**ENGINE**

Model: FPT F5BL413A  
Emissions Certification: Tier 4 Final  
Type: Diesel 4-stroke, Turbocharged  

Cylinders: 4  
Bore/Stroke: 3.90 x 4.33 in (99 x 110 mm)  
Displacement: 207 in³ (3.4 L)  

Fuel injection: Direct, high pressure common rail – HPCR  
Fuel: Diesel  

Engine speeds*: RPM  
Rated speed – full load: 2200  
Low idle: 900 – 1000  
High idle – no load: 2320 – 2430

**DRIVETRAIN**

Transmission – standard:  
Powershift S-Type, 4F-3R fully synchronized electric/hydraulic shifting w/ auto shift mode  

Transmission – optional:  
4F-4R Power Shuttle Synchronesh  
Transmission manual gear shift, fully synchronized  

Specifications below apply to both Power Shuttle and Powershift S-Type transmission unless otherwise indicated.

Gear ratios:  
Forward/Reverse  
1st: 5.603/4.643  
2nd: 3.481/2.884  
3rd: 1.584/1.313  
4th: 0.793/0.657* 

Travel speeds:  
Forward: mph (kph)  
Reverse: mph (kph)  
1st: 4.1 (6.6) / 4.9 (7.9)  
2nd: 6.5 (10.5) / 7.8 (12.6)  
3rd: 13.8 (22.3) / 16.5 (26.5)  
4th: 25.2 (40.6) / 29.0 (46.7)*  

Transmission – optional:  
Powershift H-Type, 4F-3R hydraulic clutch shifting w/ auto shift mode

Gear ratios:  
Forward/Reverse  
1st: 5.533/4.549  
2nd: 3.359/2.762  
3rd: 1.533/1.260  
4th: 0.811/—

Travel speeds:  
Forward: mph (kph)  
Reverse: mph (kph)  
1st: 4.0 (6.4) / 4.8 (7.7)  
2nd: 6.5 (10.5) / 7.8 (12.6)  
3rd: 13.7 (22.0) / 16.4 (26.4)  
4th: 23.0 (37.0) /—  

Torque converter ratio: 2.2  

Differential lock: On-the-go push-button activation

Front 4WD/Rear axle:  
Differential ratio: 2.1/2.5  
Planetary hub ratio: 6.0/6.4  
Total reduction ratio: 12.8/16.0

Service brakes:  
Individually applied, power assisted, hydraulically actuated, maintenance-free, self-adjusting, outboard mounted, wet disc, 2 per side.  
Total disc area: 384 in² (0.25 m²)  
Parking brakes: Trans Mounted spring-applied hydraulic release – SAHR

**ELECTRICAL**

Voltage: 12 Volts, negative ground  
Alternator: 160 amp  
Battery: 850 cold-cranking amp(s)  

Optional dual batteries: 850 cold-cranking amp(s) each  
Power plugs: 2 – 30 amps total

**OPERATOR ENVIRONMENT**

ROPS/FOPS certified protective canopy; Anti-vandalism cover for dash w/ canopy only; Rear fenders extensions; Coat hook w/ garment strap; Interior rearview convex mirror; Non-suspension seat – 180° swivel – Vinyl; 2 in (50 mm) retractable seat belt; Cup holder/storage tray mounted on left-hand fender; Right-hand storage compartment w/ lid.

Gauges:  
Engine water temperature; Converter oil temperature; Fuel level; Tachometer/hourmeter; DEF level.

Warning lights:  
Air cleaner restriction; Alternator; A/C high pressure; Cold start; Engine oil pressure; Hydraulic oil filter bypass; Parking brake engagement; Low fuel; Water in fuel; Low DEF.

Audible alarms w/ diagnostics:  
Coolant temperature; Engine oil pressure; Parking brake engagement; Converter oil temperature; Shuttle engagement/seat position; Backup alarm; Low DEF.

Horn: Dual switched front and rear

**OPERATING WEIGHT**

Configuration – SAE Transport:  
No Operator, 4:1 Loader Bucket, E-hoe, Cab w/ Heat and AC, Ride Control, Eco Mode, Heavy Lift, Fully fueled, 24 in HD BH Bucket 4 WD, Boom Guard, Big Front Counterweight, Quick Couple BH, BH aux., Pilot BH Controls, Galaxy 14-17.5 @ 50 psi front tires Goodyear 21 L – 24 @ 28 psi Rear Tires.

Configuration – 20,532 lb (9,309 kg)

Add-on weights:  
Cab-over canopy: 309 lb (140 kg)  
Fabricated stabilizer pads: 141 lb (64 kg)  
Counterweights: 700 lb (318 kg)  
1,100 lb (500 kg)  
Extendahoe®: 335 lb (152 kg)  
4WD w/ driveshaft guard: 393 lb (178 kg)
Pump: Bosch Rexroth Series 31 Variable Displacement Axial Piston Pump, dual mode torque regulation, mode selected by solenoid

Main relief pressure:
- Standard: 3,450 +/- 50 psi (238 +/- 3.5 bar)
- Power Lift: 3,625 +/- 50 psi (250 +/- 3.5 bar)

Filtration:
- 7-micron, full flow replaceable cartridge on return line, condition indicator light for filter.

Oil cooler Heavy-duty

Loader flow @ rated engine RPM:
- 43 gpm @ 2,340 psi (162.6 L/min @ 161 bar)

Manual backhoe control valve:
- Six, seven, or eight spool sectional closed center control valve. Features “Pro-Control” which includes custom designed spools for each individual function along w/ “swing cushioning” valve for zero-wag swing control. Basic control valve is closed center, w/ circuits in parallel w/ a post-compensated, flow sharing feature for simultaneous operation of all circuits.

1-way flow auxiliary hydraulics:
- 1-way flow hydraulic valve is equipped w/ an adjustable LS relief valve to control attachment pressure and a 6 position flow control selector for 6 detented, distinct flow settings.

2-way flow auxiliary hydraulics:
- Actuation:
  - Manual backhoe controls – cab floor pedal
  - Pilot controls – left-hand joystick

Fuel tank 35.0 gal (132.0 L)

DEF tank 3.6 gal (13.5 L)

Hydraulic system:
- Total: 138 qt (130.7 L)
- w/ Extendahoe®: 144 qt (135.7 L)
- Reservoir w/ filter: 55 qt (52.4 L)
- Reservoir w/o filter: 53 qt (50.5 L)

Transmission – total system:
- 2WD Standard: 18 qt (17.0 L)
- 2WD Powershift S-Type: 23 qt (21.7 L)
- 4WD Standard: 21 qt (19.4 L)
- 4WD Powershift S-Type: 22 qt (20.7 L)
- 4WD Powershift H-Type: 19 qt (18.0 L)

Front axle:
- 2WD each hub: 0.8 qt (0.8 L)
- 4WD Differential: 9.1 qt (8.6 L)
- 4WD Planetarys – each: 1.1 qt (1.0 L)

Rear axle:
- Differential and planetaries: 14.4 qt (13.6 L)

Engine oil w/ filter: 8.5 qt (8.0 L)

Cooling system:
- w/ heater: 19.0 qt (18.0 L)
- w/o heater: 18.3 qt (17.3 L)

Window washer reservoir: 3.0 qt (2.8 L)

Front tires:
- 2WD: 14.0 L x 17.5, 10-ply Industrial Rib
- 4WD: 14.0 L x 17.5, 10-ply SGL SS

Rear tires:
- 2/4WD: 21.0 L x 24.0, 10-ply R4

Turning radius: Curb to Curb:
- 2WD:
  - Brakes on: 11 ft 6 in (3.55 m)
  - Brakes off: 12 ft 8 in (3.86 m)
- 4WD – engaged:
  - Brakes on: 12 ft 6 in (3.81 m)
  - Brakes off: 14 ft 4 in (4.36 m)
- 4WD – disengaged:
  - Brakes on: 11 ft 8 in (3.55 m)
  - Brakes off: 12 ft 8 in (3.86 m)

NOTE: *Turning radius dimensions curb to curb w/ 21.0 L x 24.0 rear tires.

Long Lip Bucket with lift points and bolt-on cutting edge
- Width: 93 in (2.36 m)
- Weight: 1,188 lb (539 kg)
- Struck Heaped Capacity: 1.1 yd³ (0.84 m³) / 1.3 yd³ (0.99 m³)

4 IN 1® Bucket
- Width: 93 in (2.36 m)
- Weight: 1,685 lb (764 kg)
- Struck Heaped Capacity: 1.0 yd³ (0.76 m³) / 1.20 yd³ (0.92 m³)

Universal Buckets
- Width: 12 in (305 mm)
- Weight: 295 lb (134 kg)
- Heaped Capacity: 3.40 ft³ (0.10 m³)

High Capacity Buckets
- Width: 24 in (610 mm)
- Weight: 447 lb (203 kg)
- Heaped Capacity: 8.50 ft³ (0.24 m³)

Service Capacities
- Fuel tank: 35.0 gal (132.0 L)
- DEF tank: 3.6 gal (13.5 L)
- Oil cooler: Heavy-duty

Other Specifications
- Front axle:
  - 2WD each hub: 0.8 qt (0.8 L)
  - 4WD Differential: 9.1 qt (8.6 L)
  - 4WD Planetarys – each: 1.1 qt (1.0 L)
- Rear axle:
  - Differential and planetaries: 14.4 qt (13.6 L)
- Engine oil w/ filter: 8.5 qt (8.0 L)
- Cooling system:
  - w/ heater: 19.0 qt (18.0 L)
  - w/o heater: 18.3 qt (17.3 L)
- Window washer reservoir: 3.0 qt (2.8 L)

Loaders Bucket Sizes

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
<th>Weight</th>
<th>Struck Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Lip Bucket with lift points</td>
<td>93 in</td>
<td>1,188 lb (539 kg)</td>
<td>1.1 yd³ (0.84 m³) / 1.3 yd³ (0.99 m³)</td>
</tr>
<tr>
<td>and bolt-on cutting edge</td>
<td>96 in</td>
<td>1,188 lb (562 kg)</td>
<td>1.3 yd³ (1.0 m³)</td>
</tr>
<tr>
<td>4 IN 1® Bucket</td>
<td>93 in</td>
<td>1,685 lb (764 kg)</td>
<td>1.0 yd³ (0.76 m³) / 1.20 yd³ (0.92 m³)</td>
</tr>
</tbody>
</table>

Backhoes Bucket Sizes

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
<th>Weight</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal Buckets</td>
<td>12 in</td>
<td>295 lb (134 kg)</td>
<td>3.40 ft³ (0.10 m³)</td>
</tr>
<tr>
<td></td>
<td>18 in</td>
<td>356 lb (162 kg)</td>
<td>5.30 ft³ (0.15 m³)</td>
</tr>
<tr>
<td></td>
<td>24 in</td>
<td>427 lb (194 kg)</td>
<td>7.70 ft³ (0.22 m³)</td>
</tr>
<tr>
<td></td>
<td>30 in</td>
<td>489 lb (222 kg)</td>
<td>10.20 ft³ (0.29 m³)</td>
</tr>
<tr>
<td></td>
<td>36 in</td>
<td>552 lb (251 kg)</td>
<td>12.70 ft³ (0.36 m³)</td>
</tr>
<tr>
<td>High Capacity Buckets</td>
<td>24 in</td>
<td>447 lb (203 kg)</td>
<td>8.50 ft³ (0.24 m³)</td>
</tr>
<tr>
<td></td>
<td>30 in</td>
<td>502 lb (228 kg)</td>
<td>10.60 ft³ (0.30 m³)</td>
</tr>
</tbody>
</table>
### LOADER DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension Description</th>
<th>Long Lip Bucket</th>
<th>4 in 1° Bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Overall operating height – fully raised</strong></td>
<td>13 ft 11 in (4.24 m)</td>
<td>13 ft 10 in (4.22 m)</td>
</tr>
<tr>
<td><strong>Height to:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Bucket hinge pin fully raised</td>
<td>11 ft 6 in (3.50 m)</td>
<td>11 ft 6 in (3.50 m)</td>
</tr>
<tr>
<td>C. Bucket hinge pin at SAE carry</td>
<td>12.8 in (325 mm)</td>
<td>12.8 in (325 mm)</td>
</tr>
<tr>
<td><strong>D. Dump angle at full height</strong></td>
<td>45°</td>
<td>45°</td>
</tr>
<tr>
<td><strong>E. Dump clearance at full height, 45° dump:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket</td>
<td>8 ft 11 in (2.72 m)</td>
<td>9 ft 1 in (2.77 m)</td>
</tr>
<tr>
<td>Clam open</td>
<td>—</td>
<td>9 ft 10 in (3.01 m)</td>
</tr>
<tr>
<td><strong>F. Dump reach at full height, 45° dump – from bumper:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket</td>
<td>29.2 in (741 mm)</td>
<td>27.8 in (707 mm)</td>
</tr>
<tr>
<td>Clam open</td>
<td>—</td>
<td>13.8 in (351 mm)</td>
</tr>
<tr>
<td><strong>Bucket rollback:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. @ Groundline</td>
<td>40°</td>
<td>41°</td>
</tr>
<tr>
<td>H. @ SAE carry</td>
<td>46°</td>
<td>46°</td>
</tr>
<tr>
<td>J. @ Full height</td>
<td>Adjustable</td>
<td>Adjustable</td>
</tr>
<tr>
<td><strong>K. Digging depth below grade:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket flat</td>
<td>6.2 in (157 mm)</td>
<td>5.9 in (150 mm)</td>
</tr>
<tr>
<td>Clam open – dozing</td>
<td>—</td>
<td>3.5 in (89 mm)</td>
</tr>
<tr>
<td><strong>L. Reach from front axle centerline – bucket on ground</strong></td>
<td>6 ft 7 in (2.05 m)</td>
<td>6 ft 5 in (1.99 m)</td>
</tr>
<tr>
<td><strong>Lift capacity to full height – calculated values</strong></td>
<td>8,202 lb (3 721 kg)</td>
<td>7,807 lb (3 541 kg)</td>
</tr>
<tr>
<td><strong>Breakout force – calculated values:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift cylinders</td>
<td>11,463 lb (5 099 daN)</td>
<td>11,225 lb (4 993 daN)</td>
</tr>
<tr>
<td>Dump cylinders</td>
<td>12,776 lb (5 683 daN)</td>
<td>13,717 lb (6 102 daN)</td>
</tr>
<tr>
<td>Bucket cutting edge width</td>
<td>92.7 in (2.36 m)</td>
<td>93.0 in (2.36 m)</td>
</tr>
<tr>
<td><strong>Maximum grading angle</strong></td>
<td>106°</td>
<td>106°</td>
</tr>
<tr>
<td><strong>Maximum clam opening</strong></td>
<td>—</td>
<td>38.3 in (972 mm)</td>
</tr>
<tr>
<td><strong>Moldboard height</strong></td>
<td>—</td>
<td>36.8 in (934 mm)</td>
</tr>
<tr>
<td><strong>Raising time to full height</strong></td>
<td>3.7 sec</td>
<td>3.7 sec</td>
</tr>
<tr>
<td><strong>Bucket dumping time</strong></td>
<td>2.0 sec</td>
<td>2.0 sec</td>
</tr>
<tr>
<td><strong>Lowering time:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power down</td>
<td>2.5 sec</td>
<td>2.5 sec</td>
</tr>
<tr>
<td>Return-to-dig</td>
<td>3.8 sec</td>
<td>3.8 sec</td>
</tr>
<tr>
<td><strong>Clam:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open time</td>
<td>—</td>
<td>1.3 sec</td>
</tr>
<tr>
<td>Close time</td>
<td>—</td>
<td>1.1 sec</td>
</tr>
</tbody>
</table>

**NOTE:** Loader dimensions taken with 4WD.
## DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>Standard Backhoe</th>
<th>Retracted</th>
<th>Extendahoe®</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M. Overall transport length:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lip bucket</td>
<td>23 ft 10 in (7.25 m)</td>
<td>23 ft 10 in (7.25 m)</td>
<td>–</td>
</tr>
<tr>
<td>4 IN 1® bucket</td>
<td>23 ft 7 in (7.20 m)</td>
<td>23 ft 7 in (7.20 m)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Overall transport width</strong></td>
<td>7 ft 9 in (2.36 m)</td>
<td>7 ft 9 in (2.36 m)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Height:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To top of canopy</td>
<td>8 ft 9 in (2.68 m)</td>
<td>8 ft 9 in (2.68 m)</td>
<td>8 ft 9 in (2.68 m)</td>
</tr>
<tr>
<td>To top of cab</td>
<td>8 ft 11 in (2.71 m)</td>
<td>8 ft 11 in (2.71 m)</td>
<td>8 ft 11 in (2.71 m)</td>
</tr>
<tr>
<td>To top of exhaust stack</td>
<td>8 ft 9 in (2.67 m)</td>
<td>8 ft 9 in (2.67 m)</td>
<td>8 ft 9 in (2.67 m)</td>
</tr>
<tr>
<td><strong>N. Transport</strong></td>
<td>11 ft 7 in (3.54 m)</td>
<td>11 ft 8 in (3.54 m)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Ground clearance at backhoe frame</strong></td>
<td>14.2 in (360 mm)</td>
<td>14.2 in (360 mm)</td>
<td>14.2 in (360 mm)</td>
</tr>
<tr>
<td><strong>Angle of departure</strong></td>
<td>18.7°</td>
<td>18.7°</td>
<td>18.7°</td>
</tr>
<tr>
<td><strong>Front wheel tread:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.0 L x 17.5 Industrial Rib</td>
<td>74.3 in (1.89 m)</td>
<td>74.3 in (1.89 m)</td>
<td>–</td>
</tr>
<tr>
<td>14.0 L x 17.5</td>
<td>74.3 in (1.89 m)</td>
<td>74.3 in (1.89 m)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Rear wheel tread:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.0 L x 24.0</td>
<td>69.6 in (1.77 m)</td>
<td>69.6 in (1.77 m)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Wheelbase:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2WD</td>
<td>84.0 in (2.13 m)</td>
<td>84.0 in (2.13 m)</td>
<td>–</td>
</tr>
<tr>
<td>4WD</td>
<td>84.5 in (2.15 m)</td>
<td>84.5 in (2.15 m)</td>
<td>–</td>
</tr>
</tbody>
</table>

**NOTE:** Dimensions taken with 21.0 L x 24.0 rear tires and 14.5/75.0 L x 16.1 front tires except that data marked 4WD is taken with 14.0 L x 17.5 front tires.

## CYLINDERS

<table>
<thead>
<tr>
<th></th>
<th>Bore Diameter</th>
<th>Rod Diameter</th>
<th>Stroke</th>
<th>Closed Length</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loader:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift – 2</td>
<td>3.50 in (88.9 mm)</td>
<td>1.875 in (47.6 mm)</td>
<td>29.13 in (740.0 mm)</td>
<td>41.54 in (1 055.0 mm)</td>
</tr>
<tr>
<td>Dump – 2</td>
<td>3.25 in (82.6 mm)</td>
<td>1.75 in (44.5 mm)</td>
<td>20.33 in (516.5 mm)</td>
<td>30.78 in (781.8 mm)</td>
</tr>
<tr>
<td>4 IN 1® clam – 2</td>
<td>3.00 in (76.2 mm)</td>
<td>1.75 in (44.5 mm)</td>
<td>9.08 in (230.6 mm)</td>
<td>19.62 in (498.3 mm)</td>
</tr>
<tr>
<td><strong>Backhoe:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boom</td>
<td>5.50 in (139.7 mm)</td>
<td>2.75 in (69.9 mm)</td>
<td>40.57 in (1 030.5 mm)</td>
<td>57.05 in (1 449.0 mm)</td>
</tr>
<tr>
<td>Dipperstick</td>
<td>5.25 in (133.4 mm)</td>
<td>2.75 in (69.9 mm)</td>
<td>23.53 in (597.7 mm)</td>
<td>38.49 in (977.7 mm)</td>
</tr>
<tr>
<td>Bucket</td>
<td>3.50 in (88.9 mm)</td>
<td>2.50 in (63.5 mm)</td>
<td>38.95 in (989.4 mm)</td>
<td>51.78 in (1 315.2 mm)</td>
</tr>
<tr>
<td>Extendahoe®</td>
<td>3.00 in (76.2 mm)</td>
<td>1.75 in (44.5 mm)</td>
<td>48.03 in (1 220.0 mm)</td>
<td>64.02 in (1 626.0 mm)</td>
</tr>
<tr>
<td>Swing – 2</td>
<td>4.00 in (101.6 mm)</td>
<td>2.00 in (50.8 mm)</td>
<td>11.50 in (292.0 mm)</td>
<td>24.44 in (620.8 mm)</td>
</tr>
<tr>
<td>Stabilizer – 2</td>
<td>5.25 in (133.4 mm)</td>
<td>2.50 in (63.5 mm)</td>
<td>20.40 in (518.1 mm)</td>
<td>33.57 in (852.7 mm)</td>
</tr>
</tbody>
</table>

## AXLE RATINGS

<table>
<thead>
<tr>
<th></th>
<th>Front – 2WD</th>
<th>Rear</th>
<th>Front – 4WD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum static</strong></td>
<td>65,506 lb (29 713 kg)</td>
<td>70,848 lb (32 136 kg)</td>
<td>67,883 lb (30 791 kg)</td>
</tr>
<tr>
<td><strong>Dynamic operating</strong></td>
<td>44,261 lb (20 077 kg)</td>
<td>49,494 lb (22 450 kg)</td>
<td>47,426 lb (21 512 kg)</td>
</tr>
<tr>
<td><strong>Static operating</strong></td>
<td>17,704 lb (8 031 kg)</td>
<td>19,798 lb (8 980 kg)</td>
<td>18,969 lb (8 604 kg)</td>
</tr>
<tr>
<td><strong>Oscillation – front axle</strong></td>
<td>22° total – 11° each side</td>
<td>–</td>
<td>22° total – 11° each side</td>
</tr>
</tbody>
</table>
## BACKHOE OPERATIONAL DATA

### Standard Backhoe

<table>
<thead>
<tr>
<th>Standard Backhoe</th>
<th>Retracted</th>
<th>Extendahoe®</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digging depth:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>15 ft 6 in (4.72 m)</td>
<td>15 ft 6 in (4.72 m)</td>
<td>19 ft 6 in (5.94 m)</td>
</tr>
<tr>
<td><strong>Maximum with hi-capacity bucket</strong></td>
<td>16 ft 0 in (4.88 m)</td>
<td>16 ft 0 in (4.88 m)</td>
<td>20 ft 0 in (6.01 m)</td>
</tr>
<tr>
<td><strong>2 ft (610 mm) flat bottom</strong></td>
<td>15 ft 5 in (4.69 m)</td>
<td>15 ft 5 in (4.69 m)</td>
<td>19 ft 5 in (5.92 m)</td>
</tr>
<tr>
<td><strong>8 ft (2.44 m) flat bottom</strong></td>
<td>14 ft 5 in (4.40 m)</td>
<td>14 ft 5 in (4.40 m)</td>
<td>18 ft 8 in (5.63 m)</td>
</tr>
<tr>
<td><strong>Overall reach from:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rear axle centerline</strong></td>
<td>23 ft 3 in (7.10 m)</td>
<td>23 ft 3 in (7.10 m)</td>
<td>27 ft 2 in (8.28 m)</td>
</tr>
<tr>
<td><strong>Swing pivot</strong></td>
<td>19 ft 7 in (5.98 m)</td>
<td>19 ft 7 in (5.98 m)</td>
<td>23 ft 6 in (7.17 m)</td>
</tr>
<tr>
<td><strong>Loading height</strong></td>
<td>13 ft 1 in (4.00 m)</td>
<td>13 ft 1 in (4.00 m)</td>
<td>15 ft 9 in (4.81 m)</td>
</tr>
<tr>
<td><strong>Loading reach – dipper retracted</strong></td>
<td>5 ft 1 in (1.56 m)</td>
<td>5 ft 1 in (1.56 m)</td>
<td>8 ft 1 in (2.47 m)</td>
</tr>
<tr>
<td><strong>Swing arc</strong></td>
<td>180°</td>
<td>180°</td>
<td>180°</td>
</tr>
<tr>
<td><strong>Bucket rotation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical coupler</strong></td>
<td>198.0°</td>
<td>198.0°</td>
<td>198.0°</td>
</tr>
<tr>
<td><strong>Hydraulic coupler – Extendahoe® dipper</strong></td>
<td>194.8°</td>
<td>194.8°</td>
<td>194.8°</td>
</tr>
<tr>
<td><strong>Hydraulic coupler – standard dipper</strong></td>
<td>198.0°</td>
<td>198.0°</td>
<td>198.0°</td>
</tr>
<tr>
<td><strong>Stabilizer spread – operating – centers:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flip pad</strong></td>
<td>10 ft 9 in (3.26 m)</td>
<td>10 ft 9 in (3.26 m)</td>
<td>10 ft 9 in (3.26 m)</td>
</tr>
<tr>
<td><strong>Cast pad</strong></td>
<td>11 ft 1 in (3.37 m)</td>
<td>11 ft 1 in (3.37 m)</td>
<td>11 ft 1 in (3.37 m)</td>
</tr>
<tr>
<td><strong>Digging force:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bucket cylinder – SAE rated 3,460 psi</strong></td>
<td>15,132 lb (67 310 N)</td>
<td>15,132 lb (67 310 N)</td>
<td>15,132 lb (67 310 N)</td>
</tr>
<tr>
<td><strong>Bucket cylinder – Power Lift</strong></td>
<td>15,853 lb (70 520 N)</td>
<td>15,853 lb (70 520 N)</td>
<td>15,853 lb (70 520 N)</td>
</tr>
<tr>
<td><strong>Dipper cylinder – SAE rated 3,460 psi</strong></td>
<td>10,575 lb (47 041 N)</td>
<td>10,575 lb (47 041 N)</td>
<td>7,392 lb (32 882 N)</td>
</tr>
<tr>
<td><strong>Dipper cylinder – Power Lift</strong></td>
<td>11,080 lb (49 285 N)</td>
<td>11,080 lb (49 285 N)</td>
<td>7,744 lb (34 450 N)</td>
</tr>
<tr>
<td><strong>Leveling angle:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flip pad</strong></td>
<td>11.2°</td>
<td>11.2°</td>
<td>11.2°</td>
</tr>
<tr>
<td><strong>Cast pad</strong></td>
<td>12.0°</td>
<td>12.0°</td>
<td>12.0°</td>
</tr>
</tbody>
</table>

**NOTE:** Lift capacities apply straight to the rear of prime mover, 4WD equipped with 24 in (610 mm) Universal HD trenching bucket and Case coupler except as noted.

### Extended Operation

<table>
<thead>
<tr>
<th>Standard Backhoe</th>
<th>Retracted</th>
<th>Extendahoe®</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boom Lift</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lift Capacity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Retracted</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lift Capacity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extended</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lift Capacity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Boom and Dipper Lift Capacities are rated per SAE J31 and are 87% of the maximum hydraulic lift force available with the specified options.
**STANDARD EQUIPMENT**

**OPERATOR ENVIRONMENT**

See page 1

**ENGINE**

FPT F5BFL413A diesel  
Selective Catalytic Reduction – SCR  
Aspirated air cleaner – replaceable dual element dry type with radial seal  
Fuel filter with water trap  
Radiator with de-aeration bottle  
Heat exchanger to -34°F (-37°C)  
Electronic throttles – foot and rotary hand  
Self adjusting belt  
High Pressure Common Rail computer controlled injection with diagnostic features  
Engine ECO Mode – Detent on backhoe hand throttle, push button switch on dash  
Auto Engine Idle  
Auto Engine Shutdown  
Auto Protection Shutdown

**DRIVETRAIN**

Powershift S-Type transmission, 4F-3R  
fully synchronized electronic transmission controller, kick down in loader control lever and auto shift mode – 2WD or 4WD  
Front axle:  
2WD heavy-duty front axle with  
14.0 L x 17.5 tires with Industrial Rib tread  
4WD heavy-duty mechanically driven front axle with 14.0 L x 17.5 tires and drive shaft guard  
Rear axle:  
2/4WD heavy-duty outboard planetary drive with 21.0 L x 24.0 tires  
Torque converter – 11.8 in (300 mm)  
On-the-go electric 4WD control  
Electric F/R shuttle control  
Electric differential lock control, push-button  
Park brake, spring-applied hydraulic release – SAHR

**HYDRAULICS**

Ground level remote hydraulic test ports  
Variable displacement axial piston pump  
Pump:  
43 gpm @ 3,000 psi  
(162.6 L/min @ 207 bar)  
Heavy-duty hydraulic oil cooler  
7-micron, spin on oil filter

**TELEMATICS**

CASE SiteWatch™ Telematics – includes hardware and a 3-yr Advanced data subscription

**WARRANTY**

1-Year/Unlimited-Hour Full-Coverage Base Limited Warranty  
2-Year/2,000-Hour Extended Engine Warranty

**LOADERS**

Bucket position indicator; Lifting lugs on standard bucket; Single lever control with self-leveling and return-to-dig; Hand operated clutch disconnects on loader and shift levers, single lever 4-function loader control: lift, dump, clutch cut-out, differential lock

**BACKHOE**

Over center design, Fabricated “S” boom;  
Pro Control System; Dipperstick integrated serrated gripper teeth; Case mechanical coupler; Power Lift

**OTHER**

Front tire 14.0 L x 17.5, 10 PR – 4WD  
Rear tire 21.0 L x 24.0, 10 PR  
Forward tilt engine hood  
Replaceable, molded front bumpers  
Front/Rear tie downs  
Reflective logos  
Signal Lights – cab and canopy:  
2 rear tail/stop  
2 front flashers/turn  
2 rear flashers/turn  
Working/Driving Lights – cab and canopy:  
Adjustable halogen work lights – 55 W:  
4 front  
2 side – one left, one right  
4 rear
OPTIONAL EQUIPMENT

OPERATOR ENVIRONMENT

- Speed selectable Auto Ride Control – 4WD models
- Standard Ride Control – 2WD models
- Comfort Steering with two-speed steering pump and 3rd/4th gear cutout
- Deluxe Canopy with glass windshield, windshield wiper, windshield washer, floor mat, 85 dba sound level, two additional front lights, two additional rear lights and anti-vandalism cover
- ROPS/FOFS certified protective cab available in LH Door or 2 door with heat, A/C, defroster, door activated dome light, 4 front, 4 rear and 2 adjustable side lights, tilt steering wheel, floor mat, tinted glass, radio ready, front and rear wiper and fender extensions
- Deluxe Cab package with deluxe interior, viscous fan, pull-down sun visor and 72 dba sound level
- Mechanical suspension seat with flip-up armrests, 180° swivel, adjustable seat and weight, backrest angle, lumbar and cushion angle – cab units cloth or vinyl, canopy units vinyl only
- Air suspension seat with flip-up armrests, 180° swivel, electric height adjustment, adjustable backrest – lumbar and cushion angle – cab units cloth or vinyl, canopy units vinyl only
- Heated seat option for vinyl and cloth Air suspension seats – cab units cloth or vinyl, canopy units vinyl only
- Radio, AM/FM Stereo/WB, MP3 auxiliary input – cab models
- 3 in (75 mm) seat belt for mechanical and air-suspension seat

DRIVETRAIN

- Standard Powershuttle, 4F-4R Power Shuttle
- Synchromesh transmission
- Powershift H-Type transmission, 4F-3R hydraulic clutch shifting with auto function
- Auxiliary hydraulics for loader-mounted equipment with thumb-operated proportional control
- Hydraulic front quick coupler
- Loader linkage without loader bucket
- Tool portfolio of additional attachments
- Buckets – see page 2

BACKHOE

- 1-way Auxiliary backhoe hydraulics for hammers, plate compactors or similar 1-way flow attachments
- 1-way/2-way Auxiliary backhoe hydraulics for hammers, plate compactors or similar 1-way flow attachments or switch to 2-way flow for thumbs, augers or similar 2-way flow attachments
- Bolt-on hardened gripper teeth
- Extendahoe
- Two-lever control – backhoe or Extendahoe
- Pilot operated control system:
  - Fingertip proportional Electro-Hydraulic stabilizer controls
  - Thumb-operated proportional Electro-Hydraulic Extendahoe control
  - Thumb-operated horn button
  - Thumb-operated auxiliary hydraulic control
  - Infinitely adjustable towers
  - In-cab switchable “excavator to backhoe” control pattern change
  - Standard dipper
  - Flip over stabilizer pads
  - Cemetery/Street pads
  - Hydraulic bucket coupler
  - Universal coupler – CAT/Deere compatible
  - Buckets – see page 2

ENGINE

- Cold Weather Starting Aid:
  - Dual 12 volt batteries, glow plugs, engine block heater and heated CCV hose
- Severe Cold Weather Starting Aid:
  - Synthetic transmission, hydraulic and engine oil – order with cold weather starting aid

OTHER

- Front tires:
  - 14.0 L x 17.5 10 PR
- Rear tires:
  - 21 L x 24, 10 PR
- Special paint
- Tool box – bolt-on, step-mounted
- Front counterweights:
  - 700 lb and 1,100 lb (318 kg and 500 kg)
- Rotating beacon
- LED Working/Driving Light Package:
  - 4 front
  - 2 side
- Chaff Screen – Additional fine mesh screen in front of standard grille
- Locking DEF/Fuel covers
- Front Fenders

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CASE Construction Equipment is biodiesel-friendly. NOTE: All engines meet current EPA emissions regulations. All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

Always read the Operator’s Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs and use any safety features provided.

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Replaces Form No. CCE201708590SN