**ENGINE**

- **Model**: FPT F5BFL413B
- **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 in\(^3\) (3.4 L)
- **Fuel injection**: Direct, high pressure common rail – HPCR
- **Fuel**:
  - **Engine speeds***:
    - Rated speed – full load: 2200 RPM
    - Low idle: 900 – 1000
    - High idle – no load: 2330 – 2430
  - **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): 3.8 (6.1), 6.0 (9.7), 12.8 (20.6), 24.0 (38.6)
    - Reverse (mph): 4.5 (7.3), 7.2 (11.6), 15.4 (24.7), 28.8 (46.3)*
  - **Transmission – optional**:
    - Powershift H-Type, 4F-3R hydraulic clutch shifting w/ auto shift mode
    - Gear ratios
      - 1st: 5.533/4.549
      - 2nd: 3.359/2.762
      - 3rd: 1.533/1.260
      - 4th: 0.811/—
  - **Torque converter ratio**: 2.2
- **Radiator**:
  - Core size area: 486 in\(^2\) (3 145 cm\(^2\))
  - Rows of tubes: 4
  - Torque rise at rated speed: 45% +/- 5%
- **39° fan**:
  - Style: 9 blade suction
  - Diameter: 19.65 in (499 mm)
  - Ratio**: 1.4:1
- **Pump operating angle ratings**:
  - Side to side: Rated 35°
  - Fore and aft: Rated 35°
  - Oil filtration: Replaceable, full flow cartridge


**DRIVETRAIN**

- **Transmission – standard**:
  - 4F-4R Power Shuttle Synchronesh
  - Transmission manual gear shift, fully synchronized
- **Transmission – optional**:
  - Powershift S-Type, 4F-3R fully synchronized electric/hydraulic shifting w/ auto shift mode
- **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): 3.8 (6.1), 6.0 (9.7), 12.8 (20.6), 24.0 (38.6)
    - Reverse (mph): 4.5 (7.3), 7.2 (11.6), 15.4 (24.7), 28.8 (46.3)*
- **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/—
  - **Torque converter ratio**: 2.2
  - **Differential-lock**
    - On-the-go push-button activation
  - **Front/Rear axle (w/ 4WD 12x16.5 front tires)**:
    - Differential ratio: 2.0/2.5
    - Planetary hub ratio: 6.0/6.4
    - Total reduction ratio: 12.0/16.0
  - **Service brakes**:
    - Individually applied, power assisted, hydraulically actuated, maintenance-free, self-adjusting, outboard mounted, wet disc, 2 per side.
    - Total disc area: 384 in\(^2\) (0.25 m\(^2\))
  - **Parking brakes**
    - Trans Mounted spring-applied hydraulic release – SAHR

**ELECTRICAL**

- **Voltage**: 12 Volts, negative ground
- **Alternator**: 160 amp
- **Battery**: 850 cold-cranking amps
- **Optional dual batteries**: 850 cold-cranking amps 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 1 – SAE Transport**:

- No Operator, GP Loader Bucket, Cab, AC, Small Front Counter Weight, 2WD, Full of Fuel, SAE Carry T4 Final Engine, Pilot Controls, 11 L – 16 @ 52 psi front tires, 17.5 L – 24 @ 30 psi rear tires.
- 17,269 lb (7 883 kg)

**Configuration 2 – SAE Transport**:

- No Operator, 4:1 Loader Bucket, E-hoe, Cab, big front counter weight, Full of Fuel, SAE Carry T4 Final Engine, Pilot Controls, Galaxy 12 x 16.5 @ 50 psi front tires, Solideal 19.5 L – 24 @ 30 psi rear tires.
- 19,067 lb (8 649 kg)

**Add-on weights**:

- Cab-over canopy: 309 lb (140 kg)
- Fabricated stabilizer pads: 141 lb (64 kg)
- Counterweights: 700 lb (318 kg)
- Extendahoe\(^®\): 286 lb (130 kg)
- 4WD w/ driveshift guard: 283 lb (128 kg)
### HYDRAULICS

**Pump:**
Bosch Rexroth Series 31 Variable Displacement Axial Piston Pump

**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:**
41 gpm @ 2,340 psi (156.2 L/min @ 161 bar)

**Loader control valve w/ pilot or manual backhoe controls:**
- Two or three-spool closed center sectional control valve. Single lever manual control for lift and tilt functions. The three-spool valve uses a proportional Electro-Hydraulic control for the auxiliary function. The lift lever has a positive hold “Float” position and a “return-to-dig” feature.

**Loader auxiliary hydraulics w/ proportional thumb switch w/ detent on loader control handle:**
0 to 41 gpm @ 2,340 psi (0 to 156.2 L/min @ 161 bar)

**Backhoe flow @ rated engine RPM:**
41 gpm @ 3,100 psi (156.2 L/min @ 214 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.

**2-way flow auxiliary hydraulics:**
- **Actuation:**
  - Activate the 2-way flow switch located on the rear console
  - Manual shift – 2-way flow linkage on far right of backhoe tower
  - Pilot controls – left-hand joystick

**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)

**SERVICE CAPACITIES**

**Fuel tank**
- 35.0 gal (132.0 L)

**DEF tank**
- 3.6 gal (13.5 L)

**Hydraulic system:**
- **Total:** 125 qt (118.0 L)
- w/ Extendahoe®: 131 qt (123.6 L)
- Reservoir w/ filter: 53 qt (50.5 L)
- Reservoir w/o filter: 55 qt (52.4 L)

**Rear tires:**
- 2WD: 12.0 L x 16.0, 10-ply rating
- 4WD: 12.5/80 x 18.0, 10-ply rating

**Cooling system:**
- Engine oil w/ filter: 8.5 qt (8.0 L)
- Oil cooler: Heavy-duty

### OTHER SPECIFICATIONS

**Window washer reservoir**
- 3.0 qt (2.8 L)

**Front tires:**
- 2WD: 11.0 L x 16.0, 10-ply rating
- 4WD: 12.0 L x 16.5, 10-ply rating
- 2WD: 12.5/80 x 18.0, 10-ply rating

**Turning radius: Curb to Curb:**
- 2WD: Brakes on: 10 ft 8 in (3.24 m), Brakes off: 12 ft 4 in (3.76 m)
- 4WD – engaged: Brakes on: 11 ft 3 in (3.45 m), Brakes off: 13 ft 10 in (4.21 m)
- 4WD – disengaged: Brakes on: 11 ft 0 in (3.36 m), Brakes off: 12 ft 3 in (3.72 m)

**Engine oil w/ filter**
- 8.5 qt (8.0 L)

** Molded Agri Tech® Bucket includes edges, cylinders and tube lines.

### BACKHOE 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 (305 mm)</td>
<td>295 lb (134 kg)</td>
<td>3.40 ft³ (0.10 m³)</td>
</tr>
<tr>
<td></td>
<td>18 in (457 mm)</td>
<td>356 lb (162 kg)</td>
<td>5.30 ft³ (0.15 m³)</td>
</tr>
<tr>
<td></td>
<td>24 in (610 mm)</td>
<td>427 lb (194 kg)</td>
<td>7.70 ft³ (0.22 m³)</td>
</tr>
<tr>
<td></td>
<td>30 in (762 mm)</td>
<td>489 lb (222 kg)</td>
<td>10.20 ft³ (0.29 m³)</td>
</tr>
</tbody>
</table>

**High Capacity Buckets**

<table>
<thead>
<tr>
<th>Width</th>
<th>Weight</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 in (610 mm)</td>
<td>447 lb (203 kg)</td>
<td>8.50 ft³ (0.24 m³)</td>
</tr>
<tr>
<td>30 in (762 mm)</td>
<td>502 lb (228 kg)</td>
<td>10.60 ft³ (0.30 m³)</td>
</tr>
</tbody>
</table>

### LOADER BUCKET SIZES

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
<th>Weight</th>
<th>Struck Capacity</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Lip Bucket</td>
<td>82 in (2.08 m)</td>
<td>864 lb (392 kg)</td>
<td>0.88 yd³ (0.67 m³)</td>
<td>1.03 yd³ (0.79 m³)</td>
</tr>
<tr>
<td>with bolt-on edge</td>
<td>93 in (2.36 m)</td>
<td>1,188 lb (539 kg)</td>
<td>1.10 yd³ (0.89 m³)</td>
<td>1.29 yd³ (0.99 m³)</td>
</tr>
</tbody>
</table>

**4 IN 1® Bucket with bolt-on edge**

<table>
<thead>
<tr>
<th>Width</th>
<th>Weight</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>82 in (2.08 m)</td>
<td>1,572 lb (713 kg)</td>
<td>0.85 yd³ (0.65 m³)</td>
</tr>
</tbody>
</table>

**NOTE:** Weight of 4 IN 1® bucket includes edges, cylinders and tube lines.
### LOADER DIMENSIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Long Lip Bucket</th>
<th>4 IN 1° Bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong> Overall operating height – fully raised</td>
<td>13 ft 9 in (4.18 m)</td>
<td>13 ft 8 in (4.16 m)</td>
</tr>
<tr>
<td><strong>B.</strong> Bucket hinge pin fully raised</td>
<td>11 ft 3 in (3.42 m)</td>
<td>11 ft 3 in (3.42 m)</td>
</tr>
<tr>
<td><strong>C.</strong> Bucket hinge pin at SAE carry</td>
<td>13.6 in (345 mm)</td>
<td>13.6 in (345 mm)</td>
</tr>
<tr>
<td><strong>D.</strong> Dump angle at full height</td>
<td>47°</td>
<td>47°</td>
</tr>
<tr>
<td><strong>E.</strong> Dump clearance at full height, 45° dump:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket</td>
<td>8 ft 10 in (2.69 m)</td>
<td>8 ft 11 in (2.71 m)</td>
</tr>
<tr>
<td>Clam open</td>
<td>—</td>
<td>9 ft 8 in (2.96 m)</td>
</tr>
<tr>
<td><strong>F.</strong> Dump reach at full height, 45° dump – from bumper:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket</td>
<td>31.5 in (801 mm)</td>
<td>29.1 in (738 mm)</td>
</tr>
<tr>
<td>Clam open</td>
<td>—</td>
<td>15.3 in (388 mm)</td>
</tr>
<tr>
<td><strong>Bucket rollback:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. @ Groundline</td>
<td>42°</td>
<td>42°</td>
</tr>
<tr>
<td>H. @ SAE carry</td>
<td>42°</td>
<td>42°</td>
</tr>
<tr>
<td>J. @ Full height</td>
<td>Adjustable</td>
<td>Adjustable</td>
</tr>
<tr>
<td><strong>K.</strong> Digging depth below grade:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket flat</td>
<td>6.1 in (155 mm)</td>
<td>4.8 in (122 mm)</td>
</tr>
<tr>
<td>Clam open – dozing</td>
<td>—</td>
<td>4.1 in (103 mm)</td>
</tr>
<tr>
<td><strong>L.</strong> Reach from front axle centerline – bucket on ground</td>
<td>6 ft 10 in (2.07 m)</td>
<td>6 ft 8 in (2.03 m)</td>
</tr>
<tr>
<td><strong>Lift capacity to full height – calculated values</strong></td>
<td>7,044 lb (3,195 kg)</td>
<td>6,703 lb (3,040 kg)</td>
</tr>
<tr>
<td><strong>Breakout force:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift cylinders</td>
<td>9,833 lb (4,460 daN)</td>
<td>9,610 lb (4,359 daN)</td>
</tr>
<tr>
<td>Dump cylinders</td>
<td>10,947 lb (4,965 daN)</td>
<td>11,658 lb (5,288 daN)</td>
</tr>
<tr>
<td><strong>Bucket cutting edge width</strong></td>
<td>82.5 in (2.09 m)</td>
<td>82.0 in (2.08 m)</td>
</tr>
<tr>
<td><strong>Maximum grading angle</strong></td>
<td>114°</td>
<td>114°</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 – manual/pilot controls</strong></td>
<td>2.6/3.2 sec</td>
<td>2.6/3.2 sec</td>
</tr>
<tr>
<td><strong>Bucket dumping time</strong></td>
<td>0.8/1.2 sec</td>
<td>0.8/1.2 sec</td>
</tr>
<tr>
<td><strong>Lowering time:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power down</td>
<td>1.9/2.1 sec</td>
<td>1.9/2.1 sec</td>
</tr>
<tr>
<td>Return-to-dig</td>
<td>2.5/2.2 sec</td>
<td>2.5/2.2 sec</td>
</tr>
<tr>
<td><strong>Clam:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open time</td>
<td>—</td>
<td>1.1 sec</td>
</tr>
<tr>
<td>Close time</td>
<td>—</td>
<td>1.1 sec</td>
</tr>
</tbody>
</table>

**NOTE:** Loader dimensions taken with 4WD, 12.0 x 16.5 front tires and 19.5 L x 24.0 rear tires.
### Dimensions

**M. Overall transport length:**
- Long Lip bucket with Quick Coupler
  - 2WD: 23 ft 5 in (7.14 m)
  - 4WD: 23 ft 2 in (7.06 m)
- 4 IN 1® bucket with Quick Coupler
  - 2WD: 23 ft 3 in (7.07 m)
  - 4WD: 23 ft 1 in (7.04 m)
- Long Lip bucket with Straight Links
  - 2WD: 23 ft 6 in (7.15 m)
  - 4WD: 23 ft 4 in (7.12 m)
- 4 IN 1® bucket with Straight Links
  - 2WD: 23 ft 3 in (7.09 m)
  - 4WD: 23 ft 2 in (7.06 m)

**Overall transport width:**
- 2WD: 7 ft 2 in (2.17 m)
- 4WD: 7 ft 2 in (2.17 m)

**Height:**
- To top of canopy: 8 ft 9 in (2.66 m)
- To top of cab: 8 ft 11 in (2.72 m)
- To top of exhaust stack: 8 ft 7 in (2.62 m)

**N. Transport**
- Ground clearance at backhoe frame: 12 in (304 mm)
- Angle of departure: 15.3°

**Front wheel tread:**
- 11.0 L x 16.0: 67.5 in (1.72 m)
- 12.0 L x 16.5: 67.7 in (1.72 m)
- 12.5/80 x 18.0: 70.3 in (1.79 m)
- 19.5 L x 24.0: 61.2 in (1.55 m)
- 17.5 L x 24.0: 63.1 in (1.60 m)

**Width over tires:**
- 11.0 L x 16.0: 79.3 in (2.02 m)
- 12.0 L x 16.5: 81.4 in (2.07 m)
- 12.5/80 x 18.0: 81.4 in (2.07 m)
- 19.5 L x 24.0: 81.7 in (2.07 m)
- 17.5 L x 24.0: 81.7 in (2.07 m)

**O. Wheelbase:**
- 19.5 L x 24.0: 84.0 in (2.13 m)
- 17.5 L x 24.0: 84.0 in (2.13 m)

### 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>3.25 in (82.6 mm)</td>
<td>1.75 in (44.5 mm)</td>
<td>28.86 in (733.0 mm)</td>
<td>42.95 in (1,062.0 mm)</td>
</tr>
<tr>
<td>Dump – 2</td>
<td>3.00 in (76.2 mm)</td>
<td>1.50 in (38.1 mm)</td>
<td>20.33 in (516.5 mm)</td>
<td>29.90 in (759.5 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>5.00 in (127.0 mm)</td>
<td>2.50 in (63.5 mm)</td>
<td>38.25 in (971.6 mm)</td>
<td>52.82 in (1,341.6 mm)</td>
</tr>
<tr>
<td>Dipperstick</td>
<td>4.75 in (120.7 mm)</td>
<td>2.50 in (63.5 mm)</td>
<td>25.14 in (635.9 mm)</td>
<td>39.65 in (1,007.0 mm)</td>
</tr>
<tr>
<td>Bucket</td>
<td>3.50 in (88.9 mm)</td>
<td>2.50 in (63.5 mm)</td>
<td>35.35 in (901.9 mm)</td>
<td>48.17 in (1,223.6 mm)</td>
</tr>
<tr>
<td>Extendahoe®</td>
<td>3.00 in (76.2 mm)</td>
<td>1.75 in (44.5 mm)</td>
<td>42.05 in (1,068.0 mm)</td>
<td>56.22 in (1,428.0 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>4.50 in (114.3 mm)</td>
<td>2.25 in (57.2 mm)</td>
<td>21.37 in (542.9 mm)</td>
<td>33.87 in (860.2 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>Maximum static</td>
<td>70,821 lb (32 124 kg)</td>
<td>90,145 lb (40 889 kg)</td>
<td>64,613 lb (29 308 kg)</td>
</tr>
<tr>
<td>Dynamic operating</td>
<td>44,261 lb (20 076 kg)</td>
<td>56,200 lb (25 492 kg)</td>
<td>39,328 lb (17 839 kg)</td>
</tr>
<tr>
<td>Static operating</td>
<td>17,704 lb (8 030 kg)</td>
<td>22,480 lb (10 197 kg)</td>
<td>15,732 lb (7 136 kg)</td>
</tr>
<tr>
<td>Oscillation – front axle</td>
<td>22° total – 11° side to side</td>
<td>—</td>
<td>22° total – 11° side to side</td>
</tr>
</tbody>
</table>
## BACKHOE OPERATIONAL DATA

### Standard Backhoe

<table>
<thead>
<tr>
<th>Standard</th>
<th>Retracted</th>
<th>Extendahoe\textsuperscript{(\circ)}</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digging depth:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>14 ft 6 in (4.41 m)</td>
<td>14 ft 6 in (4.41 m)</td>
<td>17 ft 11 in (5.47 m)</td>
</tr>
<tr>
<td>Maximum with hi-capacity bucket</td>
<td>15 ft 0 in (4.51 m)</td>
<td>15 ft 0 in (4.51 m)</td>
<td>18 ft 6 in (5.63 m)</td>
</tr>
<tr>
<td>2 ft (610 mm) flat bottom</td>
<td>14 ft 4 in (4.37 m)</td>
<td>14 ft 4 in (4.37 m)</td>
<td>17 ft 10 in (5.43 m)</td>
</tr>
<tr>
<td>8 ft (2.44 m) flat bottom</td>
<td>13 ft 4 in (4.06 m)</td>
<td>13 ft 4 in (4.06 m)</td>
<td>17 ft 1 in (5.19 m)</td>
</tr>
<tr>
<td>Overall reach from:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear axle centerline</td>
<td>21 ft 10 in (6.66 m)</td>
<td>21 ft 10 in (6.66 m)</td>
<td>25 ft 3 in (7.69 m)</td>
</tr>
<tr>
<td>Swing pivot</td>
<td>18 ft 2 in (5.55 m)</td>
<td>18 ft 2 in (5.55 m)</td>
<td>21 ft 7 in (6.58 m)</td>
</tr>
<tr>
<td>Loading height</td>
<td>12 ft 1 in (3.67 m)</td>
<td>12 ft 1 in (3.67 m)</td>
<td>14 ft 5 in (4.38 m)</td>
</tr>
<tr>
<td>Loading reach</td>
<td>4 ft 7 in (1.41 m)</td>
<td>4 ft 7 in (1.41 m)</td>
<td>7 ft 3 in (2.20 m)</td>
</tr>
<tr>
<td>Swing arc</td>
<td>180°</td>
<td>180°</td>
<td>180°</td>
</tr>
<tr>
<td>Bucket rotation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Straight links</td>
<td>175.6°</td>
<td>175.6°</td>
<td>175.6°</td>
</tr>
<tr>
<td>Mechanical coupler</td>
<td>198.0°</td>
<td>198.0°</td>
<td>198.0°</td>
</tr>
<tr>
<td>Hydraulic coupler – Extendahoe\textsuperscript{(\circ)} dipper</td>
<td>194.8°</td>
<td>194.8°</td>
<td>194.8°</td>
</tr>
<tr>
<td>Hydraulic coupler – standard dipper</td>
<td>198.0°</td>
<td>198.0°</td>
<td>198.0°</td>
</tr>
<tr>
<td>Stabilizer spread – operating:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flip pad</td>
<td>9 ft 3 in (2.82 m)</td>
<td>9 ft 3 in (2.82 m)</td>
<td>9 ft 3 in (2.82 m)</td>
</tr>
<tr>
<td>Cast pad</td>
<td>9 ft 7 in (2.93 m)</td>
<td>9 ft 7 in (2.93 m)</td>
<td>9 ft 7 in (2.93 m)</td>
</tr>
<tr>
<td>Digging force:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket cylinder – SAE rated 3,460 psi</td>
<td>13,975 lb (61 363 N)</td>
<td>13,975 lb (61 363 N)</td>
<td>13,975 lb (61 363 N)</td>
</tr>
<tr>
<td>Bucket cylinder – Power Lift</td>
<td>14,452 lb (64 240 N)</td>
<td>14,452 lb (64 240 N)</td>
<td>14,452 lb (64 240 N)</td>
</tr>
<tr>
<td>Dipper cylinder – SAE rated 3,460 psi</td>
<td>8,657 lb (38 508 N)</td>
<td>8,657 lb (38 508 N)</td>
<td>6,305 lb (28 045 N)</td>
</tr>
<tr>
<td>Dipper cylinder – Power Lift</td>
<td>9,070 lb (40 345 N)</td>
<td>9,070 lb (40 345 N)</td>
<td>6,606 lb (29 382.7 N)</td>
</tr>
<tr>
<td>Leveling angle:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flip pad</td>
<td>11.8°</td>
<td>11.8°</td>
<td>11.8°</td>
</tr>
<tr>
<td>Cast pad</td>
<td>12.8°</td>
<td>12.8°</td>
<td>12.8°</td>
</tr>
</tbody>
</table>

NOTE: Lift capacities apply straight to the rear of prime mover. 4WD with 19.5 L x 24.0 tires equipped with 24 in (610 mm) heavy-duty bucket and Case coupler except as noted.

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 F5BFL413B diesel
- Selective Catalytic Reduction – SCR
- Full flow engine oil filter
- Aspirated air cleaner - replaceable dual element dry type with radial seal
- Fuel filter with water trap
- Radiator with de-aeration bottle
- Antifreeze 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**

- Power Shuttle 4F-4R synchromesh transmission
- Front axle:
  - 2WD front axle with 11.0 L x 16.0 tires
  - 4WD mechanically driven front axle with 12.0 L x 16.5 tires and drive shaft guard
- Rear axle:
  - 2/4WD heavy-duty outboard planetary drive with 19.5 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
- Pump:
  - 41 gpm @ 3,000 psi (156.2 L/min @ 207 bar)
- Heavy-duty hydraulic oil cooler
- 7-micron, spin on oil filter

**LOADER**

- 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

**OTHER**

- 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
- Master disconnect switch and remote jump-start terminals
- Hydrostatic steering
- Backup alarm
- Vertical spin-on engine oil, fuel and hydraulic filters

**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
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 back rest and 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
- Radios, AM/FM Stereo/WB, MP3 auxiliary input – cab models
- 3 in (75 mm) seat belt for mechanical and air suspension seat

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

DRIVETRAIN

- Powershift S-Type, 4F-3R fully synchronized electric/hydraulic shifting with auto shift mode, electronic transmission controller and kick down in loader lever – 2WD or 4WD
- Powershift H-Type transmission, 4F-3R hydraulic clutch shifting with auto function 4WD only
- 4WD heavy-duty mechanically driven front axle with 12.5/80 x 18.0 tires

LOADERS

- Auxiliary hydraulics for loader-mounted equipment with thumb-operated proportional control
- Hydraulic front quick coupler
- 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
- Extendahoe®
- Power Lift
- Bolt-on hardened gripper teeth
- 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
- Flip over stabilizer pads
- Cemetery/Street pads
- Hydraulic bucket quick coupler
- Universal coupler – CAT/Deere compatible
- Buckets – see page 2

OTHER

- Front tires:
  - 11.0 L x 16.0 or 12.0 L x 16.5
  - 12.5/80 x 18.0 10-ply includes heavy duty front axle
- Rear tires:
  - 17.5 L x 24.0 or 19.5 L x 24.0
- 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
  - 4 rear
  - 2 side
- Chaff Screen – Additional fine mesh screen in front of standard grille
- Locking DEF/Fuel covers
- Front Fenders