



# TEREX RT 160 Rough Terrain Crane



#### **FEATURES**

- 60 tons (54 mt) maximum lifting capacity
- 115 ft. (35.0 m) maximum boom length
- 186 ft. (56.7 m) maximum tip height
- Four-section full power boom with single lever control
- Swingaway jib offsettable 0°, 17° or 30°

- Two-speed main and auxiliary winches
- Quick-reeving boom head and hook block
- Fully independent multi-position out and down outriggers
- Environmental operator's cab optimizes load visibility and productivity
- RCI 500 load system Rated Capacity Indicator
- Tight 19 ft. (5.9 m) turning radius

- Easy to read load chart books include range diagrams
- 12-month or 2000 hours warranty, major weldments are 5-years or 10,000 hours

# simple, available and cost effective $^{\text{\tiny TM}}$

Machines shown may have optional equipment.



#### **TEREX RT 160**

#### **Rough Terrain Crane**

Max. Lifting Capacity: 60 tons (54 mt)

# 115 ft. (35 m) FOUR-SECTION, FULL-POWER BOOM WITH SINGLE LEVER CONTROL

- High strength, four plate construction.
- Two double-acting hoist cylinders provide boom elevation of -2° to 78° for easier reeving changes and close radius operation.
- Quick-reeving boom head; no need to remove wedge from socket.

### ENVIRONMENTAL OPERATOR'S CAB

- Rated Capacity Indicator (RCI) system including anti-two block system with automatic function disconnects.
- Fully adjustable operator's seat has shock-absorbing suspension and adjustable arm rests.
- Sound and weather insulated for comfort.
- Hinged tinted skylight and sliding right-hand, rear and door windows, roof wiper.
- Armrest mounted joystick or twin lever controls for swing, boom hoist, and main and auxiliary winchs; foot pedals for swing brake, boom telescope, service brakes and engine throttle.
- Complete instrumentation.
   Environmentally-sealed rocker switches. Circuit breakers in cab.



 Box-type chassis construction with reinforcing cross members.

TEREX

- Fully sequential powershift transmission with torque converter; 6 speeds forward 3 reverse.
- Hydrostatic power steering, front and rear axles. Control modes for front only, four-wheel cramp and crab steering, all controlled by steering wheel. Switch for independent rear steer.
- Dual circuit air over hydraulic drum service brakes at each wheel.
- Fully independent hydraulic outriggers may be utilized fully extended to 23 ft.
   7 in. (7.2 m) or in their mid extended or fully retracted position.
- Tail swing only 12' 10" (3.91 m).
- Cummins 215 HP (160 kw) 6CT8.3 turbocharged diesel engine.
- 29.5 x 25-28PR tubeless tires with rock tread.

### POWERFUL, TWO-SPEED WINCHES

• 585 fpm (178 mpm) maximum line speed, 17,440 lbs. (7910 kg) maximum line pull. Single lever control.

- Automatic multi-disc brake.
- · Electronic drum indicators.
- · Winch drum rollers.

### HIGH CAPACITY, DEPENDABLE HYDRAULIC SYSTEM

- Two tandem gear-type pumps driven off the transmission. Combined system capability is 139 gpm (525 lpm).
- Hydraulic reservoir with 162 gal. (615 l) capacity and full flow oil filtration system.

#### **OPTIONS INCLUDE:**

- 38 ft. or 38 to 60 ft. (11.6 or 11.6 to 18.3 m) swingaway jib. Both offset 0°, 17° or 30°.
- Auxiliary winch with rope.
- Heater/defroster, air conditioner.
- · Cold weather starting aid.

For more information, product demonstration, or details on purchase, lease and rental plans, please contact your local Terex Cranes Distributor.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty applicable to the particular product and sale. We make no other warranty, expressed or implied.



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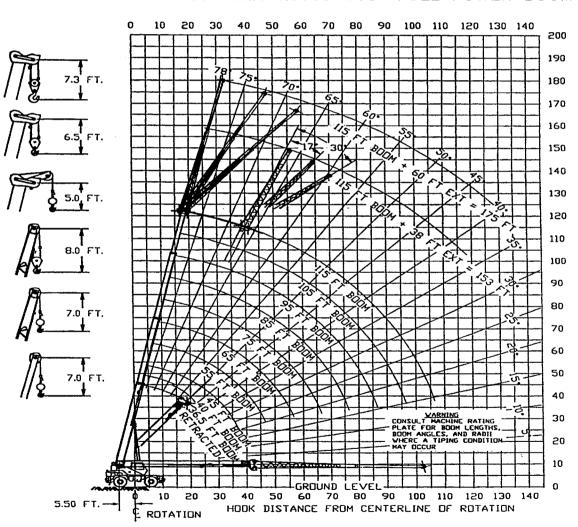


### TEREX RT160

#### ROUGH TERRAIN CRANE 60 TON CAPACITY

range diagram & lifting capacities

#### RANGE DIAGRAM RT160 115' FULL POWER BOOM

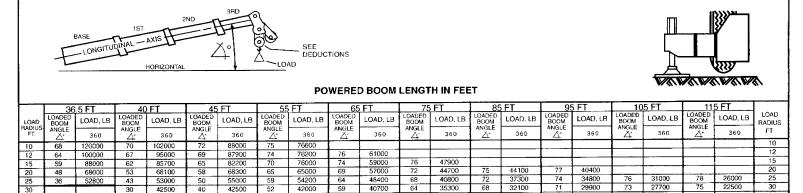


HEIGHT ABOVE GROUND-FEET



#### RATED LIFTING CAPACITIES IN POUNDS

36.5 - 115 FT BOOM ON FULLY EXTENDED OUTRIGGERS
15200 POUND TOTAL COUNTERWEIGHT LOAD MOVEMENT DEVICE (LMI) CODE #04





#### RATED LIFTING CAPACITIES IN POUNDS

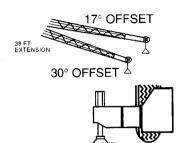
115 FT BOOM + 38 FT. EXTENSION = 153 FT. TOTAL
FULLY EXTENDED OUTRIGGERS - 360 DEG • 15200 POUND TOTAL COUNTERWEIGHT
LOAD MOMENT DEVICE (LMI) CODES # 11, 12, 13



MIN. BOOM ANGLE (DEG) FOR INDICATED BOOM LENGTH (NO LOAD) -2

MAX. BOOM LENGTH (FEET) AT -2 DEGREE BOOM ANGLE (NO LOAD) 60

2° OFFSET



REFERENCE LOAD RADIUS IS FOR 153 FT. BOOM ONLY

FOR BOOM LENGTHS LESS THAN 153 FT., USE BOOM ANGLES ONLY

	CODE #11		CODE #12			CODE #13		
		REF. LOAD	17 DEG EXT OFFSET WITH STINGER RETRACTED FOR BOOM LENGTHS 74.5 FT - 153 FT		REF. LOAD	30 DEG EXT OFFSET WITH STINGER RETRACTED		REF. LOAD RADIUS FT.
FOR BOOM LENGTHS 74.5 FT - 153 FT		RADIUS FT.			RADIUS FT.	FOR BOOM LENGTHS 74.5 FT - 153 FT		
LOADED BOOM ANGLE	LOAD, LB	FOR 153 FOOT BOOM	LOADED BOOM ANGLE	LOAD, LB	FOR 153 FOOT BOOM	LOADED BOOM ANGLE	LOAD, LB	FOR 153 FOOT BOOM
ANOLE A	360 DEG	ONLY	Δ·	360 DEG	ONLY	Δ.	360 DEG	ONLY
78	11900	35	77	9100	45	77	7400	50
76	10700	40	<del>7</del> 5	8300	50	75	6900	55
74	9900	45	73	7600	55	73	6400	60
72	9100	50	71	7000	60	71	5900	65
70	8300	55	68	6500	65	68	5500	70
67	7700	60	66	6000	70	66	5200	75
65	7100	65	64	5600	75	63	4900	80
63	6500	70	61	5200	80	61	4600	85
61	6000	75	59	4800	85	56	4300	90
58	5100	80	56	4000	90	52	2900	100
55	4300	85	50	2700	100	45	1800	110
53	3600	90	44	1600	110	L		
47	2300	100				1		

LIFTING CAPACITIES 360 DEG AT 0 DEG. BOOM ANGLE

CODE #14

AREA OF	BOOM	MAIN BOOM LENGTH IN FEET, LOAD IN POUNDS				
OPERATION	ANGLE	36.5	40.0	45.0	55.0	60.0
360 DEG	0,	1600	1600	1600	1600	0

**CODE #16** 

115 FT BOOM + 60 FT. EXTENSION = 175 FT. TOTAL
FULLY EXTENDED OUTRIGGERS - 360 DEG • 15200 POUND TOTAL COUNTERWEIGHT
LOAD MOMENT DEVICE (LMI) CODES # 14, 15, 16



MIN. BOOM ANGLE (DEG) FOR INDICATED BOOM LENGTH (NO LOAD) -2
MAX. BOOM LENGTH (FEET) AT -2 DEGREE BOOM ANGLE (NO LOAD) 50

38 FT. EXTENSION	
. 17	
17° OFFSET	
22 ET STINGER	
22 FT.STINGER	
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30° OFFSET	
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REFERENCE LOAD RADIUS IS FOR 175 FT. BOOM ONLY

FOR BOOM LENGTHS LESS THAN 175 FT., USE BOOM ANGLES ONLY

1	CODE # 12	• ;	CODE #13			00DE #10		
		REF. LOAD	17 DEG EXT OFFSET WITH STINGER EXTENDED FOR BOOM LENGTHS 96.5 FT - 175 FT		REF. LOAD RADIUS FT.	30 DEG EXT OFFSET WITH STINGER EXTENDED FOR BOOM LENGTHS 96.5 FT - 175 FT		REF. LOAD RADIUS FT.
FOR BOOM LENGTHS 96.5 FT - 175 FT		RADIUS FT						
LOADED BOOM ANGLE	LOAD, LB	FOR 175 FOOT BOOM	LOADED BOOM ANGLE	LOAD, LB	FOR 175 FOOT BOOM	LOADED BOOM ANGLE	LOAD, LB	FOR 175 FOOT BOOM
ANGLE 4	360 DEG	ONLY	∆°	360 DEG	ONLY	Δ*	360 DEG	ONLY
77	6600	45	78	5200	55	78	4100	65
75	6200	50	77	5000	60	77	3900	70
74	5800	55	75	4800	65	75	3800	75
72	5700	60	73	4600	70	73	3700	80
70	5600	65	71	4400	75	71	3500_	85
69	5400	70	70	4100	80	69	3300	90
67	5000	75	68	3900	85	65	2900	100
65	4700	80	66	3600	90	61	2600	110
63	4300	85	62	3100	100	56	2300	120
61	4000	90	57	2800	110			
57	3500	100	53	2000	120	IL		
53	2500	110		I		l		
48	1700	120			l	l		<u> </u>

**CODE #15** 

LIFTING CAPACITIES 360 DEG AT 0 DEG. BOOM ANGLE

AREA OF	BOOM	MAIN BOOM LENGTH IN FEET. LOAD IN POUNDS					
OPERATION	ANGLE	36.5	40.0	45.0	50.0		
360 DEG	O <sup>2</sup>	1600	1600	1600	0		

#### **OPERATION ON OUTRIGGERS**

- Read and understand all warnings and instructional notes.
- Rated loads for fully extended outriggers do not exceed 85% of the tipping load as determined by SAE crane stability test code J765. Rated loads for mild position and fully retracted outriggers are determined from the formula. Rated Load = (Tipping - 0.1 x Tip Reaction) / 1.25.
- The tires shall be raised clear of the ground and free of crane weight before operating boom or lifting loads.
- All outrigger beams must be extended to the same length; fully extended, mid position
  or fully retracted.
- Rated lifting capacities above the bold line are based on the machine's hydraulic or structural combetence and not on machine stability. Rated lifting capacities below the bold line are based on the machine's stability.
- Rated lifting capacities include the weight of hook block, slings and auxiliary lifting gevices. Their weight must be subtracted from the listed rated lifting capacity to obtain the net load to be lifted.
- When lifting over the lattice extension the weight of any hook block, slings, and auxiliary lifting devices at the main boom head must be added to the load.
- 8. When the lattice extension is erected but unused add three (3) times the weight of any hook block, slings, and auxiliary lifting devices at the extension head to the load. Outriggers must be in the fully extended position when lifting at the main boom head with the lattice extension erected.
- Add 150 lbs. to the chart values if the auxiliary boom head sheave is not erected.

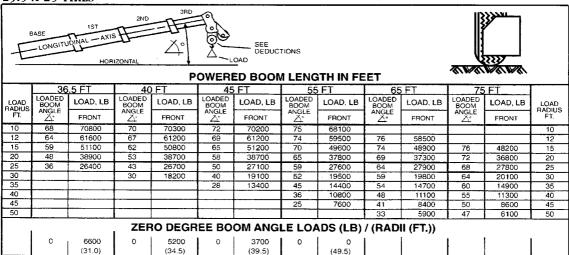
This Lifting Data is for informational purposes only. Do not use to operate the crane; refer to the Operator's Manual and Crane Rating Information supplied with each crane.



#### RATED LIFTING CAPACITIES IN POUNDS

36.5 - 115 FT BOOM ON TIRES • STATIC - OVER FRONT: +/- 6 DEGREE 15200 POUND TOTAL COUNTERWEIGHT • LOAD MOVEMENT DEVICE (LMI) CODE # 02

#### 29.5 X 25 TIRES

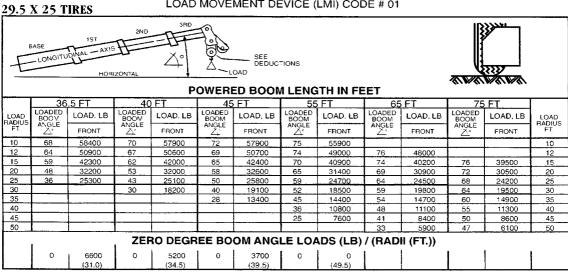


#### **OPERATION ON TIRES**

- Read and understand all warnings and instructional notes. Crane litting capacities on lires do not exceed 75% of the tipping load. Crane litting capacities on tires depend on tire capacity, condition of the tires and tire air pressure. Tires must be inflated to the recommended pressure before litting Crane litting capacities require litting from main boom head only on a smooth and level Crane litting capacities require litting from main boom head only on a smooth and level
- Rated lifting capacities above the boto line are based on the machine's hydraulic or racet, init of department active the bod in a faller baset or in the machine's hybratilic or structural competence and not on machine stability. Rated litting capacities below the bold line are based on the machine's stability. Rated litting capacities include the weight of book block, slings and auxiliary lifting
- weight must be subtracted from the listed rated lifting capacity to obtain the net load to be lifted
- Add 150 fbs. to the chart values if the auxiliary boom heap sheave is not erected. For pick and carry operations, the boom must be centered over the rear of the macnine
- 8. the mechanical swing lock engaged and the load must be restrained from swing Do not travel with boom extension erected.
- 10 Greep: Motion less than 200 feet (60 meters) in a 30 minute period and not exceeding 1 moh (1.6 km/h)

- Maximum recommended boom angle on fires is 73° without load. Lifting loads with erected boom extension is neither intended nor approved. Handling of personnel from the boom is neither intended nor approved.
- Operating pile driving/extracting equipment on tires is neither intended nor approved.

#### 36.5 - 115 FT BOOM ON TIRES • CREEP - OVER FRONT LOAD MOVEMENT DEVICE (LMI) CODE # 01



TIRE	TIRE SIZE	ROADING	CREEP	MIN. BOOM ANGLE (DEG) FOR INDICATED BOOM LENGTH (NO LOAD)	-2
CHART - PSI	29X25 28PR	55	75	MAX. BOOM LENGTH (FEET) AT -2 DEGREE BOOM ANGLE (NO LOAD)	55





#### **GENERAL NOTES**

#### **GENERAL**

- Rated loads as shown on lift charts pertain to this machine as originally manufactured and equipped. Modifications to the machine or use of optional equipment other than that specified can result in a Reduction of capacity.
- Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance of this machine shall be in compliance with the information in the Operators, Parts and Safety Manuals supplied with this machine. If these manuals are missing, Order replacements from the manufacturer thru your distributor.
- These warnings do not constitute all of the operating conditions for the crane. The operator and job site supervision must read the OPERATORS MANUAL, CIMA SAFETY MANUAL. APPLICABLE OSHA REGULATIONS, AND SOCIETY OF MECHANICAL ENGINEERS (ASME) SAFETY STANDARDS FOR CRANES.
- 4. This crane and its load ratings are in accordance with POWER CRANE & SHOVEL ASSOCIATION, STANDARD NO. 4 SAE CRANE LOAD STABILITY TEST CODE J765A, SAE METHOD OF TEST FOR CRANE STRUCTURE J1063 AND APPLICABLE SAFETY CODE FOR CRANE, DERRICKS AND HOISTS, ASME/ANSI B30.5.

#### **DEFINITIONS**

- LOAD RADIUS- The horizontal distance from the axis of rotation Before loading to the center of the vertical hoist line or tackle with a Load applied.
- LOADED BOOM ANGLE- It is the angle between the boom base Section and the horizontal, after lifting the rated load at the rated Radius. The boom angle before loading should be greater to account for deflections. The loaded boom angle combined with boom length give only an approximation of the operating radius.
- WORKING AREA- Areas measured in a circular arc about the centerline of rotation as shown in the diagram.
- FREELY SUSPENDED LOAD- Load hanging free with no direct External force applied except by the hoist rope.
- SIDE LOAD- Horizontal force applied to the lifted load either on the ground or in the air.
- 6. NO LOAD STABILITY LIMIT- The stability limit radius shown on the range diagrams is the radius beyond which it is not permitted to position the boom, when the boom angle is less than the minimum shown on the applicable load chart, because the machine can overturn without any load.

#### SET-UP

- Crane load ratings are based on the crane being leveled and standing on a firm, uniform supporting surface.
- Crane load ratings on outriggers are based on all outrigger beams being fully extended or in the case of partial extension ratings mechanically pinned in the appropriate position, and the tires free of the supporting surface.
- Crane load ratings on tires depend on appropriate inflation pressure and the tire conditions. Caution must be exercised when increasing air pressure in tires. Consult operator's manual for precautions.
- 4. Use of jibs, lattice-type boom extensions, our fourth section pullouts extended is not permitted for pick and carry operations.
- Consult appropriate section of the Operator's and Service manual for more exact descriptions of hoist line reeving.
- 6. The use of more parts of line than required by the load may result in having insufficient rope to allow the hook block to reach the ground.
- Properly maintained wire rope is essential for safe crane operation. Consult Operator's Manuals for proper maintenance and inspection requirements.

8. When spin resistant wire rope is used, the allowable rope loading shall be the breaking strength divided by 5, unless otherwise specified by the wire rope manufacturer.

#### **OPERATION**

- 1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS
- When either radius or boom length, or both, are between listed values, The smaller of the two listed load ratings shall be used.
- 3. Do not operate at longer radii than those listed on the applicable load rating chart (cross hatched areas shown on range diagrams).
- 4. The boom angles shown on the capacity chart give an approximation of the operating radius for a specified boom length. The boom angle before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.
- 5. Power telescoping boom sections must be extended equally.
- 6. Rated loads include the weight of hook block, slings, and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. When lifting over the jib the weight of any hook block, slings, and auxiliary lifting devices at the boom head must be added to the load. When jibs are erected but unused add 2 times the weight of any Hook block, slings, and auxiliary lifting devices at the jib head to the loads.
- 7. Rated loads do not exceed 85% on outriggers or 75% on tires, of the tipping loads as determined by SAE Crane Stability Test Code J765A. Rated loads for partially extended outriggers are determined from the Formula. Rated Load=(Tipping Load 0.1 X Tip Reaction)/ 1.25. Structural strength ratings in chart are indicated with an asterisk \*.
- 8. Rated loads are based on freely suspended loads. No attempt shall be made to drag a load horizontally on the ground in any direction.
- 2. The user shall operate at reduced ratings to allow for adverse job conditions, such as soft or uneven ground, out of level conditions, high winds, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electric wires, etc. (side pull on boom or jib is hazardous) Derating of the cranes lifting capacity is required when wind speed exceeds 20-mph. The center of the lifted load must never be allowed to move more than 3\* ft. off the center line of the base boom section due to effects of wind, inertia, or both.
  - \*\*Use 2 feet off the center line of the base boom for a two section boom, 3 feet for a three section boom, or 4 feet for a four section boom.
- The maximum load that can be telescoped is not definable, because of variations in loadings and crane maintenance, but it is Permissible to attempt retraction and extension if load ratings are not exceeded.
- 11. Load ratings are dependent upon the crane being maintained according to manufacturers specifications.
- It is recommended that load handling devices, including hooks, and hook blocks, be kept away from boom had at all times.
- 13. FOR TRUCK ONLY: 360 deg. capacities apply only to machines equipped with a front outrigger jack and all 5 outrigger jacks properly set. If the front (5) outrigger jack is not properly set, the work area is restricted to the over side and over rear areas as shown on the crane Working positions diagram. Use the 360 deg. Load ratings in the overside work areas.



#### DEDUCTIONS TO BE MADE FROM LOAD RATINGS

#### HOOK BLOCK WEIGHTS

9.2 Ton Ball Hook 476 Pounds 8.3 M Ton Ball Hook 213 Kg.

20 Ton 1 Sheave Hook Block 420 Pounds 18.1M Ton 1 Sheave Hook Block 190 Kg.

60 Ton 5 Sheave Hook Block 977 Pounds 54.4M Ton 5 Sheave Hook Block 443 Kg.

Note: These weights apply only to TEREX, INC supplied equipment.

## The load charts for the RT160 are net load charts. The deductions to these charts are:

- 1. The weight of hook block, slings and auxiliary lifting devices. Their weight must be subtracted from the listed rated lifting capacity to obtain the net load to be lifted.
- 2. When lifting over the lattice extension of the weight of any hook block, slings, and auxiliary lifting devices at the main boom head must be added to the load.
- 3. When the lattice extension is erected but unused, add three (3) times the weight of any hook block, slings, and auxiliary lifting devices at the extension head to the load. Outriggers must be in the fully extended position when lifting at the main boom head with the lattice extension erected.
- 4. Add 150 pounds to the chart values if the auxiliary boom head sheave is not erected.
- 5. All other deductions have been taken in the charts.

NOTE: All designs, specifications, and components of the equipment described above are subject to change at the manufacturer's sole discretion at any time and without advance notice. Capacity charts and information printed here are only a guide and may not be complete. They should not be relied upon to operate the crane. The individual load charts and related lifting data on each crane must be understood and govern operation of the crane. Data published herein is informational in nature and shall not be construed to warrant suitability of the machine for any particular purpose as performance may vary with conditions encountered. The only warranty applicable is out standard warranty for this machine.

#### TEREX CRANES, INC.

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