

580 Super M+

SERIES 3 LOADER/BACKHOE TIER III CERTIFIED

ENGINE

ENGINE			
Model 445TA/E	Case Family IV 445TA/E3 diesel, Tier III certified		
Туре	4-stroke, turbocharged		
Cylinders	4		
Bore/Stroke	4.09 in x 5.19 in (104 x 132 mm)		
Displacement	274 in³ (4.5 L)		
Fuel injection	Direct high pressure common rail (HPCR)		
Fuel	Diesel		
Primary fuel filter	5 micron		
Secondary fuel filter 30 micron w/water to	trap and indicating lamp		
Air intake	Cross-flow		
Cooling	Liquid		
Engine speeds* (rpm) Rated speed, full location Low idle High idle, no load	ad 2200 900 - 1000 2330 - 2430		
Horsepower			
Gross Net	97 (72 kW) @ 2200 rpm 95 (71 kW) @ 2200 rpm		
Maximum torque @ 1	400 rpm		
Gross Net	334 lb·ft (453 N·m) 326 lb·ft (442 N·m)		
Torque rise at rated speed 45%			

NOTE: *Engine speeds with standard transmission. Meets federal emission regulations.

ENGINE COOLING

Radiator		
Core type	Square wave	
Core size area	487 in² (.315 m²)	
Rows of tubes	5	
Fan		
Style	9 blade viscous suction	
Diameter	19.6 in (500 mm)	
Ratio	1.4:1	
Water pump		
Style	Integral	
Engine oil		
Pump	Deep sump plate cooler	
with pressurized under-piston nozzles		
Pump operating angle ratings		
Side-to-side	Rated 35°	

TIRES

Fore and aft

Oil filtration

Front
4WD - 12.5/80 x 18, 8PR
Rear

Rated 35°

Replaceable,

full-flow cartridge

4WD - 21L x 24, 10PR

POWERTRAIN

Transmission

4-speed synchromesh with hydraulically actuated clutches and electric F/R shuttle control, clutch disconnect buttons on the transmission shifter and loader control lever

4WD w/limited slip differential, outboard planetary drive, on-the-go push button activation and 12.5/80 x 18 front tires

Gear ratios	Forward	Reverse
1st	5.603	4.643
2nd	3.431	2.884
3rd	1.584	1.313
4th	0.793	0.657
Torque converter		

Ratio	2.64
Differential lock	On-the-go
	push-button activation

Front 4WD axle	
Differential ratio	2.5
Planetary hub ratio	6.4
Total reduction ratio	12.0
Rear axle	
Differential ratio	2.5

Planetary hub ratio 6.4 Total reduction ratio 16.0

Service brakes

Individually applied, power assisted, hydraulically actuated, maintenance-free, self-adjusting, outboard mounted, wet disc, 2 per side

Disc area	384 in² (.25 m²)

Parking brakes

String applied hydraulic release (SAHR)

Travel speeds – mph (km/h)				
	1st	2nd	3rd	4th
Forward	4.0 (6.4)	6.3 (10.1)	13.5 (21.8)	25.4 (40.9)
Reverse	4.7 (7.6)	7.5 (12.1)	16.2 (26.1)	30.5 (49.1)

NOTE: Travel speeds at 2310 engine rpm.

ELECTRICAL

Voltage	12 volts, negative ground	
Alternator	90 amp	
Cold weather grid heater w/dual 12-volt, 850 CCA batteries		
Power plugs	(2) 30 amps ea.	

HYDRAULICS

Pump

Variable dispalcement axial piston pump, transmission mounted

Main relief pressure

3100 + 0 - 100 psi @ 40 gpm (214 + 0 - 6 bar @ 151 L/min)

Filtration

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

Oil cooler Heavy-duty

Loader flow @ rated engine rpm

Combined functions

40.0 gpm @ 3100 psi (151 L/min @ 214 bar)

Individual functions

31.5 gpm @ 3100 psi (119 L/min @ 214 bar)

Loader control valve

Pressure compensated loader hydraulics for simultaneous lift and bucket operation

Hydraulics for simultaneous multifunction operation

Sectional valve single lever control for lift, tilt and auxiliary hydraulics, positive hold float and return-to-dig

Loader auxiliary hydraulics with proportional thumb switch w/detent on loader control handle 0 to 31.5 gpm (0 to 119 L/min)

Backhoe flow

@ rated engine rpm

40 gpm @ 3100 psi (151 L/min @ 214 bar)

Pilot Backhoe Controls

Backhoe Control Valve

Pressure compensated backhoe

Top 8-spool sectional closed-center with flushing inlet and circuits in parallel

Backhoe auxiliary hydraulics

Uni-directional flow, adjustable variable flow from 0 to 36 gpm (136 L/min)

Control operation

Pilot Button on left joystick

Bi-Directional flow, variable flow from 0 to 38 gpm (144 L/min) @ rated engine rpm

Control operation

Dual proportional thumb control on left joystick

OPERATOR ENVIRONMENT

ROPS/FOPS canopy Key start

Hydrostatic steering

Vinyl air suspension seat w/180° swivel

Seat turn around idle

Electronic hand and foot throttles

Ergonomic loader control lever w/push-button activation of differential lock and transmission de-clutch

Backhoe pilot controls

(2) Accessory power plugs (30 amp)

Anti-vandalism covers (canopy only)

Cup holder

Coat hook w/tether strap (cab only)

Interior rearview mirror

3 in (76 mm) retractable seat belt

Storage compartment w/lid

Left side storage tray

+900 lb (408 kg) counterweight

Extendahoe

4WD

INSTRUMENTATION

Vehicle Control Module w/menu driven options and onboard diagnostics

Cruise control

Foot throttle sensitivity

Cold weather idle settings

Maintenance settings

Gauges

Engine water temperature

Converter oil temperature

Fuel

Tachometer/hourmeter

Voltmeter

Warning lights

Air cleaner restriction

Alternator

A/C high pressure

Cold start

Engine oil pressure

Hydraulic oil filter bypass

Parking brake

Rear axle fluid temperature sensing system

Low fuel

Audible alarms w/diagnostics

Coolant temperature

Engine oil pressure

Parking brake engagement

Shuttle engagement/seat position

Backup alarm

Horn - dual switched front & rear

TURNING DIAMETER

4WD - engaged

Brakes on 23 ft 11 in (7.29 m) Brakes off 29 ft 8 in (9.08 m)

4WD - disengaged

Brakes on 22 ft 6 in (6.85 m) Brakes off 27 ft 0 in (8.22 m)

NOTE: Turning diameter dimensions curb to curb w/21L x 24 tires and 93 (2.36 m) general purpose bucket.

OPERATING WEIGHTS

Lightest Configuration

Unit equipped with 4WD, ROPS canopy, vinyl air suspension seat, 93 in (2.36 m) general purpose loader bucket, 24 in (610 mm) Universal backhoe bucket, Extendahoe dipper, 21L x 24 rear tires, 12.5 x 80/18 front tires, single battery, flip over stabilizer pads, 900 lb couterweight, no operator 14,905 lb (6761 kg)

Heaviest Configuration

Unit equipped with 4WD, ROPS 2 door cab, cloth air suspension seat, 93 in (2.36 m) 4 IN 1° loader bucket, 24 in (610 mm) Universal backhoe bucket, Extendahoe° dipperstick, 21L x 24 rear tires, dual batteries, flip stabilizer pads, 900 lb counterweight, no operator

18,128 lb (8,223 kg)

42.0 gal (159 L)

Add-on weights

Fuel tank

Cab (over canopy)	+454 lb (206 kg)
Extendahoe®	+496 lb (225kg)
4WD w/driveshaft guard	+283 lb (128 kg)

SERVICE CAPACITIES

	9 (/
Hydraulic system	
Total	29.5 gal (11.5 L)
Total w/Extendahoe®	31.0 gal
	(117.2 L)
Reservoir w/filter	12.5 gal (47.1 L)
Reservoir w/o filter	12.0 gal (45.2 L)
Transmission	
4WD Total system	20.5 qt (19.4 L)
4WD Front axle	
Differential	6.7 qt (6.3 L)
Planetaries	.63 qt (.6 L)
Rear axle	
Differential and planetaries	9.7 qt (18.6 L)
Engine oil w/filter	14.4 qt (13.6 L)
Cooling system	
w/heater	19.0 qt (18.0 L)
w/o heater	18.3 qt (17.3 L)
Window washer reservoir	3.5 qt
	(3.3 L)

LOADER

Single-lever control for lift and tilt

Positive hold float

Return-to-dig

Automatic self-leveling

In-line, reverse linkage

Dual parallel dump cylinders

Clutch disconnect button on loader control and shift levers

Bucket position indicator

Loader Bucket Sizes

Width	Weight	Struck	Heaped	
General Purpose Bucket				
93 in	933 lb*	1.07 yd³	1.25 yd³	
(2.36 m)	(423 kg)	(0.82 m³)	(0.96 m³)	
4 IN 1® Bucket				
93 in (2.36 m)	1,628 lb (738 kg)	1.0 yd³ (0.76 m³)	1.2 yd³ (0.92 m³)	

BACKHOE

Pilot operated control system

Fingertip stabilizer controls

Thumb operated proportional extendahoe control

One touch idle

Thumb operated proportional auxiliary hydraulics

Infinitely adjustable towers w/wrist wrests

In cab pattern changer

Over-center design

Cast, ductile iron boom, and swing tower

Closed-center hydraulics - Pro Control System

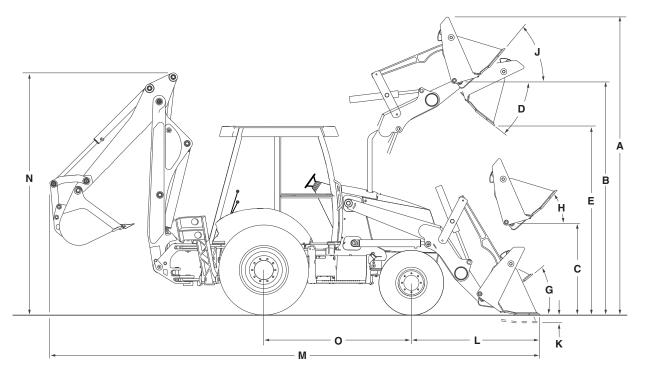
17, 940 lb·ft (24 370 N·m) swing torque

Case attachment coupler

Flip over stabilizer pads

Backhoe Bucket Sizes

Width	Weight	Heaped
	Universal Buckets	
12 in	290 lb	3.40 ft ³
(305 mm)	(132 kg)	(0.10 m ³)
16 in	346 lb	3.60 ft ³
(406 mm)	(157 kg)	(0.10 m ³)
18 in	350 lb	5.30 ft ³
(457 mm)	(159 kg)	(0.15 m ³)
24 in	413 lb	7.70 ft ³
(610 mm)	(187 kg)	(0.22 m ³)
30 in	475 lb	10.20 ft³
(762 mm)	(215 kg)	(0.29 m³)
36 in	535 lb	12.70 ft³
(914 mm)	(243 kg)	(0.36 m³)
	High Capacity Bucke	ets
24 in	450 lb	8.50 ft ³
(610 mm)	(204 kg)	(0.24 m ³)
30 in	517 lb	10.60 ft³
(762 mm)	(235 kg)	(0.30 m³)



LOADER DIMENSIONS

		General Purpose Bucket*	4 IN 1 [®] Bucket
A. Ove	rall operating height – fully raised	14 ft 4 in (4.36 m)	14 ft 7 in (4.45 m)
Heig	pht to –		
B. B	ucket hinge pin fully raised	11 ft 6 in (3.51 m)	11 ft 6 in (3.51 m)
ъ. в	ucket hinge pin @ SAE carry	13.1 in (334 mm)	14.6 in (372 mm)
). Dum	np angle @ full height	45°	45°
. Dum	np clearance @ full height, 45° dump -		
В	ucket	9 ft 2 in (2.80 m)	9 ft 3 in (2.83 m)
С	lam open	NA	10 ft 0 in (3.06 m)
. Dum	np reach @ full height, 45° dump -		
	ucket	30.0 in (763 mm)	27.8 in (707 mm)
C	lam open	NA	14.3 in (362 mm)
Bucl	ket rollback –		
i. @	groundline	40°	40°
l. @	SAE carry	45°	45°
. @	full height	Adjustable	Adjustable
. Digg	ging depth below grade -		
В	ucket flat	1.3 in (33 mm)	2.4 in (61 mm)
. Read	ch from front axle centerline – bucket on ground	77.6 in (1.97 m)	75.2 in (1.91 m)
Lift o	capacity to full height	6,182 lb (2804 kg)	5,514 lb (2501 kg)
Brea	akout force –		
Li	ift cylinders	9,164 lbf (40 760 N)	8,904 lbf (39 600 N)
D	ump cylinders	9,480 lbf (42 170 N)	10,302 lbf (45 820 N)
Bucl	ket cutting edge width	82 in (2.08 m)/93 in (2.36 m)	82 in (2.08 m)
Max	imum grading angle	116°	116°
Max	imum clam opening	NA	38.3 in (972 mm)
Molo	dboard height	NA	36.8 in (934 mm)
Rais	ing time to full height	3.4 sec	3.4 sec
Bucl	ket dumping time	1.5 sec	1.5 sec
Low	ering time –		
P	ower down	2.4 sec	2.4 sec
R	eturn-to-dig	3.2 sec	3.2 sec
Clan	_		
0	pen time	NA	2.3 sec
	lose time	NA	3.1 sec

DIMENSIONS

		Extendahoe [®]	
		Retracted	Extended
М.	Overall transport length –		
	General purpose bucket	22 ft 10 in (6.95 m)	NA
	4 IN 1 [®] bucket	22 ft 8 in (6.92 m)	NA
	Overall transport width	7 ft 9 in (2.36 m)	NA
	Height –		
	To top of canopy	8 ft 11 in (2.71 m)	8 ft 11 in (2.71 m)
	To top of cab	8 ft 11 in (2.73 m)	8 ft 11 in (2.73 m)
	To top of exhaust stack	8 ft 9 in (2.66 m)	8 ft 9 in (2.66 m)
N.	Transport	11 ft 4 in (3.44 m)	NA
	Ground clearance at backhoe frame	14.5 in (366 mm)	14.5 in (366 mm)
	Angle of departure	20°	20°
	Front wheel tread –		
	2WD	72.7 in (1.85 m)	72.7 in (1.85 m)
	4WD	77.0 in (1.96 m)	77.0 in (1.96 m)
	Rear wheel tread	69.6 in (1.77 m)	69.6 in (1.77 m)
	Width across front tires		
	2WD	88.3 in (2.24 m)	88.3 in (2.24 m)
	4WD	89.6 in (2.28 m)	89.6 in (2.28 m)
	Width across rear tires	91.8 in (2.33 m)	91.8 in (2.33 m)
0.	Wheelbase -		
	2WD	84 in (2.13 m)	84 in (2.13 m)
	4WD	84.5 in (2.15 m)	84.5 in (2.15 m)

NOTE: Dimensions taken with 21L x 24 rear tires and 12.5/80 x 18 front tires except that data marked 2WD is taken with 14.5/75 x 16.1 front tires.

CYLINDERS

	Bore Diameter	Rod Diameter	Stroke
oader			
Lift (2)	3.25 in (82.6 mm)	1.75 in (44.5 mm)	30.2 in (766 mm)
Bucket (2)	3.0 in (76 mm)	1.5 in (38.1 mm)	20.6 in (522 mm)
4 IN 1 [®] clam (2)	3.0 in (76 mm)	1.75 in (44.5 mm)	9.1 in (231 mm)
ickhoe			
Boom	5.25 in (133.4 mm)	2.50 in (63.5mm)	33.2 in (842 mm)
Dipperstick	5.0 in (127 mm)	2.5 in (63 mm)	22.9 in (583 mm)
Bucket	3.5 in (89 mm)	2.5 in (63 mm)	34.3 in (872 mm)
Extendahoe®	3.0 in (76 mm)	1.75 in (44.5 mm)	42.0 in (1.07 m)
Swing (2)	4.0 in (101.6 mm)	2.0 in (50.8 mm)	11.5 in (292 mm)
Stabilizer (2)	4.25 in (108 mm)	2.0 in (50.8 mm)	20.4 in (519 mm)
eering			
2WD	2.75 in (69.9 mm)	1.5 in (38.1 mm)	6.7 in (170 mm)
4WD	2.48 in (63 mm)	1.5 in (38.1 mm)	9.53 in (242 mm)

BACKHOE LIFT CAPACITIES

		Exter	ndahoe®		
	Retracted		Exte	Extended	
Boom Lift	Distance from swing pivot (m)	Backhoe lift capacity – lb (kg)	Distance from swing pivot (m)	Backhoe lift capacity – lb (kg)	
+16 ft (4.87 m)			12 ft 5 in (3.79)	1,350 (612)	
+14 ft (4.27 m)	9 ft 6 in (2.89)	2,350 (1066)	14 ft 7 in (4.45)	1,775 (805)	
+12 ft (3.66 m)	11 ft 10 in (3.61)	2,575 (1168)	16 ft 2 in (4.93)	1,850 (839)	
+10 ft (3.05 m)	13 ft 4 in (4.06)	2,700 (1225)	17 ft 2 in (5.23)	1,875 (850)	
+8 ft (2.44 m)	14 ft 5 in (4.40)	2,650 (1202)	18 ft 0 in (5.49)	1,875 (850)	
+6 ft (1.83 m)	15 ft 2 in (4.62)	2,600 (1179)	18 ft 7 in (5.67)	1,875 (850)	
+4 ft (1.22 m)	15 ft 6 in (4.72)	2,575 (1168)	18 ft 10 in (5.74)	1,875 (850)	
+2 ft (0.61 m)	15 ft 7 in (4.75)	2,525 (1145)	18 ft 11 in (5.77)	1,850 (839)	
Ground Level	15 ft 5 in (4.70)	2,425 (1100)	18 ft 10 in (5.74)	1,850 (839)	
-2 ft (0.61 m)	15 ft 0 in (4.57)	2,400 (1088)	18 ft 5 in (5.62)	1,800 (816)	
-4 ft (1.22 m)	14 ft 2 in (4.32)	2,300 (1043)	17 ft 9 in (5.41)	1,800 (816)	
-6 ft (1.83 m)	12 ft 10 in (3.91)	2,300 (1043)	16 ft 9 in (5.11)	1,800 (816)	
-8 ft (2.44 m)	11 ft 2 in (3.40)	2,300 (1043)	15 ft 7 in (4.75)	1,800 (816)	
-10 ft (3.05 m)	8 ft 7 in (2.62)	2,425 (1099)	13 ft 11 in (4.24)	1,850 (839)	
-12 ft (3.66 m)			11 ft 7 in (3.53)	2,025 (918)	
-14 ft (4.27 m)			7 ft 11 in (2.41)	2,450 (1111)	
Dipper Lift					
+14 ft (4.27 m)			13 ft 4 in (4.06)	2,580 (1170)	
+12 ft (3.66 m)	10 ft 7 in (3.23)	4,360 (1978)	14 ft 3 in (4.35)	2,680 (1216)	
+10 ft (3.05 m)	11 ft 2 in (3.40)	4,190 (1901)	14 ft 6 in (4.42)	2,700 (1225)	
+8 ft (2.44 m)	10 ft 11 in (3.33)	4,160 (1887)	14 ft 5 in (4.40)	2,880 (1306)	
+6 ft (1.83 m)	10 ft 2 in (3.10)	4,680 (2123)	13 ft 11 in (4.24)	2,910 (1320)	
+4 ft (1.22 m)	8 ft 3 in (2.58)	5,590 (2536)	12 ft 11 in (3.94)	3,050 (1383)	

BACKHOE OPERATIONAL DATA

	Extendal	10e®
	Retracted	Extended
Digging depth –		
Maximum	14 ft 10 in (4.52 m)	18 ft 3 in (5.56 m)
Maximum w/hi-capacity bucket	15 ft 3 in (4.65 m)	18 ft 8 in (5.69 m)
2 ft (610 mm) flat bottom	14 ft 8 in (4.47 m)	18 ft 2 in (5.54 m)
8 ft (2.44 m) flat bottom	13 ft 9 in (4.19 m)	17 ft 6 in (5.33 m)
Overall reach from –		
Rear axle centerline	22 ft 0 in (6.70 m)	25 ft 5 in (7.75 m)
Swing pivot	18 ft 5 in (5.61 m)	21 ft 10 in (6.65 m)
Loading height	11 ft 5 in (3.48 m)	13 ft 3 in (4.04 m)
Loading reach – dipper retracted	8 ft 8 in (2.64 m)	11 ft 6 in (3.50 m)
Swing arc	180°	180°
Bucket rotation –		
#1 position	164°	164°
#2 position	190°	190°
Stabilizer spread – operating	11 ft 1 in (3.38 m)	11 ft 1 in (3.38m)
Digging force –		
Bucket cylinder	12,821 lbf (57 031 N)	12,821 lbf (57 031 N)
Dipper cylinder	7,784 lbf (25 066 N)	5,635 lbf (25 066 N)
	w/bucket @ 50°	w/bucket @ 51°
Leveling angle		
maximum slope that backhoe		
will make vertical cut	12°	12°

NOTE: Lift capacities apply straight to the rear of prime mover. Equipped with 24 in (610 mm) Universal H.D. trenching bucket and Case coupler except as noted.

STANDARD EQUIPMENT

OPERATOR'S COMPARTMENT

See page 2

ENGINE

Case Family IV 445TA/E3 non EGR turbocharged diesel

Tier III certified

Integral crank driven balancer

Automatic fan belt tensioner

Integral engine oil cooling

Primary 5 micron fuel filter

Secondary 30 micron fuel filter w/water trap

Dual element air cleaner with integral pre-cleaner

90 amp alternator

(2) 850 CCA 12-volt batteries

Grid heater

Heavy-duty radiator w/deaeration bottle

Non-spark-arresting muffler

Aspirated air cleaner

Swing out fuel cooler

Cruise control

LOADER

See page 2

BACKHOE

See page 2

POWERTRAIN

4WD

4F/4R Power shuttle synchromesh transmission

Torque converter

Transmission de-clutch

Electro-hydraulic differential lock

Hydrostatic steering

Wet disc brakes

Remote lube front axle pivot

HYDRAULICS

2-spool loader control valve

7-spool backhoe control valve

Heavy-duty oil cooler

OTHER

Forward tilt engine hood

Replaceable, molded front bumpers

Front/rear tie downs

Reflective logos

Lights - Cab and Canopy

- (2) Rear tail/stop
- (2) Front flashers/turn
- (2) Rear flashers/turn
- (2) Front & 4 rear adjustable halogen lights (55 w)

Tool box

900 lb (408 kg) counterweight

3 in (76 mm) retractable seat belt

Ride control

Flip over stabilizer pads

OPTIONAL EQUIPMENT

OPERATOR'S COMPARTMENT

2 door cab with -

Air-conditioning, 100% filtered air, in-cab filter access, 8 adjustable roof vents, 2 floor vents, w/heater

Defroster

Dome light - door activated

Wipers, front and rear

Tinted glass

Floor mat

Cloth air suspension seat

Tilt wheel

Radio-ready kit w/antenna and speakers

Side window partial hold open

Inside release for side windows

Cab Convenience Package

Windshield washer w/adjustable nozzles (front & rear)

Reduced sound level to 72 dB(A)

Sun visor

Vinyl-covered interior

Cab, right door

Canopy Convenience Package

Front windshield w/wiper & washer

85 dB(A) sound

Floor mat

Sun visor

LOADER

Hydraulic attachment coupler

Attachment auxiliary hydraulics

3-spool valve hydraulics w/thumb controlled electro hydraulic switch w/detent

Buckets (see page 2)

BACKHOE

Case integrated hydraulic coupler

Buckets (see page 2)

ENGINE

Spark arresting muffler

POWERTRAIN

4 x 3 Powershift transmission with Autoshift (4WD unit only)

Comfort Steer

HYDRAULICS

Auxiliary backhoe uni-directional hydraulics

Auxiliary backhoe bi-directional hydraulics

Button operated for pilot controls

OTHER

Special paint

NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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