



### TEREX RT 160 Rough Terrain Crar



### **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™

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.



 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 I) 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.



Highway 501 East/P.O. Box 260002 Conway, SC 29528-6002 USA (843) 349-6900 • FAX: (843) 349-7090 E-mail: conway@terexlifting.com

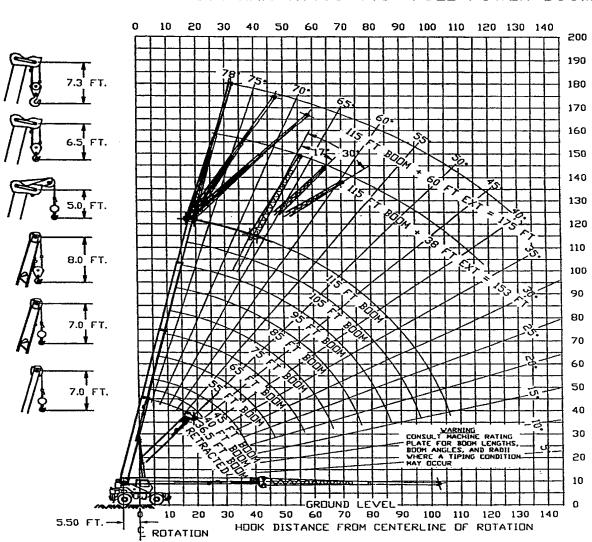


### TEREX RT16

### ROUGH TERRAIN CRANE 60 TON CAPACITY

range diagram & lifting capacities

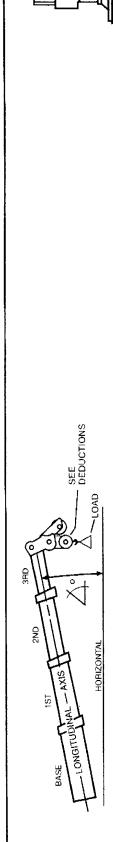
### RANGE DIAGRAM RT160 115' FULL POWER BOOM

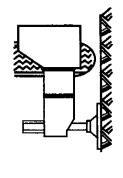


HEIGHT ABOVE GROUND-FEET

# RATED LIFTING CAPACITIES IN POUNDS

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





## POWERED BOOM LENGTH IN FEET

1		LOAD RADIUS	Ħ	9	12	15	20	25	30	35	40	45	50	55	09	65	70	75	80	85	96	95	100				7
	H	LOAD, LB	360					26000	22500	20500	18000	16300	14600	13300	12300	11360	0096	8200	2000	0009	5100	4300	3600			1000	(109.5)
	115 FT	BOOM	ANGLE Ç			-		78	75	72	20	29	64	19	58	55	52	49	45	41	37	32	56			0	
	FT	LOAD, LB	360					31000	27700	24600	21600	19100	14800	13500	12500	11100	9500	8100	0069	2900	5000	4200				1200	(38.5)
	105 FT	BOOM	ANGLE					92	73	20	- 67	64	61	58	54	51	47	43	38	33	27	19		ł	•	0	
	Ŀ	LOAD, LB	360				40400	34800	29900	26000	22800	20400	14800	13500	12500	11000	9400	8000	6800	5700						2200	(89.5)
	95 FT	LOADED BOOM	ANGLE				7.7	74	7.1	68	64	61	57	53	49	45	40	35	28	20					•	0	
	:T	OAD. LB	360				44100	37300	32100	28000	24800	22000	14800	13500	12500	10900	9200	7800						ET	//	3300	(79.5)
	85 FT	LOADED BOOM	ANGLE				75	72	89	64	09	56	51	47	42	36	30	21	_					(RADII)		0	
	FF	LOAD, LB	360			47900	44700	40800	35300	31000	27500	23000	14800	13500	12500	10700								S (1 B) /	(1)	5100	(69.5)
	75	LOADED	ANGLE ANGLE			92	7.5	89	64	8	55	50	47	88	83	22		-	-					FIDAD	ן נו	0	
	H	LOAD, LB	360		61000	29000	57000	48400	40700	32900	27800	23500	14800	13500										BOOM ANGLE LOADS (LB) / (BADI) (ET))		7900	(59.5)
	65	LOADED BOOM	ANGLE		92	74	69	49	65	54	48	41	33	23	ľ					-						0	
	<u> </u>	AD, LB	360	00992	76200	76000	65000	54200	42000	33500	27100	21700												ZEDO DEGDEE	ייייייייייייייייייייייייייייייייייייייי	11000	(49.5)
	55 FT	LOADED	ANGLE	75	74	20	65	59	52	45	36	25												750	7	0	
	FT	LOAD, LB	360	88000	87900	82200	68300	55000	42500	34000																1400	(39.5)
	H 24	LOADED	ANGLE	72	69	65	28	20	40	28																0	
	FI	LOAD, LB	360	102000	95000	85700	68100	53000	42500																	18000	(34.5)
	40 FT	LOADED BOOM	ANGLE Ç.	70	29	29	53	43	30																	0	
	36.5 FT	LOAD, LB	360	120000	100000	88000	68000	52800																		21000	(31.0)
	98	LOAD!	ANGLE	88	22	83	48	98																		0	
		LOAD	RADIUS. FT.	10	12	15	8	22	30	32	40	45	5 5	25.	9	S G	202	2 1	2 2	8,4	3 6	કુ	3 5				

MIN. BOOM ANGLE (DEG) FOR INDICATED BOOM LENGTH (NO LOAD)	-5
MAX. BOOM LENGTH (FEET) AT -2 DEGREE BOOM ANGLE (NO LOAD)	115

This Litting 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.



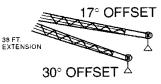
### RATED LIFTING CAPACITIES IN POUNDS

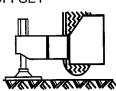
115 FT BOOM + 38 FT. EXTENSION = 153 FT. TOTAL FULLY EXTENDED OUTRIGGERS - 360 DEG • 15200 POUND TOTAL COUNTERWEIGHT LOAD MOMENT DEVICE (LMI) CODES # 11, 12, 13



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

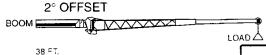
FOR BOOM LENGTHS LESS THAN 153 FT., USE BOOM ANGLES ONLY

	CODE #1			CODE #12	2	CODE #13			
2 DEG EXT OFFSET WITH STINGER RETRACTED REF. LOAD				T OFFSET WITH R RETRACTED	REF. LOAD	30 DEG EX STINGER	REF. LOAD		
	OM LENGTHS T - 153 FT	RADIUS FT.		OM LENGTHS T - 153 FT	RADIUS FT.		OM LENGTHS T - 153 FT	RADIUS 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	Ž.	360 DEG	ONLY	Δ°	360 DEG	ONLY	
78	11900	35	77	9100	45	77	7400	50	
76	10700	40	75	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				
47	2300	100							

LIFTING CAPACITIES 360 DEG AT 0 DEG. **BOOM ANGLE** 

AREA OF	воом		MAIN BOOM LE	AIN 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				

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° OFFSET 22 FT.STINGER 30° OFFSET

REFERENCE LOAD RADIUS IS FOR 175 FT. BOOM ONLY

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

	CODE #14	1		CODE #1	5		CODE #16 30 DEG EXT OFFSET WITH DEF			
2 DEG EXT OFFSET WITH STINGER EXTENDED		REF. LOAD		(T OFFSET WITH R EXTENDED	REF.	30 DEG EX STINGE	T OFFSET WITH R EXTENDED	LOAD		
FOR BOOM LENGTHS 96.5 FT - 175 FT		RADIUS FT.		OM LENGTHS T - 175 FT	RADIUS FT.		OM LENGTHS T - 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	360 DEG	ONLY	ANGLE	360 DEG	ONLY	<u>A</u>	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	<u> </u>				
57	3500	100	53	2000	120	1				
53	2500	110	][			<u> </u>				
48	1700	120			l	[]		<u>L</u>		

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	<u> </u>					

### **OPERATION ON OUTRIGGERS**

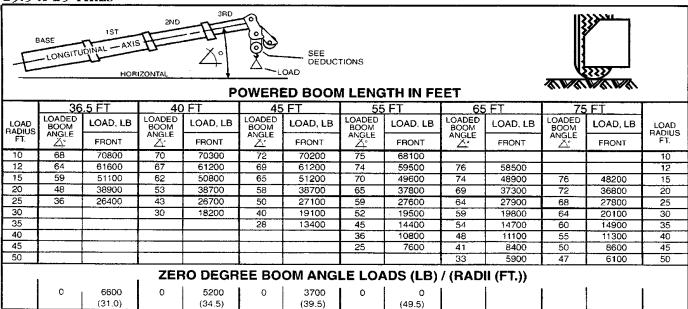
- Read and understand all warnings and instructional notes. Rated loads for fully extended outriggers do not exceed 85% of the tipoing load as determined by SAE crane stability test code J765. Rated loads for mid position and fully retracted outriggers are determined from the formula.
- Rated Load = (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 pold line are based on the machine's hydraulic or structural competence 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 devices. 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.
- 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.



### 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**

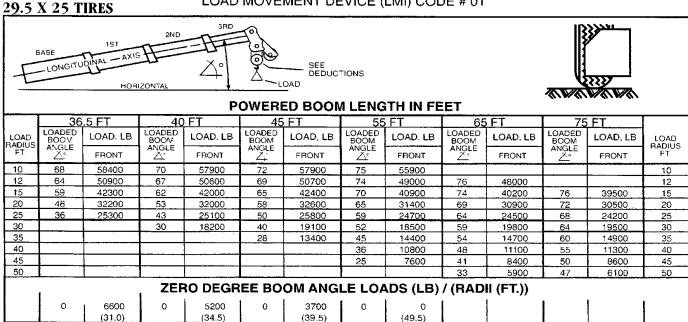
- Read and understand all warnings and instructional notes.
- Crane lifting capacities on tires do not exceed 75% of the tipping load.

  Crane lifting capacities on tires depend on tire capacity, condition of the tires and tire air pressure. Tires must be inflated to the recommended pressure before lifting
- Crane lifting capacities require lifting from main boom head only on a smooth and level
- Surface. Rated lifting capacities above the bold line are based on the machine's hydraulic or Rated lifting capacities above the bold line are based on the machine's hydraulic or Rated lifting capacities below the structural competence 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
- devices. Their weight must be subtracted from the listed rated lifting capacity to obtain the net load to be lifted.
- Add 150 lbs. to the chart values if the auxiliary boom head sheave is not erected. For pick and carry operations, the boom must be centered over the rear of the machine.
- the mechanical swing lock engaged and the load must be restrained from swing. Do not travel with boom extension erected.

  Creep: 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 tires 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. 12. 13.
- 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 INFLATION	TIRE SIZE	ROADING	CREEP	MIN. BOOM ANGLE (DEG) FOR INDICATED BOOM LENGTH (NO LOAD)	-2
	29X25 28PR	55	75	MAX. BOOM LENGTH (FEET) AT -2 DEGREE BOOM ANGLE (NO LOAD)	55

### GENERAL NOTES

### Crane Works, LR

### **GENERAL**

- 1. Rated loads as shown on lift charts pertain to this machine as origi-
- nally 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.
- 3. 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.
- 4. FREELY SUSPENDED LOAD- Load hanging free with no direct External force applied except by the hoist rope.
- 5. 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.
- 5. 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 loadin shall be the breaking strength divided by 5, unless otherwise specified by the wire rope manufacturer.

### **OPERATION**

- CRANE LOAD RATINGS MUST NOT BE EXCEEDED. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS
- 2. 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.

  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.
- 9. 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 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 with conditions encountered. The only warranty applicable is out standard warranty

### M TEREX CRANES INC.

P.O. Box 260002 Hwy. 501 East/Atlantic Center Conway, SC 29526-2602 U.S.A. (803) 349-6900 FAX (803) 349-7090

