**ENGINE**

**Model**  
FPT F5HFL463D  
**Emissions Certification**  
Tier 4 Final  

**Type**  
Diesel, 4-stroke, turbocharged  

**Cylinders**  
4  

**Bore/Stroke**  
3.9 in x 4.33 in  
(99 mm x 110 mm)  

**Displacement**  
207 in³ (3.4 L)  

**Fuel injection**  
Direct high pressure  
common rail  

**Fuel**  
Diesel  

**Cooling**  
Charged air  

**Engine speeds**  
* Rated speed, full load 2200 RPM  
* Low idle 900-1000  
* High idle, no load 2330 - 2430  

**Horsepower @ 2200 RPM:**  
* Gross 74 hp (55 kW)  
* Net 68 hp (51 kW)  

**Maximum torque @ 1400 RPM:**  
* Gross 233 lb·ft (316 N·m)  
* Net 220 lb·ft (298 N·m)  

**Torque rise at rated speed**  
35% +/- 5%  

**Radiator:**  
* Core size area 486 in² (3.145 cm²)  
* Rows of tubes 5  

**33° fan:**  
* Style 7 blade suction  
* Ratio 1:1  

**Engine oil:**  
CJ-4 – semi-synthetic 10W40  

**Pump operating angle ratings:**  
* Side-to-side Rated 35°  
* Fore and aft Rated 35°  

**Oil filtration**  
Replaceable, spin-on  

**NOTE:** *Meets federal emission regulations.

**DRIVETRAIN**

**Transmission – standard:**  
4F-4R Power Shuttle  
Synchronmesh Transmission manual gear shift  
fully synchronized  

<table>
<thead>
<tr>
<th>Gear ratios</th>
<th>Forward/Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>5.603/5.603</td>
</tr>
<tr>
<td>2nd</td>
<td>3.481/3.481</td>
</tr>
<tr>
<td>3rd</td>
<td>1.584/1.584</td>
</tr>
<tr>
<td>4th*</td>
<td>0.793/0.793</td>
</tr>
</tbody>
</table>

**Travel speeds mph (kph):**  
* 1st 3.8 (6.1)  
* 2nd 6.1 (9.8)  
* 3rd 12.8 (20.6)  
* 4th* 24.0 (38.6)  

**Torque converter ratio:**  
3.01  

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

**Drive/steer axle:**  
* Differential ratio 2.5/2.0  
* Planetary hub ratio 6.4/6.0  

**Total reduction ratio**  
16.0/12.0  

**Service brakes:**  
Individually applied, hydraulically actuated,  
outboard mounted, wet disc, 2 per side  

**Parking brakes**  
Transmission Mounted  
spring applied hydraulic  
release – SAHR  

**NOTE:** *Travel speeds at 2330 engine RPM  
w/ 19.5 L x 24 tires.

**ELECTRICAL**

**Voltage**  
12 Volts  

**Alternator**  
120 amp  

**Battery**  
850 cold-cranking amps  
Opt. batteries – 2 850 cold-cranking amps  

**Power plugs – 2**  
30 amps total  

**OPERATOR ENVIRONMENT**

ROPS/FOPS certified protective canopy;  
2 halogen headlights; 2 rear halogen work  
lights; Wide walk through platform; Vinyl seat;  
2 in (51 mm) seat belt; Molded front fenders.  

**Gauges:**  
* Hour meter; Engine RPM; Engine coolant  
* temperature; Transmission oil temperature;  
* Job timer; Fuel level.  

**Warning lights:**  
* Air cleaner restriction; Alternator; Cold start;  
* Engine oil pressure; Hydraulic oil filter  
* bypass; Parking brake engagement; Engine  
* coolant temp; Battery voltage.  

**Audible alarms:**  
* Coolant temperature; Engine oil pressure;  
* Parking brake engagement; Converter oil  
* temperature; Backup; Horn.  

**OPERATING WEIGHT**

**Configuration 1 – Lightest:**  
16,102 lb (7 304 kg)  
2WD, 15 ft Std. Mast, 48 in forks  

**Configuration 2 – Heaviest:**  
16,978 lb (7 701 kg)  
4WD, 22 ft Std. Mast, 48 in forks  

**Add-on weights:**  
* Masts:  
  15 ft Std. Mast 2,468 lb (1 120 kg)  
  22 ft Std. Mast 3,183 lb (1 444 kg)  
  Carriage – 60 in 110 lb (50 kg)  
  Forks:  
  Hook style 330 lb (150 kg)  
  Shaft style 302 lb (137 kg)  

**HYDRAULICS**

**Pump**  
Gear pump  

**Capacity**  
24 gal/min @ 3,000 psi  
(91 L/min @ 207 bar)  

**SERVICE CAPACITIES**

**Fuel tank**  
31 gal (119 L)  

**Hydraulic system:**  
* Total 74 qt (70 L)  
* Reservoir 58 qt (55 L)  
* Reservoir w/o filter 56 qt (53 L)  

**Transmission:**  
2WD:  
* Total 19.5 qt (18.5 L)  
* Reservoir 12.6 qt (11.9 L)  
* 4WD:  
  Total 22.0 qt (20.8 L)  
  Reservoir 15.2 qt (14.4 L)  

**Front axle:**  
* Differential and Planeters 14.4 qt (13.6 L)  
* Rear axle:  
  Differential and Planeters 5.8 qt (5.5 L)  
  0.7 qt (0.7 L)  

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

**Cooling system**  
18.3 qt (17.3 L)
### OTHER SPECIFICATIONS

**Mast:**
- Lift capacity to full height w/ 24 in load center:
  - 15 ft Std. Mast: 8,000 lb (3,628 kg)
  - 22 ft Std. Mast: 4,000 lb (1,814 kg)
- Mast type:
  - 15 ft Std. Mast: 2 Stage Roller Mast
  - 22 ft Std. Mast: 3 Stage Roller Mast
- Lift speed:
  - 15 ft Std. Mast: 106 ft/min (0.54 m/s)
  - 22 ft Std. Mast: 118 ft/min (0.60 m/s)

**Tires:**
- Front:
  - 2/4WD: 19.5 L x 24, 10-ply rating
- Rear:
  - 2WD: 12 L x 16.5, 12-ply rating
  - 4WD: 12 L x 16.5, 8-ply rating

**Turning diameter:**
- 2WD:
  - w/ brakes: 23 ft 8 in (7.19 m)
  - w/o brakes: 25 ft 9 in (7.86 m)
  - 4WD – engaged:
    - w/ brakes: 25 ft 9 in (7.86 m)
    - w/o brakes: 29 ft 0 in (8.83 m)
  - 4WD – disengaged:
    - w/ brakes: 24 ft 6 in (7.54 m)
    - w/o brakes: 26 ft 3 in (8.00 m)

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### DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>15 ft (4.57 m) Std. Mast</th>
<th>22 ft (6.71 m) Std. Mast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overall height to top of mast – mast closed</td>
<td>10 ft 5 in (3.18 m)</td>
<td>10 ft 5 in (3.18 m)</td>
</tr>
<tr>
<td>B. Overall operating height – mast raised to full height</td>
<td>18 ft 4 in (5.59 m)</td>
<td>25 ft 5 in (7.75 m)</td>
</tr>
<tr>
<td>C. Maximum fork height – forks horizontal</td>
<td>15 ft 0 in (4.57 m)</td>
<td>22 ft 0 in (6.71 m)</td>
</tr>
<tr>
<td>D. Overall height to top of ROPS: 19.5 L x 24, 12-ply</td>
<td>104.1 in (2.645 mm)</td>
<td>104.1 in (2.645 mm)</td>
</tr>
<tr>
<td>E. Overall length with 48 in forks</td>
<td>17 ft 1 in (5.21 m)</td>
<td>17 ft 2 in (5.23 m)</td>
</tr>
<tr>
<td>F. Wheelbase:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2WD</td>
<td>84 in (2.13 m)</td>
<td>84 in (2.13 m)</td>
</tr>
<tr>
<td>4WD</td>
<td>84.5 in (2.15 m)</td>
<td>84.5 in (2.15 m)</td>
</tr>
<tr>
<td>G. Ground clearance:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2WD</td>
<td>10.3 in (260 mm)</td>
<td>10.3 in (260 mm)</td>
</tr>
<tr>
<td>4WD</td>
<td>10.3 in (260 mm)</td>
<td>10.3 in (260 mm)</td>
</tr>
<tr>
<td>H. Forward mast tilt</td>
<td>45°</td>
<td>45°</td>
</tr>
<tr>
<td>I. Backward mast tilt</td>
<td>15°</td>
<td>15°</td>
</tr>
<tr>
<td>Overall width – outside tires</td>
<td>7 ft 4 in (2.236 m)</td>
<td>7 ft 4 in (2.236 m)</td>
</tr>
<tr>
<td>Mast side shift – right</td>
<td>3 in (76 mm)</td>
<td>3 in (76 mm)</td>
</tr>
<tr>
<td>Mast side shift – left</td>
<td>3 in (76 mm)</td>
<td>3 in (76 mm)</td>
</tr>
</tbody>
</table>

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Line drawings are for illustrative purpose only and may not be exact representation of unit.
**STANDARD EQUIPMENT**

**ENGINE**
- FPT 3.4 L Diesel
- Cooled EGR
- Diesel Oxidation Catalyst
- Full flow engine oil filter
- Air cleaner: Replaceable dry type with radial seal
- Radiator with de-aeration bottle
- Antifreeze to -34°F (-37°C)
- Foot throttle
- Self adjusting belt

**MAST**
See page 1

**DRIVETRAIN**
- Front axle, as selected:
  - 2/4WD heavy-duty outboard planetary drive, with 19.5 L x 24 tires
- Rear axle:
  - 2WD heavy-duty front axle with 12 L x 16.5 tires
  - 4WD heavy-duty mechanically driven rear axle, with 12 L x 16.5 tires
- 4F-4R Power Shuttle
  - Synchromesh Transmission
  - Torque converter
  - On-the-Go electric 4WD control
  - Electric F/R shuttle control
  - Electric differential lock control, with push-button activation
  - Park brake, spring applied, hydraulic release

**HYDRAULICS**
- Gear pump – 24 gal/min @ 3,000 psi (91 L/min @ 207 bar)
- Heavy-duty hydraulic oil cooler
  - 7 micron, spin-on oil filter

**OPERATOR ENVIRONMENT**
See page 1

**OTHER**
- Swing out side panel engine access
- Front/rear tie downs
- Reflective logos
- Canopy only:
  - 2 front driving lights
  - 2 rear halogen work lights

**OPTIONAL EQUIPMENT**

**ENGINE**
- Cold Weather Starting Aid:
  - Dual 12 Volt batteries with glow plugs
  - Block heater
  - Master disconnect switch and remote jump start terminals
  - Pre-Cleaner

**MAST/FORKS/CARRIAGE**
- 15 ft Standard Mast
- 22 ft Standard Mast
- Power Positioning:
  - Mast and Forks
  - 48 in Pallet Forks, ITA Class 3 hook type
  - 48 in Pallet Forks, shaft type
  - 60 in Backrest

**HYDRAULICS**
- Front auxiliary hydraulics

**OPERATOR ENVIRONMENT**
- Load control
- Deluxe suspension seat, with lumbar support and high adjustments

**OTHER**
- Slow moving vehicle emblem
- Special paint
- Lock-up covers
- Light Package:
  - Turn signals
  - Hazard warning
  - Combination flashers
- Tool box
- Sitewatch Telematics

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