic Cylinders
Cold Start Enrichment Systems	Differential Pinion Gear / Ring Gear	Factory Installed Telematics	Hydraulic Hoses and Piping
Connecting Rods & Bearings	Drive Axle Hub	Sensors	Hydraulic Motors
Crankshaft Bearings & Gear	Drive Shaft Support Bearing	Solenoid Valves	Hydraulic Oil Coolers
Crankshaft Including Front And Rear Crankshaft Seals	Drive Shaft with Universal Joints	Starter And Starter Solenoid	Hydraulic Pumps
Cylinder Heads/ Head Gaskets	Electronic Transmission Controller and Valve	Switches	Hydraulic Reservoir
Cylinder Liners	Enclosed Oil Immersed Chains and Sprockets	Traction Control System	Hydraulic Valves
Diesel Exhaust Fluid Tank and Dispensing System	External Oil Lines	Voltage Regulator	Internal O-Rings and Bonded Washers
Diesel Particulate Filter	Filler Tubes (Transmission)	Wiring Harnesses	Pilot Control
EGR System Manifold	Final Drive Pinion	Wiring Harnesses Exclusions	Pressure Reducing Valves
Electronic Engine Control Module	Final Drive Planetary Gears	Rubbing, Chafing, Loose Or Corroded Connections	Unloading Valves
Engine Block	Front Wheel Drive Sensors	FACTORY INSTALLED HEATAND AIR CONDITIONING	STRUCTURAL
Engine Mounts And Supports	Hydraulic Drive / Travel Motor	Accumulator	Backhoe Booms
Engine Oil Cooler	Hydraulic Drive Pump	Clutch	Backhoe/Excavator Dipper Sticks
Engine Speed Controls, Linkages, and Cables	Hydraulic Transmission-Control Valve	Compressor	C Frame
Exhaust Manifold and Muffler	Hydrostatic Motor	Condenser	Car Body
Fan And Fan Drive	Hydrostatic Transmission Charge Pump	Dryer	Chassis
Filter Mount	Hydrostatic Transmission Pump	Evaporator	Circle Frame
Flywheel, Ring Gear	Hydrostatic/Hydraulic Pump Drives	Expansion Valve	Engine Frame
Front And Rear Engine Covers And Seals	Internal Lubricated Clutch Housings	Heater Core	Equipment Frame
Front Damper	Internal Transmission Control Linkage	Hoses	Excavator Booms
Fuel Lines	Internal Wet Service Brakes	Pulley	Falling Object Protection Structure (FOPS)
Fuel Tank	MFWD Axle/Differential Assembly including Driveshaft and U Joint	Seals & Gaskets	Forklift Masts
Fuel Transfer Pump & Gasket	Planetary Gear Carrier	Temperature Control Programmers and Valves	Inner and Outer Dipper Arms of the Extendable Boom (Backhoe Loader)
Injection Pump	Pneumatic Valves	OPERATOR AREA	Main Frame
Injectors	Rotary Hydraulic Manifold	Covers and Panels	Rollover Protection Structure (ROPS)
Intake and Exhaust Manifold And Gaskets	Splitter Drive/Drop Box	Exterior/Interior Door/Panel Latches, Hinges & Struts	Swing Frame
Oil Filler Tube	Steering Clutches (Wet)	Exterior/Interior Moldings	Swing Tower Castings (Backhoe Loader)
Oil Lines	Swing Motor And Swing Gear Box	Knobs for Switches and Handles	Track Frame
Oil Pan And Gasket	Torque Converter	Mirrors	Wheel Loader/Skid steer Loader Arms
Oil Pump	Torque Converter Pump	Seat Frame & Suspension	
Pistons & Rings	Transfer Drive		
Pre-Cleaner/Air Cleaner Housing	Transmission Case		
Pressure/Temperature Sensors & Sending Units	Transmission Gears, Bearings, & Shafts		
Pulleys	Transmission Pump		
Radiator	Travel & Swing Sections (only) Of Main Control Valve		
Rocker Arm Assembly	Travel Control Valve		
Selective Catalytic Reduction System	Turntable Bearing		
Thermostats	Undercarriage Roller And Idler Seals And Bearings		
Timing Gears	Undercarriage Tensioners		
Turbocharger And Gasket	UNDERCARRIAGE EXCLUSIONS:		
Valve Cover And Gasket	Sprocket, Tracks, Pads, Bolts, Chains, Or Any Failure Due To Wear, Or Breakage Caused By Wear		
Water Piping			
Water Pumps			

F-SERIES WHEEL LOADERS

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PRODUCTIVITY (50 meter distance cycle)

Considering density at 1,8 t/m³ and 100% fill factor
52 cycles/hour including 5 minute break _____ 52 loading cycles/h
with 2.1 m³ bucket _____ 110 m³/h or 198 t/h of material

ENGINE

Make _____ FPT engine F4HFA413A compliant with
EPA Tier2 or EU Stage II regulations
Number of cylinders _____ 4 cylinders - 4,7 liters - common rail
Max power SAE J1995 _____ 106kW / 142 hp @1800 rpm
Maximum torque SAE J995 _____ 608 Nm @1600 rpm

TRANSMISSION

All-wheel drive with planetary axles
Kick-down function
4-speed torque converter
4-speed auto Powershift ZF type 4WG130, switchable to manual shifting
forward speeds: 6-11-22-36 Km/h
reverse speeds: 6.4-12-23 Km/h
Adjustable transmission declutch

AXLES AND DIFFERENTIAL

- for outstanding traction with 50% longer maintenance intervals and 30%
less tire wear:
- for limited investment and good traction:
29% Limited slip differential on front and rear axles
front and rear axle ZF type MT-L3065-II

TIRES

Tires _____ 17,5R25

BRAKES

Service brake _____ Maintenance free, self-adjusting wet 4-wheel
disc brakes
Area _____ 0,31 m²/hub
Parking brake _____ Disc brake on transmission activated from the
cab cluster
Area _____ 58 cm²

HYDRAULICS

Valves _____ Rexroth Closed-center, Load sensing hydraulic system.
Main valve with 3 sections
Steering _____ The steering orbitrol hydraulically is actuated with
priority valve
Type of pump _____ Variable displacement pump
(134 l/min @250 bar)Automatic hydraulic functions
- Bucket Return-to-dig
- Boom Return-to-travel
- Autolift (adjustable height)
Control type _____ Pilot control with single joystick or two levers

CAPACITIES

Fuel tank _____ 189 usable liters
Cooling system _____ 22 liters
Engine oil _____ 12 liters
Hydraulic oil _____ Tank: 57 liters, total system: 114 liters
Transmission oil _____ 19 liters

CAB

Cab complies to:
protection against falling objects (FOPS) _____ ISO EN3449
protection against roll over (ROPS) _____ ISO EN13510
Air flow _____ 8.5 m³ / min spread through 17 air vents

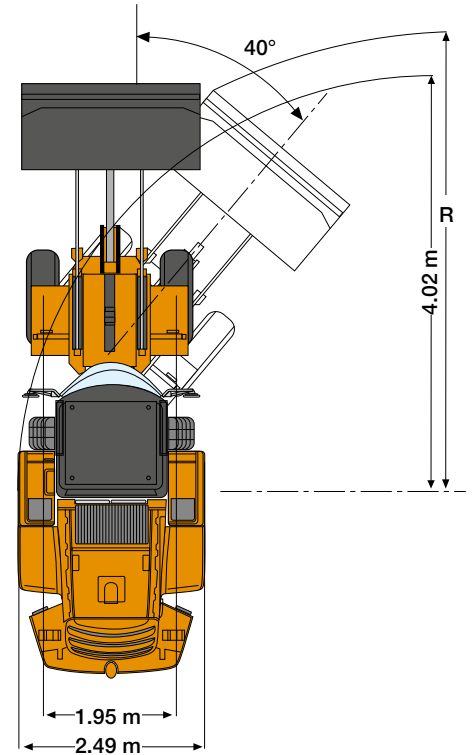
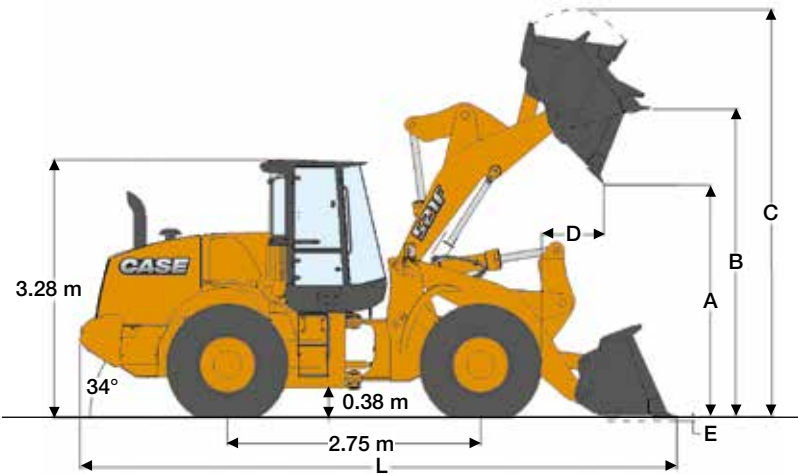
NOISE AND VIBRATION

Interior noise _____ 72 dB(A) according to ISO6595/6396/3744
Exterior noise _____ 72 dB(A) at 15 meters as per SAE J88 SEP80
103 dB(A) according to ISO6595/6396/3744
Reverse gear alarm
Vibrations _____ air-cushioned seat MSG 95A/732

ELECTRICAL

24 V. Batteries 2 x 12V.
Alternator _____ 70 A

GENERAL DIMENSIONS



LOADER SPEED:

Raising time (loaded)	5.4 sec
Dump time (loaded)	1.2 sec
Lowering time (empty, power down)	3.9 sec
Lowering time (empty, float down)	3.9 sec

		Z-bar		XT	
		2.1 m ³ bucket	teeth + segment	1.7 m ³ bucket with quick coupler	teeth
521F					
Bucket with bolt on		edge	teeth + segment	edge	teeth
Bucket volume (heaped)	m ³	2.07	2.07	1.70	1.70
Bucket Payload	kg	3478	3475	3249	3296
Maximum material density	ton/m ³	1.7	1.7	1.9	1.9
Bucket outside width	m	2.49	2.54	2.44	2.44
Bucket weight	kg	857	877	1117	1045
Tipping load - straight	kg	8150	8145	7634	7728
Tipping load - Articulated at 40°	kg	6957	6949	6497	6591
Breakout force	kg	7591	7781	8288	8124
Lift capacity from ground	kg	8889	8979	10236	10365
A - Dump height at 45° at full height	m	2.62	2.55	2.5	2.49
B - Hinge pin height	m	3.61	3.61	3.75	3.75
C - Overall height	m	4.75	4.75	4.94	4.94
D - Bucket reach at full height	m	1.12	1.19	1.23	1.27
E - Dig depth	cm	8	8	19	18
L - Overall length with bucket on the ground	m	6.83	6.94	7.05	7.07
R - Turning radius to front corner of the bucket	m	5.5	5.6	5.5	5.6
Bucket rollback in carry position		43°	43°	52°	52°
Dump angle at full height		55°	55°	62°	62°
Machine operating weight	kg	10448	10468	11189	11117

Note: bucket specification can slightly differ according to plant source. More bucket choice is available, please contact your local dealer.