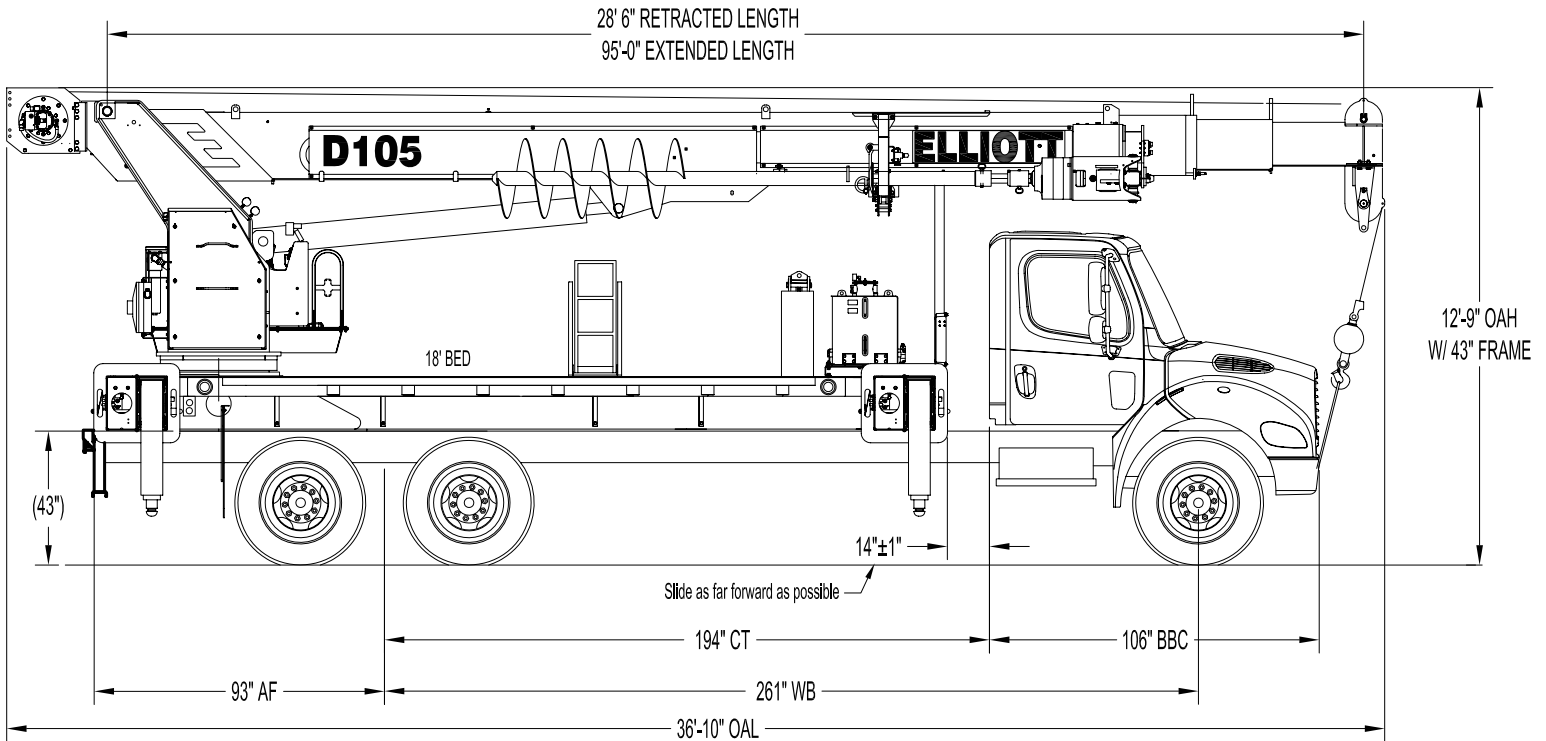


## D105 SIDE VIEW DIAGRAM



<b>Sheave Height (Maximum)</b>	105'/32 m
<b>Sheave Height (Retracted)</b>	40'/12,2m
<b>Horizontal Reach (Maximum)</b>	92'/28 m
<b>Horizontal Reach (Intermediate)</b>	42'/12,8 m
<b>Horizontal Reach (Retracted)</b>	26'/7,9 m
<b>Lifting Capacity (Maximum)</b>	50,000 lbs/22 679 kg
<b>Lifting Capacity @ 10' Radius</b>	30,000 lbs/13 608 kg
<b>Boom Elevation Limits</b>	-8/+80 Degrees
<b>Winch Single Line Pull</b>	12,000 lbs/5 443 kg

<b>Boom Rotation</b>	360 Degrees Continuous
<b>Digger Motor Torque</b>	20,000 ft-lb/27 116 Nm
<b>Digger Speed (High/Low)</b>	80 RPM / 35 RPM
<b>Digging Radius (Maximum)</b>	41'/12,5 m
<b>Digging Radius (Minimum)</b>	24'/7,3 m
<b>Outrigger Configuration</b>	Out-Down
<b>Outrigger Spread (Full-Span)</b>	20'/6,1 m
<b>Outrigger Spread (Mid-Span)</b>	13'11"/4,2 m
<b>Certification</b>	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](http://www.elliottequip.com)

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

**Maximum Tip Height:** 105'

**Control Console:** Rotating open seated control station equipped with five single axis control levers for the main digger controls. Operator station includes LMI display, bubble level gauge, 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.

**Boom:** Four-section 28'6" retracted to 95' extended, proportionally extended, high strength steel plated rectangular boom. A maximum boom tip height of 105'. 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 cable. 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.

**Load Moment Indicator System:** System senses hoist cylinder pressures, boom length and boom angle with hydraulic function lockout. The display console is equipped with a bar graph showing crane utilization, boom angle

or boom length, mode select controls for main boom and optional platform operation, and an 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, with a proportional cable extension system driving the outermost sections.

**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 31,400 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:

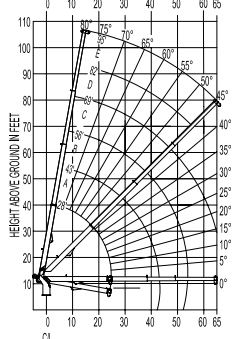
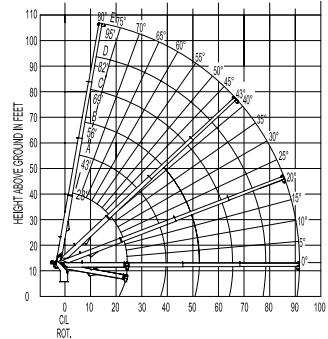
2-Stage Vertical Stroke Outriggers  
15 or 25-Ton Hook Blocks  
2-Person Detachable Work Platform  
Multiple Auger Flightings to 48"  
Underbody Toolboxes  
Detachable Hydraulic Pole Claw  
Radio Remote Control System  
Much more...

# D105 LOAD AND RANGE CHART

**ELLIOTT**  
EQUIPMENT COMPANY

# MODEL D105 DIGGER DERRICK

MAIN BOOM LOAD RATINGS WITH FULLY EXTENDED OUTRIGGERS											RANGE DIAGRAM WITH OUTRIGGERS		MAIN BOOM LOAD RATINGS WITH OUTRIGGERS AT MID-SPAN POSITION											RANGE DIAGRAM WITH OUTRIGGERS						
MAIN BOOM LOAD RATINGS											AT FULL SPAN POSITION		MAIN BOOM LOAD RATINGS											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 (FEET)	28-ft	43-ft	56-ft	69-ft	82-ft	95-ft	0	10	20	30	40	50	60	70	80	90	100	0	10	20	30	40	50	60	65					
5	79.5	50,000																5	79.5	50,000										
8	72.5	40,000	79.5	17,000														8	72.5	40,000	79.5	17,000								
10	68.0	30,000	75.8	16,800														10	68.0	30,000	76.5	16,800								
12	63.0	29,000	72.9	16,600	78.5	17,500												12	63.0	29,000	74.0	16,600	78.5	17,500						
14	58.0	26,700	71.0	16,400	74.9	17,000	79.5	17,000										14	58.0	26,700	71.0	16,400	76.5	17,000	79.5	17,000				
16	53.0	22,800	67.1	16,200	72.7	16,500	76.1	16,500										16	53.0	20,000	68.0	16,200	74.0	16,500	78.0	16,500				
20	40.5	18,700	62.0	16,000	68.3	16,000	74.5	16,000	77.5	12,000	79.0	10,300						20	40.5	12,300	62.0	12,700	70.0	13,000	74.5	13,100	77.5	12,000	79.0	10,300
25	10.5	13,500	53.5	14,600	64.0	14,300	70.0	14,000	74.0	12,000	76.5	9,000						25	10.5	7,600	53.5	8,000	64.0	8,300	70.0	8,300	74.0	8,400	76.5	8,400
30			43.5	11,300	57.5	11,400	65.0	11,300	70.5	11,300	73.5	9,000						30			43.5	5,300	57.5	5,600	65.0	5,700	70.5	5,800	73.5	6,800
35			32.5	8,200	51.0	9,300	60.0	9,300	66.5	9,200	70.5	8,000						35			32.5	3,800	51.0	3,800	60.0	3,900	66.5	4,000	70.5	5,100
40			7.0	7,200	44.0	6,700	55.5	6,700	62.5	7,800	67.0	6,900						40			7.0	2,000	44.0	2,800	55.5	2,900	62.5	2,800	67.0	2,800
45					35.0	4,100	49.5	4,200	58.0	5,200	64.0	5,000						45					35.0	1,800	49.5	1,900	58.0	2,000	64.0	2,000
50					22.5	3,200	43.5	3,400	53.5	3,200	59.5	3,200						50					22.5	1,100	43.5	1,200	53.5	1,300	59.5	1,600
55							38.5	2,700	48.5	2,700	56.0	2,800						55							36.5	700	48.5	800	56.0	1,200
60							27.5	2,100	42.2	2,200	52.0	2,300						60										52.0	800	
65							13.0	1,500	37.0	1,800	47.5	1,800						65										47.5	1,800	
70									30.5	1,400	43.0	1,400						70											43.0	1,400
75									21.0	1,000	38.0	1,100						75											38.0	1,100
80											32.0	800						80											32.0	800
85												25.0	600					85											25.0	600
90	0	9,000	0	5,500	0	2,800	0	1,500	0	700								90												



<p>1-PART LINE 12,000 LBS</p>	<p>2-PART LINE 24,000 LBS</p>	<p>3-PART LINE 36,000 LBS</p>	<p>4-PART LINE 48,000 LBS</p>	<p>5-PART LINE 50,000 lbs</p>	<p><b>NOTICE</b></p> <ul style="list-style-type: none"> <li>- DO NOT DEADHEAD LINE BLOCK AGAINST BOOM TIP WHEN EXTENDING BOOM.</li> <li>- KEEP AT LEAST 5 WRAPS OF LOADLINE ON THE WINCH DRUM AT ALL TIMES.</li> <li>- USE ONLY 7/8" DIAMETER ROPE, AS SPECIFIED BELOW, WITH THE PROPER BREAKING STRENGTHS LISTED.</li> <li>- ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE.</li> </ul> <p>SEE OPERATION &amp; SAFETY MANUAL.</p> <p>7/8" DIA. ULTRTEX PLUS SYNTHETIC ROPE</p>	<p>AREA OF OPERATION: 360° FULL CAPACITY WORK AREA LINE THROUGH CENTERLINE OF ROTATION</p>	<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. CAPACITIES DO NOT EXCEED ANSI / ASSE A10.31 REQUIREMENTS.</li> <li>2. PERSONNEL HANDLING IS ALLOWED ONLY WITH FULL SPAN OUTRIGGERS</li> <li>3. BOOM LOAD RATINGS ARE BASED ON LOADED BOOM RADIUS.</li> <li>4. LOADED BOOM ANGLES ARE GIVEN AS REFERENCE ONLY.</li> <li>5. DEDUCT APPROPRIATE WEIGHT FOR DOWNHAUL WEIGHT AND SNATCH BLOCK.</li> </ol>
-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------	---	--	---

<p><b>⚠ DANGER</b></p> <p><b>OVERLOADING THE CRANE WILL RESULT IN DEATH OR SERIOUS INJURY</b></p> <p>Deductions must be made for boom and/or loadline attachments to determine allowable load.</p> <p>Use deduct information provided on this label or on a loadline attachments for Elliott Equipment Company provided accessories.</p> <p>Refer to owner's manual for additional information.</p> <p><small>MEETS MINUSSE A10.31 REQUIREMENTS AT TIME OF MANUFACTURE</small></p>	<p><b>ACCESSORY DEDUCT FROM RATED LOAD</b></p> <p><b>BOOM MOUNTED POLE GRAB</b> 600 LB @ ANY BOOM LENGTH</p> <p><b>STOWED AUGER BIT</b> SEE TABLE</p> <p>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.</p> <p>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:</p> <table border="1"> <thead> <tr> <th>BOOM LENGTH</th> <th>RET</th> <th>43'</th> <th>56'</th> <th>69'</th> <th>82'</th> <th>95'</th> </tr> </thead> <tbody> <tr> <td>DEDUCTION % OF AUGER BIT WEIGHT</td> <td>75%</td> <td>50%</td> <td>35%</td> <td>30%</td> <td>25%</td> <td>20%</td> </tr> <tr> <td>SAMPLE DEDUCTIONS FOR A 500 LB AUGER BIT</td> <td>375 LB</td> <td>250 LB</td> <td>175 LB</td> <td>150 LB</td> <td>125 LB</td> <td>100 LB</td> </tr> </tbody> </table>	BOOM LENGTH	RET	43'	56'	69'	82'	95'	DEDUCTION % OF AUGER BIT WEIGHT	75%	50%	35%	30%	25%	20%	SAMPLE DEDUCTIONS FOR A 500 LB AUGER BIT	375 LB	250 LB	175 LB	150 LB	125 LB	100 LB	<p><b>STOWED AUGER DEDUCTIONS</b></p> <p>AUGER BIT</p>
BOOM LENGTH	RET	43'	56'	69'	82'	95'																	
DEDUCTION % OF AUGER BIT WEIGHT	75%	50%	35%	30%	25%	20%																	
SAMPLE DEDUCTIONS FOR A 500 LB AUGER BIT	375 LB	250 LB	175 LB	150 LB	125 LB	100 LB																	



## MINIMUM TRUCK CHASSIS SPECIFICATIONS

<b>Wheelbase (WB)</b>	258" / 655 cm
<b>Cab to Tandem (CT)</b>	192" / 488 cm
<b>Cab to End of Frame (EOF)</b>	286" / 726 cm
<b>Frame Section Modulus</b>	30.0 in <sup>3</sup> -110,000 psi
<b>Front Axle Gross Weight Rating</b>	18,000 lb / 8165 kg
<b>Rear Axle Gross Weight Rating</b>	40,000 lb / 18 144 kg
<b>Integral Front Frame Rails</b>	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.