

**COLCHESTER**

28 Jasper Mine Road  
Colchester, VT 05448  
(802)893-1555

**BANGOR**

59 Contractor Drive  
Heron, ME 04401  
(207) 848-2050

**CONCORD**

231 Sheep Davis Road  
Concord, NH 03301  
(603) 225-6621

**SCARBOROUGH**

14 Gibson Road  
Scarborough, ME 04074  
(207) 885-0600

**Bid****Date: 6/28/2017**

To: **Town of Pelham, NH**  
**Selectmen's Office**  
**6 Village Green**  
**Pelham, NH 03076**

Phone **(603) 635-8526**  
Cell Phone  
E-Mail

**Equip: One New 2017 CASE Model 590SN Backhoe-Loader as per Town of Pelham specifications**

**RECEIVED****JUN 22 2017****SELECTMEN'S OFFICE  
PELHAM, NH**

Price of CASE 590SN equipped as per Town pecification Listings = **\$108,500.00**

#1 - All required specifications have been met or exceeded.

#2 - All required specifications have been met or exceeded.

#3 - All required specifications have been met or exceeded.

#4 - All required specifications have been met or exceeded.

#5 - Separate Price on 48" Tilting Bucket is \$5,860.00.....

Trade Allowance for Town 1997 New Holland 555E with 12,613 hours on it

Less Trade In: 1997 NH 555E **-\$10,500.00**

Sub Total **\$98,000.00**

Delivery Fee **\$0.00**

Net Delivered Cost to Town **\$98,000.00**

Loan Term \_\_\_\_\_

Int. Rate \_\_\_\_\_

Payoff \_\_\_\_\_

Down Pay't \_\_\_\_\_

Payment \_\_\_\_\_

Lease Term \_\_\_\_\_

Security Dep \_\_\_\_\_

Payoff \_\_\_\_\_

Advance Pay't \_\_\_\_\_

Payment \_\_\_\_\_

Carl Beauregard

Town of Pelham, NH

# CASE

## CONSTRUCTION



### ENGINE

Model	FPT F5BFL413A
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 <sup>3</sup> (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
Horsepower @ 2200 RPM:	
Gross	110 hp (82 kW)
Net	108 hp (81 kW)
Maximum torque @ 1400 RPM:	
Gross	339 lb-ft (460 N-m)
Net	338 lb-ft (459 N-m)
Torque rise at rated speed	29% +/- 5%
Radiator:	
Core type	Square wave
Core size area	486 in <sup>2</sup> (3 145 cm <sup>2</sup> )
Rows of tubes	4
Viscous Fan:	
Style	9 blade viscous suction
Diameter	19.68 in (500 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

NOTE: \*Engine speeds w/ standard transmission.  
Meets federal emission regulations.

### DRIVETRAIN

Transmission – standard:  
Powershift S-Type, 4F-3R Power Shuttle,  
Synchronesh Transmission w/ hydraulic  
gear shifting

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	Reverse
	mph (kph)	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 function

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	Reverse
	mph (kph)	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	2.4
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 in <sup>2</sup> (0.25 m <sup>2</sup> )

Parking brakes	Trans Mounted spring-applied hydraulic release – SAHR
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NOTE: \*4R not available on Powershift S-type  
Travel speeds at 2306 engine  
RPM specified: w/ 21.0 L x 24.0 tires.

# 590SN

BACKHOE LOADER

TIER 4 FINAL CERTIFIED

### ELECTRICAL

Voltage	12 Volts, negative ground
Alternator	160 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;  
Anti-vandalism cover for dash – w/ canopy only;  
Rear fenders extensions; Coat hook w/ garment  
strap; Interior rearview mirror, convex  
3.54 in (90 mm) wide x 10.83 in (275 mm) high;  
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.

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)

## HYDRAULICS

<b>Pump:</b> Bosch Rexroth Series 31 Variable Displacement Axial Piston Pump, dual mode torque regulation, mode selected by solenoid	
<b>Main relief pressure:</b>	
Standard	3,450 +/- 50 psi (238 +/- 3.5 bar)
Power Lift	3,625 +/- 50 psi (250 +/- 3.5 bar)
<b>Filtration:</b> 7-micron, full flow replaceable cartridge on return line, condition indicator light for filter.	
Oil cooler	Heavy-duty
<b>Loader flow @ rated engine RPM:</b> 43 gpm @ 2,340 psi (162.6 L/min @ 161 bar)	
<b>Loader control valve w/ pilot or manual backhoe controls:</b> 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.	
<b>Loader auxiliary hydraulics w/ proportional thumb switch w/ detent on loader control handle:</b> 0 to 43 gpm (0 to 162.6 L/min)	
<b>Backhoe flow @ rated engine RPM:</b> 43 gpm @ 3,100 psi (162.6 L/min @ 214 bar)	
<b>Manual backhoe control valve:</b> Six or seven-spool monoblock open 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 has an open center parallel circuit for all functions.	

**Pilot 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.

**Unidirectional auxiliary hydraulics:**  
Unidirectional 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.

**Actuation:**  
Manual backhoe controls – cab floor pedal  
Pilot controls – left-hand joystick

**Bidirectional auxiliary hydraulics\*:**  
**Actuation:**  
Activate the bidirectional switch located on  
the rear console  
Manual shift – bidirectional linkage on far right  
of backhoe tower  
Pilot controls – left-hand joystick.

NOTE: \*Available w/ Combo Aux. Hyd. option.

## SERVICE CAPACITIES

Fuel tank	35.0 gal (132.0 L)
DEF tank	3.6 gal (13.5 L)
<b>Hydraulic system:</b>	
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)
<b>Transmission – total system:</b>	
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)

<b>Front axle:</b>	
2WD each hub	0.8 qt (0.8 L)
4WD Differential	9.1 qt (8.6 L)
4WD Planetaries – each	1.1 qt (1.0 L)
<b>Rear axle:</b>	
Differential and planetaries	14.4 qt (13.6 L)
Engine oil w/ filter	8.5 qt (8.0 L)
<b>Cooling system:</b>	
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)

## OTHER SPECIFICATIONS

<b>Front tires:</b>	
2WD	14.0 L x 17.5, 10-ply Industrial Rib
4WD	14.0 L x 17.5, 10-ply SGL SS
<b>Rear tires:</b>	
2/4WD	21.0 L x 24.0, 10-ply R4
<b>Loader:</b> Bucket position indicator; Lifting lugs on standard bucket; Single lever control w/ 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.	
<b>Turning radius*: Curb to Curb</b>	
<b>2WD:</b>	
Brakes on	11 ft 6 in (3.55 m)
Brakes off	12 ft 8 in (3.86 m)
<b>4WD – engaged:</b>	
Brakes on	12 ft 6 in (3.81 m)
Brakes off	14 ft 4 in (4.36 m)
<b>4WD – disengaged:</b>	
Brakes on	11 ft 8 in (3.55 m)
Brakes off	12 ft 8 in (3.86 m)
<b>Backhoe:</b> Over center design, Fabricated "S" boom; Pro Control System; Dipperstick integrated serrated gripper teeth; Case mechanical coupler; Power Lift.	

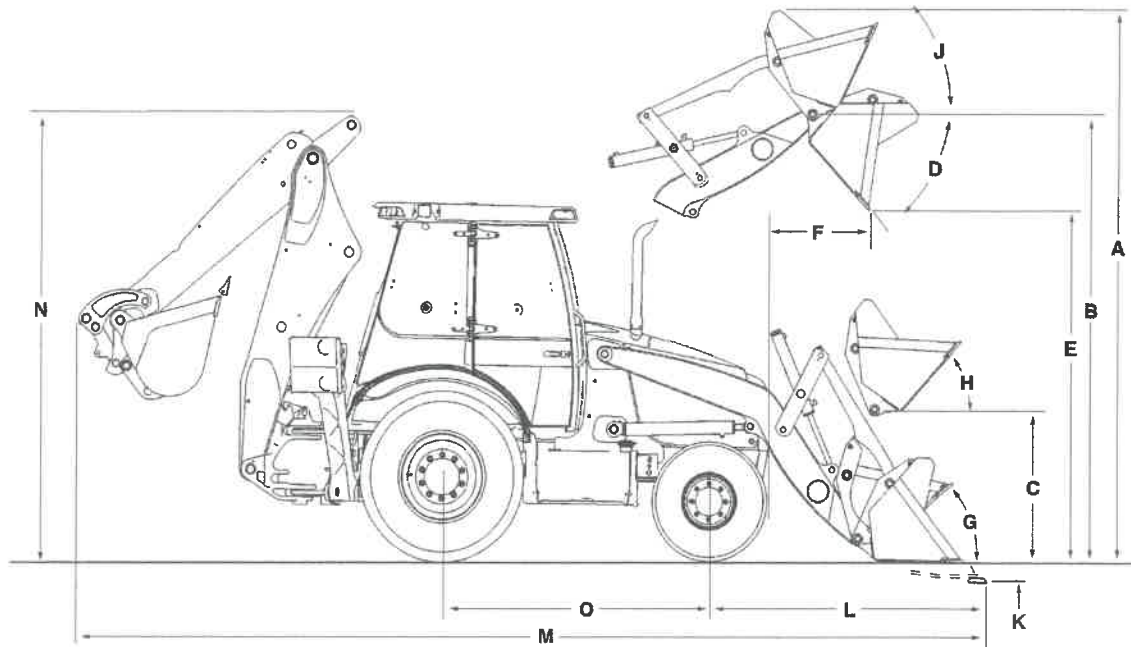
NOTE: \*Turning radius dimensions curb to curb  
w/ 21.0 L x 24.0 rear tires.

## LOADER BUCKET SIZES

Type	Width	Weight	Struck	Heaped Capacity
Long Lip Bucket with lift points and bolt-on cutting edge	93 in (2.36 m)	1,188 lb (539 kg)	1.1 yd³ (0.84 m³)	1.3 yd³ (0.99 m³)
	96 in (2.44 m)	1,415 lb (642 kg)	1.27 yd³ (0.97 m³)	1.5 yd³ (1.15 m³)
4 IN 1® Bucket	93 in (2.36 m)	1,685 lb (764 kg)	1.0 yd³ (0.76 m³)	1.20 yd³ (0.92 m³)

## BACKHOE BUCKET SIZES

Type	Width	Weight	Heaped Capacity
Universal Buckets	12 in (305 mm)	295 lb (134 kg)	3.40 ft³ (0.10 m³)
	18 in (457 mm)	356 lb (162 kg)	5.30 ft³ (0.15 m³)
	24 in (610 mm)	427 lb (194 kg)	7.70 ft³ (0.22 m³)
	30 in (762 mm)	489 lb (222 kg)	10.20 ft³ (0.29 m³)
	36 in (914 mm)	552 lb (251 kg)	12.70 ft³ (0.36 m³)
High Capacity Buckets	24 in (610 mm)	447 lb (203 kg)	8.50 ft³ (0.24 m³)
	30 in (762 mm)	502 lb (228 kg)	10.60 ft³ (0.30 m³)



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

#### LOADER DIMENSIONS

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

NOTE: Loader dimensions taken with 4WD.

## DIMENSIONS

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

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

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

## AXLE RATINGS

	Front – 2WD	Rear	Front – 4WD
Maximum static	65,506 lb (29 713 kg)	70,848 lb (32 136 kg)	67,883 lb (30 791 kg)
Dynamic operating	44,261 lb (20 077 kg)	49,494 lb (22 450 kg)	47,426 lb (21 512 kg)
Static operating	17,704 lb (8 031 kg)	19,798 lb (8 980 kg)	18,969 lb (8 604 kg)
Oscillation – front axle	22° total – 11° each side	—	22° total – 11° each side

## BACKHOE LIFT CAPACITIES

Standard Backhoe			Extendahoe®			
Boom Lift	Standard	Power Lift	Retracted		Extended	
	Lift Capacity lb (kg)	Lift Capacity lb (kg)	Standard Lift Capacity lb (kg)	Power Lift Lift Capacity lb (kg)	Standard Lift Capacity lb (kg)	Power Lift Lift Capacity lb (kg)
+18 ft (5.50 m)	—	—	—	—	2,548 (1 156)	2,710 (1 229)
+16 ft (4.87 m)	—	—	—	—	2,783 (1 262)	2,961 (1 343)
+14 ft (4.27 m)	3,942 (1 788)	4,177 (1 895)	3,688 (1 673)	3,923 (1 779)	2,967 (1 346)	3,156 (1 431)
+12 ft (3.66 m)	4,160 (1 887)	4,409 (2 000)	3,898 (1 768)	4,147 (1 881)	3,037 (1 378)	3,231 (1 465)
+10 ft (3.05 m)	4,204 (1 907)	4,456 (2 021)	3,937 (1 786)	4,188 (1 900)	3,051 (1 384)	3,246 (1 472)
+8 ft (2.44 m)	4,180 (1 896)	4,430 (2 009)	3,908 (1 773)	4,158 (1 886)	3,052 (1 384)	3,247 (1 473)
+6 ft (1.83 m)	4,128 (1 873)	4,374 (1 984)	3,853 (1 748)	4,099 (1 859)	3,037 (1 378)	3,231 (1 466)
+4 ft (1.22 m)	4,064 (1 843)	4,305 (1 953)	3,785 (1 717)	4,027 (1 827)	3,011 (1 366)	3,203 (1 453)
+2 ft (0.61 m)	4,001 (1 815)	4,239 (1 923)	3,720 (1 687)	3,957 (1 795)	2,983 (1 353)	3,174 (1 440)
Ground Level	3,942 (1 788)	4,175 (1 894)	3,657 (1 659)	3,891 (1 765)	2,970 (1 347)	3,160 (1 433)
-2 ft (0.61 m)	3,893 (1 766)	4,123 (1 870)	3,606 (1 635)	3,836 (1 740)	2,946 (1 336)	3,134 (1 422)
-4 ft (1.22 m)	3,863 (1 752)	4,091 (1 856)	3,572 (1 620)	3,800 (1 724)	2,929 (1 329)	3,116 (1 413)
-6 ft (1.83 m)	3,861 (1 751)	4,088 (1 854)	3,565 (1 617)	3,793 (1 720)	2,924 (1 326)	3,111 (1 411)
-8 ft (2.44 m)	3,910 (1 774)	4,141 (1 878)	3,609 (1 637)	3,839 (1 741)	2,941 (1 334)	3,129 (1 419)
-10 ft (3.05 m)	4,088 (1 854)	4,329 (1 964)	3,776 (1 713)	4,017 (1 822)	2,985 (1 354)	3,175 (1 440)
-12 ft (3.66 m)	4,245 (1 925)	4,494 (2 038)	3,900 (1 769)	4,149 (1 882)	3,102 (1 407)	3,300 (1 497)
-14 ft (4.27 m)	—	—	—	—	3,307 (1 500)	3,519 (1 596)
<b>Dipper Lift</b>						
+16 ft (4.87 m)	—	—	—	—	4,312 (1 956)	4,312 (1 956)
+14 ft (4.27 m)	6,102 (2 768)	6,102 (2 768)	5,853 (2 655)	5,853 (2 655)	4,020 (1 823)	4,020 (1 823)
+12 ft (3.66 m)	6,651 (3 017)	6,651 (3 017)	6,409 (2 907)	6,409 (2 907)	5,252 (2 382)	5,252 (2 382)
+10 ft (3.05 m)	6,891 (3 126)	6,891 (3 126)	6,650 (3 016)	6,650 (3 016)	4,849 (2 200)	4,849 (2 200)
+8 ft (2.44 m)	7,147 (3 243)	7,147 (3 243)	6,903 (3 131)	6,903 (3 131)	4,945 (2 243)	4,945 (2 243)
+6 ft (1.83 m)	7,178 (3 256)	7,178 (3 256)	6,928 (3 142)	6,928 (3 142)	4,670 (2 118)	4,670 (2 118)
+4 ft (1.22 m)	8,226 (3 731)	8,226 (3 731)	7,953 (3 608)	7,953 (3 608)	4,424 (2 007)	4,424 (2 007)
+2 ft (0.61 m)	—	—	—	—	5,103 (2 315)	5,103 (2 315)

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.

## BACKHOE OPERATIONAL DATA

Standard Backhoe		Extendahoe®	
		Retracted	Extended
<b>Digging depth:</b>			
Maximum	15 ft 6 in (4.72 m)	15 ft 6 in (4.72 m)	19 ft 6 in (5.94 m)
Maximum with hi-capacity bucket	16 ft 0 in (4.88 m)	16 ft 0 in (4.88 m)	20 ft 0 in (6.10 m)
2 ft (610 mm) flat bottom	15 ft 5 in (4.69 m)	15 ft 5 in (4.69 m)	19 ft 5 in (5.92 m)
8 ft (2.44 m) flat bottom	14 ft 5 in (4.40 m)	14 ft 5 in (4.40 m)	18 ft 8 in (5.63 m)
<b>Overall reach from:</b>			
Rear axle centerline	23 ft 3 in (7.10 m)	23 ft 3 in (7.10 m)	27 ft 2 in (8.28 m)
Swing pivot	19 ft 7 in (5.98 m)	19 ft 7 in (5.98 m)	23 ft 6 in (7.17 m)
Loading height	13 ft 1 in (4.00 m)	13 ft 1 in (4.00 m)	15 ft 9 in (4.81 m)
Loading reach – dipper retracted	5 ft 1 in (1.56 m)	5 ft 1 in (1.56 m)	8 ft 1 in (2.47 m)
Swing arc	180°	180°	180°
<b>Bucket rotation:</b>			
Mechanical coupler	198.0°	198.0°	198.0°
Hydraulic coupler – Extendahoe® dipper	194.8°	194.8°	194.8°
Hydraulic coupler – standard dipper	198.0°	198.0°	198.0°
<b>Stabilizer spread – operating – centers:</b>			
Flip pad	10 ft 9 in (3.26 m)	10 ft 9 in (3.26 m)	10 ft 9 in (3.26 m)
Cast pad	11 ft 1 in (3.37 m)	11 ft 1 in (3.37 m)	11 ft 1 in (3.37 m)
<b>Digging force:</b>			
Bucket cylinder – SAE rated 3,460 psi	15,132 lb (67 310 N)	15,132 lb (67 310 N)	15,132 lb (67 310 N)
Bucket cylinder – Power Lift	15,853 lb (70 520 N)	15,853 lb (70 520 N)	15,853 lb (70 520 N)
Dipper cylinder – SAE rated 3,460 psi	10,575 lb (47 041 N)	10,575 lb (47 041 N)	7,392 lb (32 882 N)
Dipper cylinder – Power Lift	11,080 lb (49 285 N)	11,080 lb (49 285 N)	7,744 lb (34 450 N)
<b>Leveling angle:</b>			
Flip pad	11.2°	11.2°	11.2°
Cast pad	12.0°	12.0°	12.0°

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.

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

### ENGINE

FPT F5BFL413A diesel  
Selective Catalytic Reduction – SCR  
Full flow engine oil filter  
Air cleaner – replaceable dry type  
with radial seal  
Aspirated air cleaner  
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

### DRIVETRAIN

Powershift S-Type transmission, 4F-3R  
Power Shuttle Synchromesh Transmission  
with hydraulic gear shifting controller and  
kick down in loader control valve lever –  
2WD or 4WD and auto function  
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 oil cooler  
7-micron, spin on oil filter

### LOADER

See page 2

### BACKHOE

Power Lift  
See page 2

### OTHER

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

### TELEMATICS

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

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

Speed selectable Auto Ride Control – 4WD models  
 Standard Ride Control – 2WD models  
 Comfort Steering with momentary latching switch, two-speed steering pump and 3rd/4th gear cutout  
 ROPS/FOPS certified protective cab with rear wipers and floor mat  
 Cab Convenience Package containing pull-down sun visor, window washer – front and rear, left-hand storage tray, deluxe interior package, Sound Reduction Package for cab models – levels reduced to 72 dB (A), right-hand threshold storage box  
 Air-conditioning for cab models  
 Mechanical suspension seat with flip-up armrests, 180° swivel, heated cloth or vinyl, adjustable seat and weight, backrest angle, lumbar and cushion angle  
 Air Ride suspension seat with flip-up armrests, 180° swivel, heated, electric height adjustment, adjustable backrest – cab units cloth, canopy units vinyl  
 Pull-down sun visor for canopy models  
 Radio, 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 with dual 12 Volt batteries and glow plugs  
 Block heater

### DRIVETRAIN

Standard Powershuttle, 4F-4R Power Shuttle Synchronesh transmission  
 Powershift H-Type transmission, 4F-3R hydraulic clutch shifting with auto function

### LOADER

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

Auxiliary backhoe unidirectional hydraulics  
 Auxiliary backhoe combo hydraulics:  
 Hand lever operated for bidirectional manual controls  
 Button operated for pilot controls includes unidirectional and bidirectional  
 Auxiliary hydraulics with flow from 0 to 43 gal/min (0 to 162.6 L/min)  
 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

### OTHER

Front:  
 14.0 L x 17.5 10 PR  
 Rear:  
 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  
 Master disconnect switch and remote jump-start terminals  
 Eco-Mode – Detent on backhoe hand throttle, push switch on dash

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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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