



MODEL D86

Qty

D86 BASIC UNIT

1	A 28'-6" retracted to 76'-0" extended 3-section proportional boom. Sheave head shall be equipped with three sheaves. Winch features a 15,000 lb. bare drum pull with 320' of 7/8" diameter synthetic rope and a 12,000 lb. single line pull. Radio anti-two-block and Hydraulic Load Limiter (HLL) hydraulic overload protection system. Continuous rotation. Hydraulic system include a piston pump, 119 gallon oil reservoir with sight and temperature gauge, 10 micron return line filter, and single gate valve on suction line. Oil cooler. Rotating, front entry, open air operator station with reclining seat and controls that rotates with turret. Includes engine start/stop switch, bubble level gauge, signal horn, variable speed throttle, lifting capacity chart, range diagram chart, boom angle indicator, system pressure gauge, cup holder, and 12V power outlet. 20,000 ft./lb. two-speed auger with 3" hex drive. 3" Kelly bar. 41' digging radius. Two sets of "Out-and-Down" type outriggers located at front and rear with 20' center to center extended span and equipped with removable ball socket aluminum pads. Ground operated outrigger controls under each side of bed. Emergency stops located on both sides of the bed and lower operator station. Full and mid-span outrigger load chart. Horizontal type boom rest at end of sub frame. Downhaul weight with hook. Maximum tip height of 86' and maximum lifting capacity of 15 US tons at 10 radius. 360 degree stability with front stabilizer. Unit certified to ANSI/ASSE A10.31 for Digger Derricks.
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BED OPTIONS

1	18' Aluminum Bed Wings With LED Lights and Grip Deck Coating. Center portion of bed is steel top of subbase.
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OUTRIGGER/STABILIZER OPTIONS

1	Automatic Rotation Lockout Prevents Boom From Rotating to Side Where Outriggers are Not Extended Horizontally
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LIFTING OPTIONS

1	15-Ton Hook Block
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PTO OPTIONS

1	Hot Shift PTO For Automatic Transmission
1	Clockwise Rotation Pump (Required for Automatic Transmission)

TOOL BOX OPTIONS (ALUMINUM)

1	36" x 24" x 24" Aluminum Underbody Mounted (Treadplate-No paint)
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FLIGHTING OPTIONS

1	24" Auger Flighting (3" Hex)
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ADDITIONAL OPTIONS

1	XL Hydraulic Pole Claw (Includes Gripping and Tilting Functions)(Requires Dual Hose Reel Option)
1	Dual Boom Mounted Hose Reels for Pole Claw
1	5-Function Radio Remote Controls (No screen due HLL)
1	Vertical Holder On Bed For 15-ton Hook Block

PAINT OPTIONS

1	Paint Digger Derrick Turret, Boom, and Control Platform White. Subbase, Bed Wings, and Reservoir to be Black. Outriggers and Boom Stand to be Red.
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MOUNTING CHARGES

1	Mounting charge for standard unit on unobstructed truck frame. Includes hydraulic fluid, electronic throttle interface, mud flaps, backup alarm, safety triangle kit, final stability test. Includes installation of rear bumper assembly and bed wings. (If unit ordered unmounted, requirement of RH Rotation Pump for Automatic Transmission must be indicated with order)
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***** CHASSIS NOT INCLUDED *****

Minimum Chassis Requirements

58,000 lb. GVWR (18,000 lb. FA / 40,000 lb. RA)

192" CT/94" AF

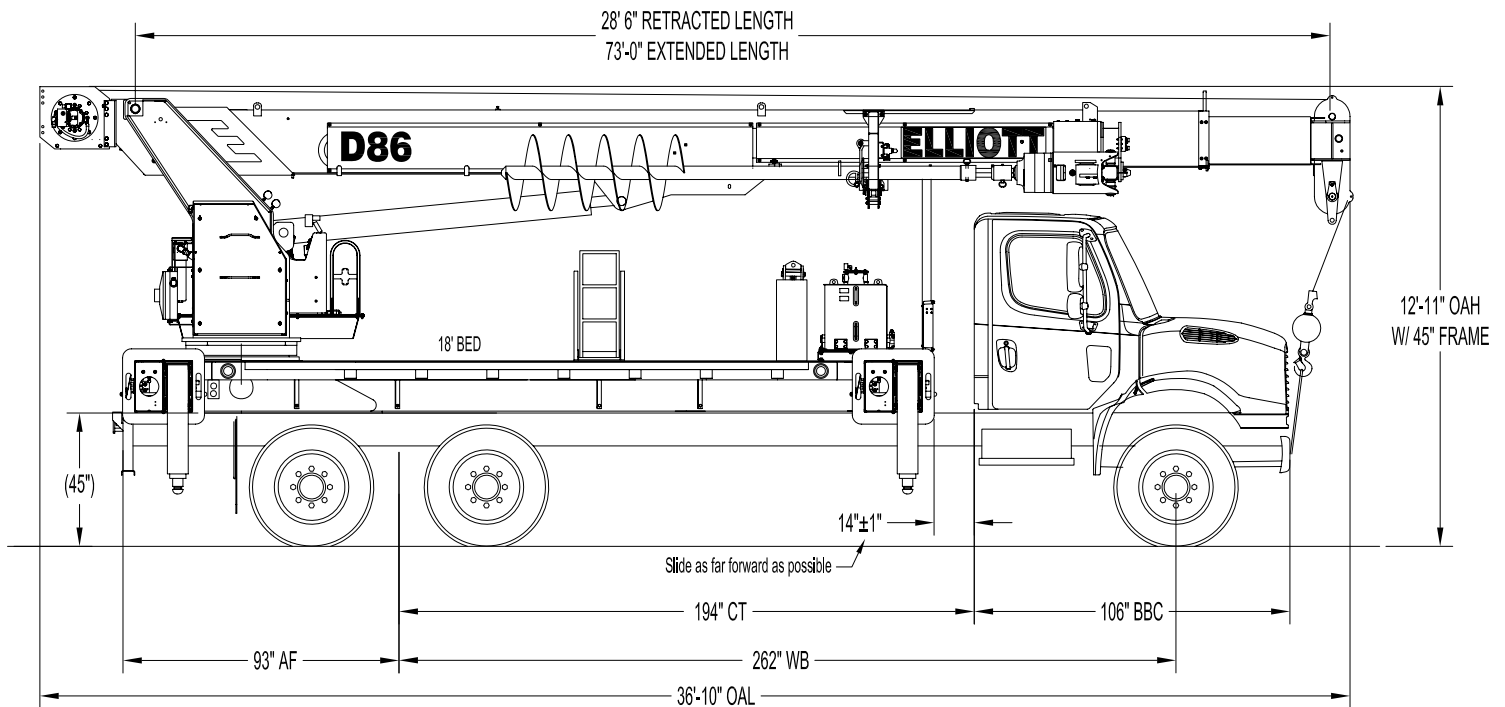
3,200,000 RBM Frame Rails

Counterweight Will Be Required at Additional Cost if Chassis Does Not Meet Minimum Bare Weight Requirements.

Requirement of front stabilizer for 360 degree area of operation will be subject to chassis

1	Upfitting Preparation Charge for Customer Supplied Chassis (Net Price) (Chassis Spec Must Be Approved by Factory Prior to Delivery)
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D86 SIDE VIEW DIAGRAM



Sheave Height (Maximum)	86'/26,2 m
Sheave Height (Retracted)	40'/12,2m
Horizontal Reach (Maximum)	73'/22,3 m
Horizontal Reach (Intermediate)	50'/15,2 m
Horizontal Reach (Retracted)	26'/7,9 m
Lifting Capacity (Maximum)	50,000 lbs/22 679 kg
Lifting Capacity @ 10' Radius	30,000 lbs/15 422 kg
Boom Elevation Limits	-8/+80 Degrees
Winch Single Line Pull	12,000 lbs/5 443 kg

Boom Rotation	360 Degrees Continuous
Digger Motor Torque	20,000 ft-lb/27 116 Nm
Digger Speed (High/Low)	80 RPM / 35 RPM
Digging Radius (Maximum)	41'/12,5 m
Digging Radius (Minimum)	24'/7,3 m
Outrigger Configuration	Out-Down
Outrigger Spread (Full-Span)	20'/6,1 m
Outrigger Spread (Mid-Span)	13'11"/4,2 m
Certification	ANSI A10.31 for Digger Derricks

TECHNICAL SPECIFICATIONS

Elliott Equipment Company reserves the right to change the specification of any unit at any time without prior notice. This brochure is only a statement of general specifications on the date of this publication. For more detailed info on specific Elliott trucks go to www.elliottequip.com

Derrick Capacity: 30,000 lbs at a 10' radius.

Maximum Tip Height: 86'

Control Console: Rotating open seated control station equipped with five single axis control levers for the main digger controls. Operator station includes engine start/stop switch, signal horn button, variable speed throttle switch, lifting capacity chart, range diagram chart, boom angle indicator, system pressure gauge, 12V DC power source, and cup holder. Independent ground level electric operated outrigger controls. Foot switch to enable control console functions.

Boom: Three-section 28'6" retracted to 76' extended, proportional, high strength steel plated rectangular boom. A maximum boom tip height of 86'. The boom tip contains one upper sheave and two lower sheaves. Assembly includes heavy-duty cylinder fittings, pivot pins, and replaceable wear pads.

Winch: Mounted at the base of the boom for a long fleet angle and flat level spooling of rope. Winch is driven by a planetary reducer and powered by a hydraulic motor. The winch brake is spring applied, pressure release design. Supplied with 335' of 7/8" diameter synthetic rope with a single line pull of 12,000 lbs and a downhaul ball with swivel hook for single part line.

Auger System: 20,000 ft-lb hydraulic two-speed auger with 3" hex drive mounted at end of boom. Auger equipped with a 3" Kelly bar (auger extension bar) able to accept 24", 36", or 48" flightings. Auger and flighting to be stowed on side of boom from controls operated at main control station. Up to a 36" flighting to be stowed during transport. The auger provides a 41' digging radius.

Rated Capacity Limiter (RCL): System senses hoist cylinder pressures and boom angle with hydraulic function lockout. Radio anti-two block with an audio/visual warning and shut-off functions to limit hook-boom point contact.

Outriggers: Two sets of out and down overframe outriggers with 20' span. Outriggers are configured for full span or mid span operation. Outriggers equipped with ball socket aluminum removable pads that stow on vertical outrigger legs.

Frame: Full length, all welded rigid 4-plate design sub-frame. Sub-frame allows for bolt-on addition of 18' bed wings, with top plate of subbase serving as a portion of the bed deck to form a three-piece bed.

Turret: Reverse offset turret is one-piece weldment. Turret rotates on large diameter ball bearing.

Rotation: Hydraulic motor drives turret through double reduction planetary swing drive for 360 degree continuous rotation.

Lift: One double-acting long stroke cylinder provides smooth and stable boom elevation. Holding valve prevents boom from falling in event of hose failure.

Boom Extension: Incorporates a 2-stage hydraulic extension cylinder, attached to the largest boom section and opposite end connected to tip section.

Hoses: All high pressure hoses are wire braid reinforced with a minimum safety factor of 4 to 1.

Cylinders: All cylinders use microhoned cylinder tubing, chrome shafts, top grade packing and protective rod wipers. Cylinder-mounted holding valves provided on all load-holding cylinders.

Hydraulic System: Equipped with PTO, piston pump, SAE O-ring face seals on pressure lines, and a 10-micron return line filter. The control valve distributes all flow to hoist system, swing circuit, and other crane functions. System is closed center type.

Oil Tank Capacity: 119 gallon mounted on top of front outriggers.

Cab Equipment: PTO switch with indicator lights installed in truck cab. U/L approved 5:BC dry chemical fire

extinguisher installed in truck cab.

Operators Manual & Video:

Two CD copies and one hard copy of operation, maintenance, safety and parts manual provided with each unit.

Installation: Unit installed on chassis, painted, system and tank filled with oil, tested, inspected, and ready to operate.

Standard Paint: Paint turret and boom white, outriggers red, and bed and boxes black. Top of bed painted with black nonskid surface.

Bumper: Bureau of Motor Carrier Safety rear bumper.

Weight: Approximately 31,100 lbs with 18' steel-floor bed less truck.

Truck Chassis Required: Approx. 192" C.T. RBM 3,300,000 in-lb per rail, 18,000 lb front axle and 58,000 lb GVWR required. Recommended GVWR is minimum with flatbed only. Contact factory when additional equipment is to be added.

Available Options:

2-Stage Vertical Stroke Outriggers

15 or 25-Ton Hook Blocks

2-Person Detachable Work Platform

Multiple Auger Flightings to 48"

Detachable Hydraulic Pole Claw

Radio Remote Control System

Much more...

D86 LOAD AND RANGE CHART

ELLIOTT

EQUIPMENT COMPANY

MODEL D86 DIGGER DERRICK

MAIN BOOM LOAD RATINGS WITH FULLY EXTENDED OUTRIGGERS										RANGE DIAGRAM WITH OUTRIGGERS AT FULL SPAN POSITION		MAIN BOOM LOAD RATINGS WITH OUTRIGGERS AT MID-SPAN POSITION										RANGE DIAGRAM WITH OUTRIGGERS AT MID-SPAN POSITION										
LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED										LOAD RADIUS FROM CENTERLINE OF ROTATION IN FEET		LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED										LOAD RADIUS FROM CENTERLINE OF ROTATION IN FEET										
LOAD RADIUS IN FEET	LOADED BOOM ANGLE	29-ft	40-ft	51-ft	62-ft	73-ft	A	B	C	D	HEIGHT ABOVE GROUND IN FEET	90°	80°	75°	70°	65°	60°	55°	50°	45°	40°	35°	30°	25°	20°	15°	10°	5°	0°			
																														0	10	20
5	80	50,000																														
8	75	38,700	79	37,000																												
10	71	33,000	76	31,500	79	30,000																										
12	67	29,500	73	27,500	77	26,200	78	25,500																								
14	62	25,500	70	24,500	75	23,200	77	22,500	80	22,000																						
16	58	23,000	67	22,000	72	21,000	74	20,400	78	19,700																						
18	53	16,800	64	20,000	70	19,100	72	18,400	77	18,100																						
20	47	14,000	61	17,800	67	17,500	70	16,800	75	16,400																						
25	31	10,500	52	12,000	61	13,800	65	13,650	69	13,200																						
30			41	8,700	54	9,400	60	11,000	65	11,000																						
35			28	6,700	47	7,000	57	8,400	61	9,000																						
40					39	5,600	54	6,300	59	7,000																						
45					28	4,600	44	4,600	53	5,000																						
50							36	3,700	47	3,650																						
55									28	3,000	41	3,000																				
60											34	2,450																				
65												27	2,000																			
0		9,400	0	6,400	0	4,000	0	2,600	0	1,500																						

20'-0" FULL SPAN OUTRIGGERS

OUTRIGGER LOCK PINS DISENGAGED AND BEAMS AT FULL HORIZONTAL EXTENSION

13'-11" MID-SPAN OUTRIGGERS

OUTRIGGER LOCK PINS ENGAGED AND BEAMS AT MID-SPAN HORIZONTAL EXTENSION

1-PART LINE

2-PART LINE

3-PART LINE

4-PART LINE

5-PART LINE

NOTICE

- DO NOT DEADHEAD LINE BLOCK AGAINST BOOM TIP WHEN EXTENDING BOOM.
- KEEP AT LEAST 5 WRAPS OF LOADLINE ON THE WINCH DRUM AT ALL TIMES.
- USE ONLY DIAMETER ROPE, AS SPECIFIED BELOW, WITH THE PROPER BREAKING STRENGTHS LISTED.
- ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE.

SEE OPERATION & SAFETY MANUAL.

AREA OF OPERATION

360° FULL CAPACITY WORK AREA

NOTES:

1. CAPACITIES DO NOT EXCEED ANSI / ASSE A10.31 REQUIREMENTS.
2. PERSONNEL HANDLING IS ALLOWED ONLY WITH FULL SPAN OUTRIGGERS
3. BOOM LOAD RATINGS ARE BASED ON LOADED BOOM RADIUS.
4. LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY.
5. DEDUCT APPROPRIATE WEIGHT FOR DOWNHAUL WEIGHT AND SNATCH BLOCK.

11,200 LBS	22,400 LBS	33,600 LBS	44,800 LBS	50,000 LBS	5/8" DIA. SPIN RESISTANT (5:1 S.F.) 56,400 LBS BREAKING STRENGTH
12,000 LBS	24,000 LBS	36,000 LBS	48,000 LBS	50,000 LBS	7/8" DIA. ULTREX PLUS SYNTHETIC ROPE

DANGER

OVERLOADING THE DIGGER DERRICK WILL RESULT IN DEATH OR SERIOUS INJURY

Deductions must be made for boom and/or loadline attachments to determine allowable load.

Use deduct information provided on this label or on a loadline attachments for Elliott Equipment Company provided accessories.

Refer to owner's manual for additional information.

MEETS ANSASSE A10.31 REQUIREMENTS AT TIME OF MANUFACTURE

ACCESSORY ADJUSTMENTS FROM RATED LOAD

NOTE: THE WEIGHTS OF THE HYDRAULIC DIGGER DRIVE AND EXTENSION BAR ARE CALIBRATED INTO THE LOAD CHART AND DO NOT REQUIRE ADDITIONAL DEDUCTIONS. THIS CALIBRATION DOES NOT INCLUDE THE WEIGHT OF AN ATTACHED AUGER BIT.

AN ADDITIONAL DEDUCTION MUST BE MADE WHEN AN AUGER BIT IS ATTACHED TO THE DIGGER DRIVE AND STOWED ON THE SIDE OF THE BOOM. THE DEDUCTION AMOUNT IS A PERCENTAGE OF THE WEIGHT OF THE AUGER BIT. THE FOLLOWING TABLE LISTS THE DEDUCTION PERCENTAGES FOR EACH BOOM LENGTH AND INCLUDES SAMPLE DEDUCTIONS FOR A 500 LB AUGER BIT.

WEIGHT OF POLE GRAB ATTACHMENT IS CALIBRATED INTO THE LOAD CHART AND DOES NOT REQUIRE DEDUCTIONS.

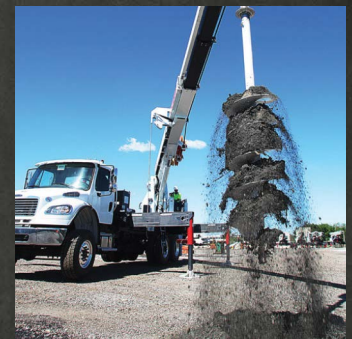
IF POLE GRAB IS REMOVED, 500 LB OF ADDITIONAL CAPACITY IS GAINED AT ALL BOOM LENGTHS.

STOWED AUGER DEDUCTIONS

BOOM LENGTH	RET	40'	51'	62'	73'
DEDUCTION % OF AUGER BIT WEIGHT	75%	55%	40%	35%	30%
SAMPLE DEDUCTIONS FOR A 500 LB AUGER BIT	375 LB	275 LB	200 LB	175 LB	150 LB

AUGER BIT

DO NOT PAINT OVER ANY LABELS 1237130 121918



MINIMUM TRUCK CHASSIS SPECIFICATIONS

Wheelbase (WB)	258" / 655 cm
Cab to Tandem (CT)	192" / 488 cm
Cab to End of Frame (EOF)	286" / 726 cm
Frame Section Modulus	30.0 in ³ -110,000 psi
Front Axle Gross Weight Rating	18,000 lb / 8165 kg
Rear Axle Gross Weight Rating	40,000 lb / 18 144 kg
Integral Front Frame Rails	Not Required



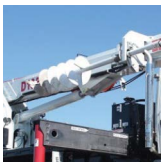
Chassis data is minimum general requirements-not for engineering. Actual dimensions and truck data will depend on truck selection and axle configuration. *Minimum chassis weight is required to meet 85% stability requirements.

AVAILABLE OPTIONS



Automatic Safety Rotation Lockout

Safely work where space is a concern using Elliott's rotation lockout system that permits operation with the outriggers extended on one side and retracted on the opposite side.



Multiple Sizes of Auger Flightings

Choose from a wide range of auger flightings including a 24", 36", or 48" option. Flightings up to 36" will stow on the boom when using the standard 3" kelly bar.



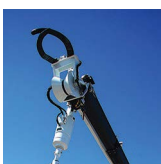
EZ-CRIB Two-Stage Outriggers

Elliott's unique two-stage outrigger cylinder option provides both high ground clearance and increased ground penetration for working off-road with less cribbing.



2-Man Gravity-Leveled Work Platform

Add a 600 lb capacity 2-man platform with Elliott's hydraulic yoke lifting system for easy attachment to the boom tip. Fully OSHA compliant and heavy duty.



Detachable Hydraulic Pole Claw

The Elliott pole claw has enhanced gripping arms to accommodate wider poles. Tilting function and pole guide allow you to handle a wide variety of poles.



Hook Blocks for Multi-Part Line

Elliott can add a 2-3 part hook block or a 4-part hook block to maximize your load chart to the full rated capacity. The blocks can be stored on the bed.



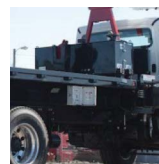
Body Mounted Hose Reels and Circuits

Let us work with you to customize your tool compatibility by adding hose reels or hydraulic circuits to the flatbed in a variety of locations to provide power at ground level.



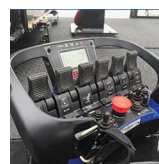
Tool Boxes and Storage

Custom tool boxes and bed storage solutions can accommodate a wide range of storage needs. Available materials include steel, painted aluminum and aluminum treadplate.



Hydraulic Oil Tank Heater

For work in colder climates, adding a hydraulic tank heater helps heat the oil quickly and allows you to start working quickly on the job site.



Radio Remote Control System

Allows the operator to smoothly control the unit from a distance.