



410L

SPECIFICATIONS

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Engine		410L	
Manufacturer and Model		John Deere PowerTech™ EWL 4045HLO50 turbocharged	
Non-Road Emission Standard		EPA Final Tier 4/EU Stage IV	
Displacement		4.5 L (276 cu. in.)	
Gross Peak Power		88 kW (118 hp) at 1,900 rpm	
Net Peak Power (ISO 9249)		87 kW (116 hp) at 1,900 rpm	
Net Peak Torque (ISO 9249)		459 Nm (339 lb.-ft.) at 1,600 rpm	
Net Torque Rise		26%	
Lubrication		Pressure system with spin-on filter and cooler	
Air Cleaner		Dual-stage dry type with safety element and evacuator valve	
Cooling			
Fan Type		Electronically controlled, variable rate, suction-type cooling fan standard	
Engine Coolant Rating		-40 deg. C (-40 deg. F)	
Engine Oil Cooler		Oil to water	
Powertrain			
Transmission		5-speed, helical-cut gears, full PowerShift™ transmission with hydraulic reverser standard; electric clutch cutoff on loader lever; standard AutoShift	
Torque Converter		Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)	
Maximum Travel Speeds with Standard Engine, Measured with 21L-24 Rear Tires		<i>Forward</i>	<i>Reverse</i>
Gear 1		5.6 km/h (3.5 mph)	7.0 km/h (4.3 mph)
Gear 2		10.2 km/h (6.3 mph)	12.9 km/h (8.0 mph)
Gear 3		21.1 km/h (13.1 mph)	20.8 km/h (12.9 mph)
Gear 4		38.4 km/h (23.9 mph)	—
Gear 5		40.0 km/h (24.9 mph)	—
Axles			
Axle Oscillation, Stop to Stop, Front Axle		22 deg.	
Axle Ratings		<i>Front</i>	<i>Rear</i>
SAE J43		6500 kg (14,300 lb.)	7500 kg (16,500 lb.)
Dynamic		9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)
Static		26 500 kg (58,400 lb.)	26 500 kg (58,400 lb.)
Ultimate		43 500 kg (95,900 lb.)	43 500 kg (95,900 lb.)
Differentials			
Mechanical-Front-Wheel-Drive (MFWD) Axle		Automatic, limited-slip traction control	
Rear Axle		Foot actuated, hydraulically engaged 100% mechanical lock	
Steering (ISO 5010)		Hydrostatic power steering and emergency steering	
Axle		<i>MFWD</i>	<i>Non-Powered Front</i>
Curb-Turning Radius			
With Brakes		3.53 m (11 ft. 7 in.)	3.45 m (11 ft. 4 in.)
Without Brakes		4.02 m (13 ft. 2 in.)	3.90 m (12 ft. 10 in.)
Bucket-Clearance Circle			
With Brakes		10.20 m (33 ft. 6 in.)	10.13 m (33 ft. 3 in.)
Without Brakes		10.93 m (35 ft. 10 in.)	10.80 m (35 ft. 5 in.)
Steering Wheel Turns (lock to lock, flow amplified)		2.6 to 3.6	3.1 to 4.3
MFWD Axle		Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	
Rear Axle		Heavy duty, outboard planetary final drives distribute shock loads over 4 gears	
Brakes (ISO 3450)			
Service		Power assisted, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing	
Parking		Spring applied, hydraulically released, wet, multi-disc, independent of service brakes with electric switch control	
Hydraulics			
Main Pump		Pressure compensated load sensing (PCLS), axial-piston pump	
Pump Flow at 2,200 rpm, Backhoe and Loader		159 L/m (42 gpm)	
System Relief Pressure			
Backhoe		24 993 kPa (3,625 psi)	
Lift Mode		27 579 kPa (4,000 psi)	
Loader		24 993 kPa (3,625 psi)	
Controls			
Backhoe		2-lever mechanical standard; pilot controls with pattern select and auxiliary functions optional; field kits available for additional mechanical-control options	

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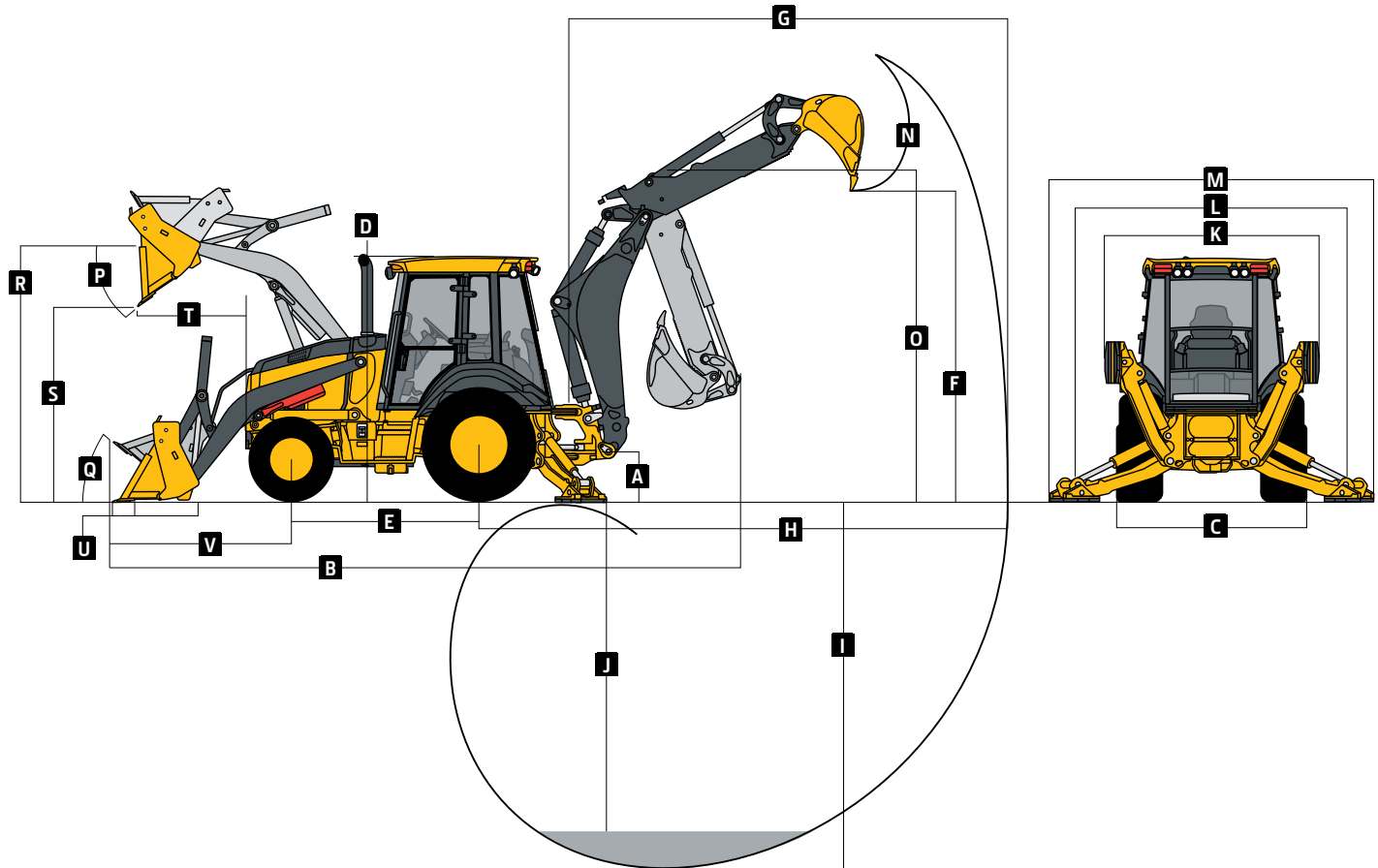
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Hydraulics (continued)		410L	
Controls (continued)			
Loader	Single-lever control with electric clutch cutoff switch and MFWD (momentary) standard; single-lever control with electric clutch cutoff switch, electrohydraulic (EH) proportional auxiliary roller, MFWD (momentary), and transmission quick-shift optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	Bore	Rod Diameter	Stroke
Loader Boom (2)	80 mm (3.15 in.)	50 mm (1.97 in.)	790 mm (31.10 in.)
Loader Bucket (1)	90 mm (3.54 in.)	50 mm (1.97 in.)	744 mm (29.29 in.)
Backhoe Boom (1)	140 mm (5.51 in.)	70 mm (2.76 in.)	897 mm (35.31 in.)
Backhoe Crowd (1)	120 mm (4.72 in.)	63 mm (2.48 in.)	727 mm (28.62 in.)
Backhoe Bucket (1)	100 mm (3.94 in.)	63 mm (2.48 in.)	810 mm (31.89 in.)
Backhoe Swing (2)	90 mm (3.54 in.)	50 mm (1.97 in.)	278 mm (10.94 in.)
Backhoe Extendable Dipperstick (1)	80 mm (3.15 in.)	45 mm (1.77 in.)	1214 mm (47.78 in.)
Backhoe Stabilizer, Extended (2)	100 mm (3.94 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Non-Powered Axle (1)	70 mm (2.76 in.)	42 mm (1.65 in.)	210 mm (8.27 in.)
MFWD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	145 amp		
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (32,500 candlepower each); turn signals and flashers: 2 front and 2 rear; stop and taillights; and 2 rear reflectors; factory-installed option for 2 LED spotlights and 8 LED floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	Fully enclosed cab, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional canopy		
Tires/Wheels			
	Front	Rear	
Non-Powered Front Axle	12.5/80-18 F3 (12)	21L-24 R4 (12)	
	14.5/75-16.1 F3 (16)	21L-24 R4 (12)	
With MFWD	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	12.5/80-18 I3 (12)	21L-24 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	500/70R24 550	
	340/80R18 580	500/70R24 580	
Serviceability			
Refill Capacities			
Cooling System			
Cab	27.5 L (29.1 qt.)		
Canopy	25.7 L (27.2 qt.)		
Rear Axle	18 L (19 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	128.7 L (34 gal.)		
Diesel Exhaust Fluid (DEF) Tank	13.7 L (3.6 gal.)		
Hydraulic System	126.8 L (33.5 gal.)		
Hydraulic Reservoir	45 L (11.9 gal.)		
MFWD Housing			
Axle	6.5 L (6.9 qt.)		
Planetary (each)	0.9 L (1 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 340-kg (750 lb.) Counterweight	8068 kg (17,786 lb.)		
Typical with Cab, Extendable Dipperstick, and 567-kg (1,250 lb.) Counterweight	8828 kg (19,463 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)		
MFWD with Tires	110 kg (242 lb.)		
Extendable Dipperstick	271 kg (597 lb.)		
Front Loader Coupler	257 kg (566 lb.)		
Backhoe Bucket Coupler	64 ka (141 lb.)		

Overall Dimensions		410L
A	Ground Clearance, Minimum	334 mm (13 in.)
B	Overall Length, Transport	7.43 m (24 ft. 5 in.)
C	Width Over Tires	2.34 m (7 ft. 8 in.)
D	Height to Top of ROPS/Cab	2.87 m (9 ft. 5 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
	MFWD Axle	2.19 m (7 ft. 2 in.)



Backhoe Dimensions and Performance

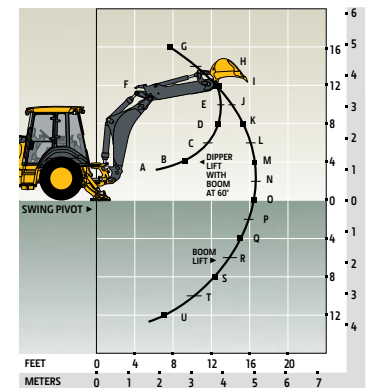
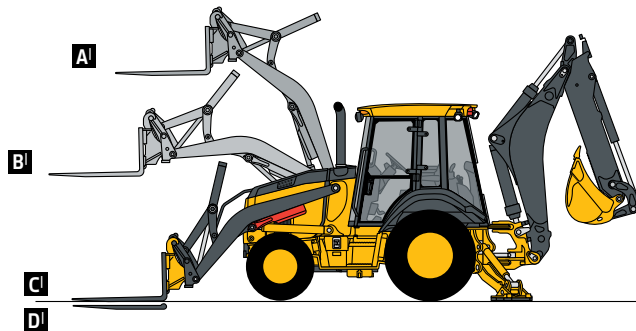
Backhoe specifications are with 610-mm x 0.21-m³ (24 in. x 7.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 60 deg.

Bucket Range		305–762 mm (12–30 in.)		
Digging Force				
	Bucket Cylinder	69.9 kN (15,723 lb.)		
	Lift Mode	77.2 kN (17,350 lb.)		
	Crowd Cylinder	44.1 kN (9,907 lb.)		
	Lift Mode	48.6 kN (10,932 lb.)		
Swing Arc		180 deg.		
Operator Control		2 levers		
		With Standard Backhoe	With Optional Extendable Dipperstick	
			Retracted	Extended
F	Loading Height, Truck Loading Position	3.97 m (13 ft. 0 in.)	4.01 m (13 ft. 2 in.)	4.72 m (15 ft. 6 in.)
G	Reach from Center of Swing Pivot	6.02 m (19 ft. 9 in.)	6.02 m (19 ft. 9 in.)	7.14 m (23 ft. 5 in.)
H	Reach from Center of Rear Axle	7.14 m (23 ft. 5 in.)	7.14 m (23 ft. 5 in.)	8.26 m (27 ft. 1 in.)
I	Digging Depth (SAE maximum)	4.85 m (15 ft. 11 in.)	4.85 m (15 ft. 11 in.)	6.00 m (19 ft. 8 in.)
J	Digging Depth (SAE)			
	610-mm (2 ft.) Flat Bottom	4.80 m (15 ft. 9 in.)	4.80 m (15 ft. 9 in.)	5.97 m (19 ft. 7 in.)
	2440-mm (8 ft.) Flat Bottom	4.49 m (14 ft. 9 in.)	4.49 m (14 ft. 9 in.)	5.75 m (18 ft. 10 in.)
K	Stabilizer Width, Transport	2.35 m (7 ft. 9 in.)	2.35 m (7 ft. 9 in.)	2.35 m (7 ft. 9 in.)
L	Stabilizer Spread, Operating	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
M	Stabilizer Overall Width, Operating	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)
N	Bucket Rotation	190 deg.	190 deg.	190 deg.
O	Transport Height	3.91 m (12 ft. 10 in.)	3.91 m (12 ft. 10 in.)	3.91 m (12 ft. 10 in.)

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Loader Dimensions and Performance		410L		
P	Bucket Dump Angle, Maximum	45 deg.		
Q	Rollback Angle at Ground Level	40 deg.		
		<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>
	Bucket Capacity	1.00 m ³ (1.31 cu. yd.)	1.15 m ³ (1.50 cu. yd.)	1.00 m ³ (1.31 cu. yd.)
	Width	2346 mm (92 in.)	2394 mm (94 in.)	2346 mm (92 in.)
	Weight	521 kg (1,148 lb.)	548 kg (1,208 lb.)	863 kg (1,902 lb.)
	Breakout Force	47.3 kN (10,645 lb.)	46.1 kN (10,361 lb.)	43.7 kN (9,824 lb.)
	Lift Capacity, Full Height	3271 kg (7,211 lb.)	3160 kg (6,967 lb.)	2787 kg (6,144 lb.)
R	Height to Bucket Hinge Pin, Maximum	3.47 m (11 ft. 4 in.)	3.47 m (11 ft. 4 in.)	3.47 m (11 ft. 4 in.)
S	Dump Clearance, Bucket at 45 deg.	2.70 m (8 ft. 10 in.)	2.66 m (8 ft. 9 in.)	2.67 m (8 ft. 9 in.)
T	Reach at Full Height, Bucket at 45 deg.	730 mm (28.7 in.)	772 mm (30.4 in.)	772 mm (30.4 in.)
U	Digging Depth Below Ground, Bucket Level	135 mm (5.3 in.)	135 mm (5.3 in.)	131 mm (5.1 in.)
V	Length from Front Axle Centerline to Bucket Cutting Edge	2.03 m (6 ft. 8 in.)	2.09 m (6 ft. 10 in.)	2.08 m (6 ft. 10 in.)

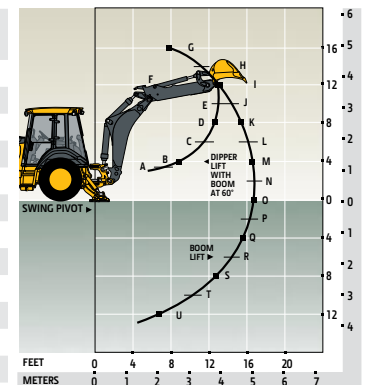
Lift Capacity with Quick-Coupler Forks			
Hydraulic Capacity		<i>1219-mm (48 in.) Tines</i>	<i>1524-mm (60 in.) Tines</i>
A¹	Maximum Height	2019 kg (4,452 lb.)	1887 kg (4,161 lb.)
B¹	Maximum Reach	3158 kg (6,963 lb.)	2978 kg (6,565 lb.)
C¹	At Ground Line	4009 kg (8,839 lb.)	3792 kg (8,360 lb.)
D¹	Below Ground Line	206 mm (8.1 in.)	206 mm (8.1 in.)



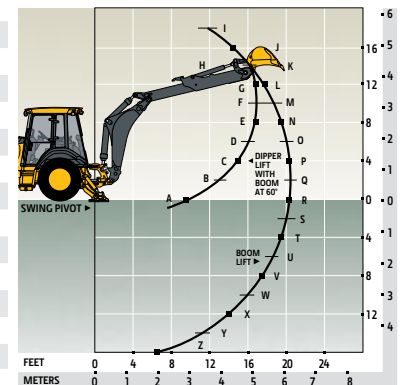
Lift Capacities		Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.			
With Standard Dipperstick		With 1.21-m (4 ft. 0 in.) Extendable Dipperstick, Retracted		With 1.21-m (4 ft. 0 in.) Extendable Dipperstick, Extended	
Standard Lift	Lift Mode	Standard Lift	Lift Mode	Standard Lift	Lift Mode
A	7747 kg (17,080 lb.)	7747 kg (17,080 lb.)	7508 kg (16,553 lb.)	4957 kg (10,928 lb.)	5327 kg (11,743 lb.)
B	6041 kg (13,318 lb.)	6041 kg (13,318 lb.)	5826 kg (12,845 lb.)	3141 kg (6,924 lb.)	3492 kg (7,698 lb.)
C	4469 kg (9,852 lb.)	4469 kg (9,852 lb.)	4277 kg (9,429 lb.)	2729 kg (6,015 lb.)	3036 kg (6,693 lb.)
D	4024 kg (8,871 lb.)	4024 kg (8,871 lb.)	3838 kg (8,461 lb.)	2513 kg (5,541 lb.)	2798 kg (6,169 lb.)
E	3745 kg (8,256 lb.)	3899 kg (8,596 lb.)	3621 kg (7,983 lb.)	3714 kg (8,189 lb.)	2358 kg (5,199 lb.)
F	3305 kg (7,285 lb.)	3662 kg (8,074 lb.)	3180 kg (7,010 lb.)	3537 kg (7,798 lb.)	2212 kg (4,876 lb.)
G	1641 kg (3,617 lb.)	1828 kg (4,029 lb.)	1481 kg (3,265 lb.)	1668 kg (3,677 lb.)	2037 kg (4,492 lb.)
H	2125 kg (4,685 lb.)	2374 kg (5,234 lb.)	1943 kg (4,284 lb.)	2192 kg (4,833 lb.)	1788 kg (3,942 lb.)
I	2252 kg (4,965 lb.)	2519 kg (5,554 lb.)	2061 kg (4,544 lb.)	2328 kg (5,133 lb.)	1091 kg (2,406 lb.)
J	2287 kg (5,042 lb.)	2561 kg (5,646 lb.)	2090 kg (4,608 lb.)	2364 kg (5,212 lb.)	1355 kg (2,988 lb.)
K	2286 kg (5,039 lb.)	2562 kg (5,648 lb.)	2084 kg (4,595 lb.)	2361 kg (5,204 lb.)	1479 kg (3,260 lb.)
L	2268 kg (4,999 lb.)	2544 kg (5,609 lb.)	2063 kg (4,547 lb.)	2339 kg (5,157 lb.)	1543 kg (3,402 lb.)
M	2243 kg (4,944 lb.)	2518 kg (5,551 lb.)	2034 kg (4,485 lb.)	2310 kg (5,092 lb.)	1577 kg (3,477 lb.)
N	2215 kg (4,884 lb.)	2490 kg (5,489 lb.)	2004 kg (4,418 lb.)	2278 kg (5,023 lb.)	1594 kg (3,514 lb.)
O	2189 kg (4,827 lb.)	2463 kg (5,429 lb.)	1975 kg (4,354 lb.)	2248 kg (4,956 lb.)	1601 kg (3,529 lb.)
P	2167 kg (4,778 lb.)	2440 kg (5,380 lb.)	1949 kg (4,298 lb.)	2222 kg (4,899 lb.)	1602 kg (3,531 lb.)
Q	2153 kg (4,746 lb.)	2426 kg (5,349 lb.)	1931 kg (4,257 lb.)	2204 kg (4,860 lb.)	1599 kg (3,526 lb.)
R	2150 kg (4,741 lb.)	2426 kg (5,348 lb.)	1924 kg (4,242 lb.)	2200 kg (4,849 lb.)	1596 kg (3,519 lb.)
S	2171 kg (4,786 lb.)	2452 kg (5,406 lb.)	1938 kg (4,274 lb.)	2220 kg (4,893 lb.)	1594 kg (3,514 lb.)
T	2247 kg (4,953 lb.)	2541 kg (5,603 lb.)	2004 kg (4,418 lb.)	2299 kg (5,068 lb.)	1594 kg (3,515 lb.)
U	2578 kg (5,684 lb.)	2923 kg (6,444 lb.)	2306 kg (5,084 lb.)	2651 kg (5,844 lb.)	1600 kg (3,527 lb.)
V	—	—	—	—	1614 kg (3,558 lb.)
W	—	—	—	—	1643 kg (3,623 lb.)
X	—	—	—	—	1703 kg (3,755 lb.)
Y	—	—	—	—	1843 kg (4,064 lb.)
Z	—	—	—	—	2465 kg (5,435 lb.)

*Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.

With Standard Dipperstick



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended