

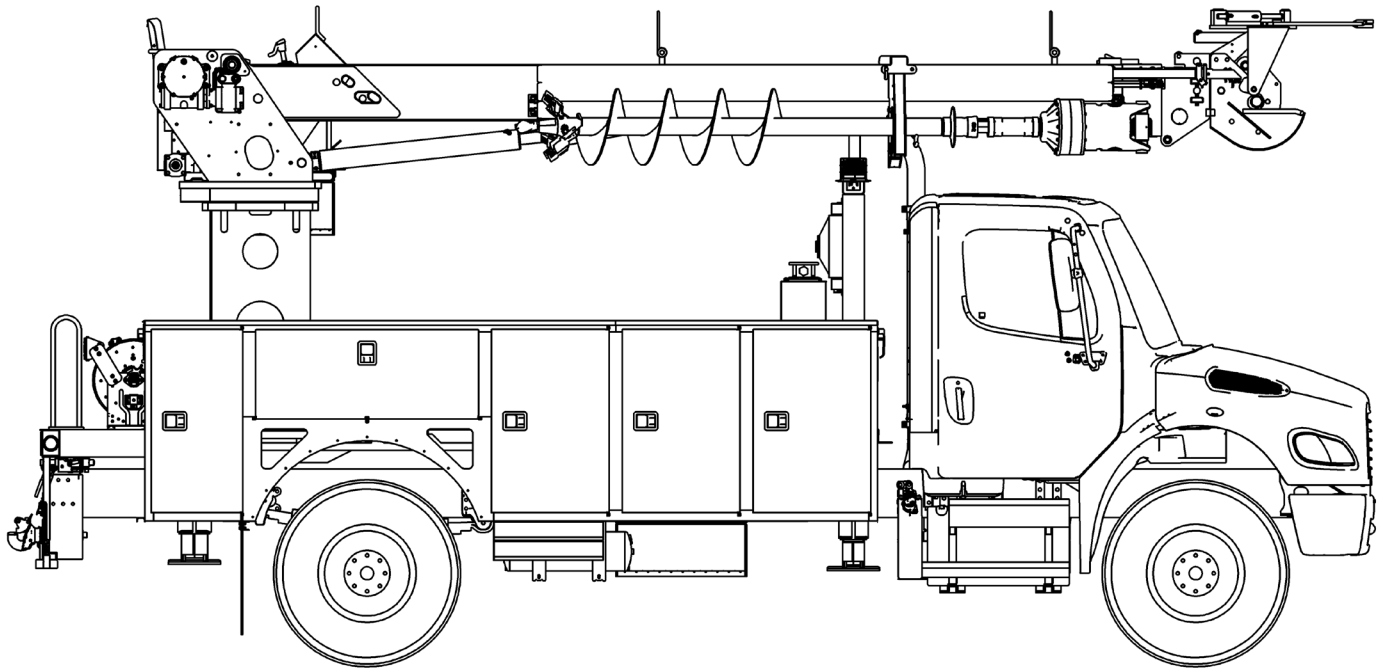


TEREX®

TECH TIPS

COMMANDER LOAD CHART

NO. 225



SERVICE CALL:
COMMANDER LOAD CHART




MODEL(S):
COMMANDER DIGGER DERRICKS




TOOLS NEEDED:
NONE

TEREX UTILITIES TECHNICAL SUPPORT TEAM

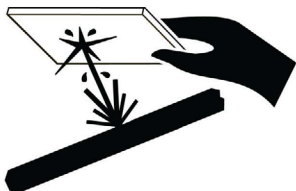
PHONE: 1-844-TEREX4U (1-844-837-3948) | EMAIL: UTILITIES.SERVICE@TEREX.COM


WARNING



Injection Hazard

Fluid escaping under pressure can penetrate skin and result in death or serious injury.



Relieve pressure before disconnecting hydraulic lines.

Stay clear of leaks and pin holes. Use a piece of cardboard or wood to search for leaks. Do not use hand.

Fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this type of injury, or gangrene will result.



DANGER

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury.

Many of the hazards identified in the Operator's Manual are also safety hazards when maintenance and repair procedures are performed.

DO NOT PERFORM MAINTENANCE UNLESS:

- ✓ You are trained and qualified to perform maintenance on this machine.
- ✓ You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations
- ✓ You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this Tech Tip is a supplement to the Service Manual. Consult the appropriate Service Manual of your machine for safety rules and hazards.



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TECH TIP#225

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Use the load chart below to answer the following questions.

FORM #3405F 1

Example 1

Using the load chart on Page 4 and the information below, what is the gross and net capacity when lifting off the back of the truck?

Boom Angle	60°	Radius	N/A
Rigging:	100 lbs.	Load Weight	N/A
2nd Section	Extended	Third Section	Retracted
4th Section	N/A		

STEP 1

Determine which section of the load chart is used. According to the table, the 2nd Section is extended and the 3rd section is retracted. We will be using this section of the load chart.

2ND SECTION EXTENDED			
LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES	
		ZONE A	ZONE B
5.0	34.0	15890	15890
7.0	33.5	12050	12050
13.0	30.7	7300	6490
17.8	26.5	4680	3720
21.4	21.2	3360	2680
23.5	15.2	2820	2250
24.0	8.8	2720	2160
22.1	0.6	1730	1730

STEP 2

According to the table, the boom angle is 60°.

Boom Angle	60°	Radius	N/A
Rigging:	100 lbs.	Load Weight	N/A
2nd Section	Extended	Third Section	Retracted
4th Section	N/A		

BOOM ANGLES IN DEGREES	FULLY RETRACTED				2ND SECTION EXTENDED			
	LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES	
			ZONE A	ZONE B			ZONE A	ZONE B
80	2.8	26.6	27230	27230	5.0	34.0	15890	15890
75	4.1	26.2	21920	21920	7.0	33.5	12050	12050
60	7.6	24.5	13710	13710	13.0	30.7	7300	6490
45	10.7	21.9	10730	10730	17.8	26.5	4680	3720
30	12.9	18.5	9050	9050	21.4	21.2	3360	2680
15	14.3	14.7	7860	7720	23.5	15.2	2820	2250
0	15.5	10.6	6320	6320	24.0	8.8	2720	2160
-20	14.3	5.3	3980	3980	22.1	0.6	1730	1730

STEP 3

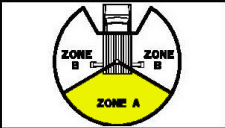
The question indicated we are lifting off the back of the truck. This means we will be lifting in Zone A.

The gross capacity as shown on the load chart is 7300 lbs.

The net capacity is the gross capacity - rigging = 7300 - 100 = 7200 lbs.

FULLY RETRACTED					2ND SECTION EXTENDED				
BOOM ANGLES IN DEGREES	LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		
			ZONE A	ZONE B			ZONE A	ZONE B	
80	2.8	26.6	27230	27230	5.0	34.0	15890	15890	
75	4.1	26.2	21920	21920	7.0	33.5	12050	12050	
60	7.6	24.5	13710	13710	13.0	30.7	7300	6490	
45	10.7	21.9	10730	10730	17.8	26.5	4680	3720	
30	12.9	18.5	9050	9050	21.4	21.2	3360	2680	
15	14.3	14.7	7860	7720	23.5	15.2	2820	2250	
0	15.5	10.6	6320	6320	24.0	8.8	2720	2160	
-20	14.3	5.3	3980	3980	22.1	0.6	1730	1730	

3RD SEC. EXT. -2ND SEC. RET.					2ND & 3RD SEC. EXTENDED					4TH SEC. EXTENDED				
BOOM ANGLES IN DEGREES	LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES			
			ZONE A	ZONE B			ZONE A	ZONE B			ZONE A	ZONE B		
80	4.3	34.4	20130	20130	5.6	42.3	15100	15100						
75	6.2	33.9	14641	14640	8.3	41.7	10980	10980						
60	11.9	31.4	8860	8860	16.3	38.3	6310	6310						
45	17.1	27.5	6690	6520	22.7	33.2	4730	4130						
30	20.7	22.5	5580	4800	27.6	26.5	3890	3060						
15	22.8	16.8	4790	4110	30.6	18.8	3290	2610						
0	23.5	10.6	4020	3960	31.5	10.6	2680	2500						
-20	21.8	2.6	2440	2440	29.3	-0.1	1490	1490						

TEREX TELELECT	
	
<p>WARNING: IF DERRICK IS MODIFIED IN ANY WAY OR REMOVED, TEREX TELELECT MUST BE NOTIFIED AS CAPACITIES SHOWN MAY BE AFFECTED.</p>	

<u>DIGGER DERRICK</u> COMMANDER 4040 TM WINCH Sample	
<p>-CAUTION: MULTIPLE-PART LINES ARE REQUIRED FOR LOADS ABOVE 6808 LBS. -SYNTHETIC OR ROTATION RESISTANT WIRE ROPE MUST HAVE 37200 LB. BREAKING STRENGTH AND 2.8% MAXIMUM STRETCH AT 7440 LB SAFE WORKING LOAD. -WIRE ROPE OTHER THAN ROTATION RESISTANT MUST HAVE 26040 LB. BREAKING STRENGTH. -CAPACITIES ARE BASED ON AN UNLOADED VEHICLE WEIGHT OF NOT LESS THAN 25500 LBS. AND ARE 85% OF TIPPING LOADS. ALL OUTRIGGERS MUST BE EXTENDED AND SET FIRMLY ON THE GROUND BEFORE OPERATING THE DERRICK. DERRICK MUST BE MOUNTED ACCORDING TO TEREX TELELECT INSTALLATION INSTRUCTIONS. -WARNING: ALWAYS REFER TO UPPER CONTROL LOAD CHART FOR OPERATION FROM BOOM TIP CONTROLS.</p>	
REF:	
OPTIONS: FBG HYD 3RD, ESK, AUG 18	

FORM 3100-1

Example 2

Using the load chart on Page 4 and the information below, what is the maximum radius that a transformer weighing 3000 lbs. can be placed off the side of the truck?

Boom Angle	N/A	Radius	N/A
Rigging:	100 lbs.	Load Weight	3000 lbs.
2nd Section	N/A	Third Section	N/A
4th Section	N/A		

STEP 1

The net load is the total weight of the load + rigging. In this case the net load is:

$$3000 + 100 = 3100 \text{ lbs.}$$

Lifting off the side of the truck puts the load in Zone B. The load chart on the next page shows maximum radius the weight can be lifted in each configuration.

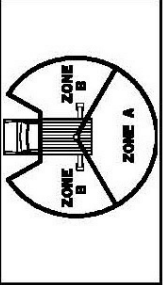
The maximum radius is 23.5 feet with the 2nd retracted and the 3rd extended.

DIGGER DERRICK
COMMANDER 4040
TM WINCH

Sample

-CAUTION: MULTIPLE-PART LINES ARE REQUIRED FOR LOADS ABOVE 6808VBS.
-SYNTHETIC OR ROTATION RESISTANT WIRE ROPE MUST HAVE 37200 LB. BREAKING STRENGTH AND 2.8% MAXIMUM STRETCH AT 7440 LB SAFE WORKING LOAD.
-WIRE ROPE OTHER THAN ROTATION RESISTANT MUST HAVE 26040 LB. BREAKING STRENGTH.
-CAPACITIES ARE BASED ON AN UNLOADED VEHICLE WEIGHT OF NOT LESS THAN 26500 LBS. AND ARE 85% OF TIPPING LOADS. ALL OUTRIGGERS MUST BE EXTENDED AND SET FIRMLY ON THE GROUND BEFORE OPERATING THE DERRICK. DERRICK MUST BE MOUNTED ACCORDING TO TEREX TELELECT INSTALLATION INSTRUCTIONS.
-WARNING: ALWAYS REFER TO UPPER CONTROL LOAD CHART FOR OPERATION FROM BOOM TIP CONTROLS.

TEREX TELELECT



WARNING:
IF DERRICK IS MODIFIED IN ANY WAY OR REMOUNTED, TEREX TELELECT MUST BE NOTIFIED AS CAPACITIES SHOWN MAY BE AFFECTED.

FORM #3405F 1

REF: _____
OPTIONS: FBG HYD 3RD, ESK,
AUG 18

BOOM ANGLES IN DEGREES	FULLY RETRACTED				2ND SECTION EXTENDED				4TH SEC. EXTENDED			
	LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES	
			ZONE A	ZONE B			ZONE A	ZONE B			ZONE A	ZONE B
80	2.8	26.6	27230	27230	5.0	34.0	15890	15890				
75	4.1	26.2	21920	21920	7.0	33.5	12050	12050				
60	7.6	24.5	13710	13710	13.0	30.7	7300	6490				
45	10.7	21.9	10730	10730	17.8	26.5	4680	3720				
30	12.9	18.5	9050	9050	21.4	21.2	3360	2680				
15	14.3	14.7	7860	7720	23.5	15.2	2820	2250				
0	15.5	10.6	6320	6320	24.0	8.8	2720	2160				
-20	14.3	5.3	3980	3980	22.1	0.6	1730	1730				
	3RD SEC. EXT. -2ND SEC. RET.				2ND & 3RD SEC. EXTENDED				4TH SEC. EXTENDED			
BOOM ANGLES IN DEGREES	LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES		LOAD RADIUS IN FEET	SHEAVE HEIGHT IN FEET	LOAD CAPACITIES	
			ZONE A	ZONE B			ZONE A	ZONE B			ZONE A	ZONE B
80	4.3	34.4	20130	20130	5.6	42.3	15100	15100				
75	6.2	33.9	14641	14640	8.3	41.7	10980	10980				
60	11.9	31.4	8860	8860	16.3	38.3	6310	6310				
45	17.1	27.5	6690	6520	22.7	33.2	4730	4130				
30	20.7	22.5	5580	4800	27.6	26.5	3890	3060				
15	22.8	16.8	4790	4110	30.6	18.8	3290	2610				
0	23.5	10.6	4020	3960	31.5	10.6	2680	2500				
-20	21.8	2.6	2440	2440	29.3	-0.1	1490	1490				



FOR FURTHER ASSISTANCE,
CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM
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