KUBRICKY CONSTRUCTION CORP.
269 BALLARD ROAD

WILTON, NY 12831
518 792-5864

KUBRICKY CONSTRUCTION CORP.
A PROUD MEMBER OF THE D.A. COLLINS™ COMPANIES

Rutland City BRF 3000 (2014036)
SUBMITTAL 82

Issued 01/18/16
Respond by 02/01/16

To

Timothy Pockette, PE

Topic	529.15 Removal of Structure - Demolition Plan
Status	For Approval
Spec section	529.15
Responsibility	(16) River Street
Sent to approver	1/18/16
Required from approver	2/1/16

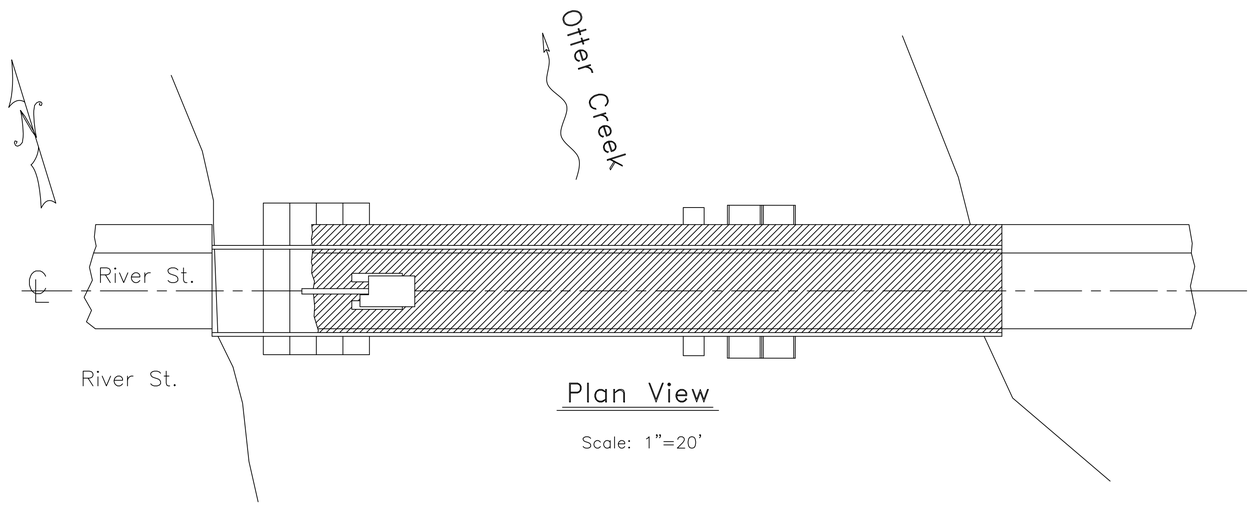
From

Volker H.D. Burkowski

Signed by _____ Date 1/18/16

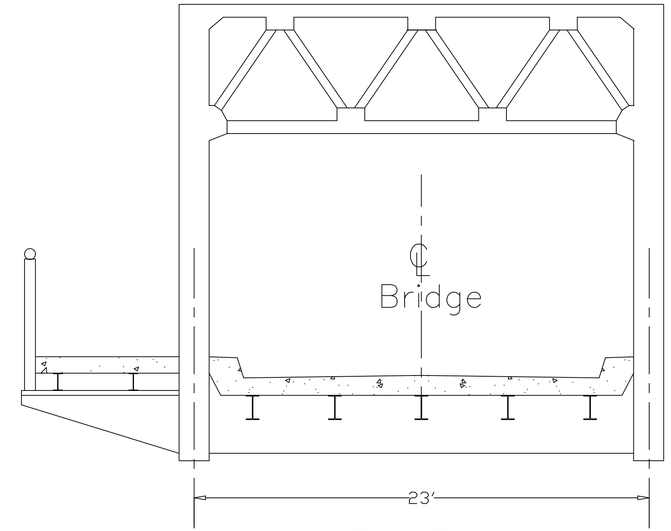
Proceed as Indicated _____ Date _____
Owner Authorized Representative

NOTE: This Drawing "Restricted" to use by Sessler Personnel Only.



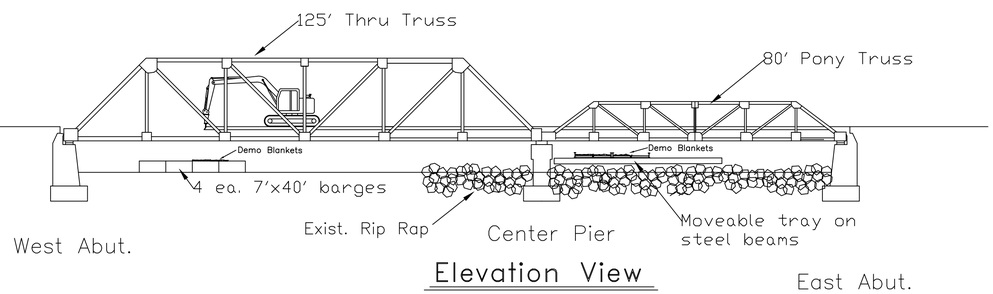
Plan View

Scale: 1"=20'



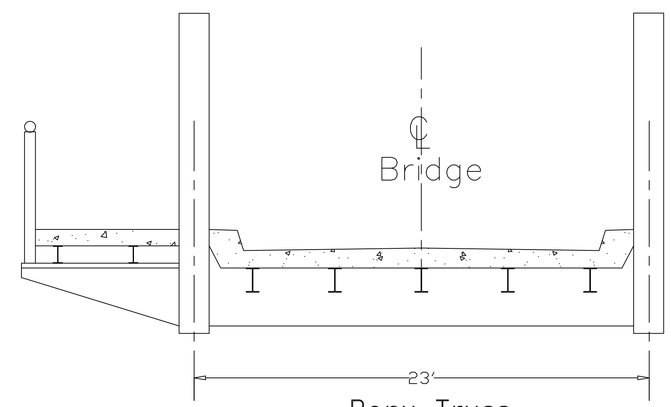
Thru Truss
Transverse Section

Scale: 1"= 5'



Elevation View

Scale: 1"=20'



Pony Truss
Transverse Section

Scale: 1"= 5'

Deck and Sidewalk Removal Procedure

1. Place 4 each 7'x40' barges under bridge at West Abutment with demo blankets on them to catch any debris generated by deck removal process.
2. Starting at West Abutment and proceeding East, remove the concrete sidewalk and deck by use of 138 series Hydraulic Excavator and Hoe Ram. Cut deck into approx. 4'–9" x 10' pieces with Hoe Ram. Place Hoe Ram under slab to support it and cut side reinforcement. Fold deck slab towards Excavator onto deck. Cut reinforcement on back side and slide 4'9"' x 10' slab behind Excavator and remove from deck.
3. Barges will stay centered under the sidewalk and deck removal process at all times.
4. When the barges reach the existing Rip Rap, steel beams will be laid from the barges over the Rip Rap to the center pier. Moveable trays will be placed on the steel beams along with demo blankets to catch any debris generated by the sidewalk and deck removal process.
5. Continue removing sidewalk and deck until reaching center pier.
6. Between the center pier and the East Abutment, place steel beams on the Rip Rap. Place the moveable trays on the beams along with demo blankets to catch any debris generated by the sidewalk and deck removal process.
7. The moveable trays will stay centered under the sidewalk and deck removal process at all times.
8. Continue removing sidewalk and deck until reaching East Abutment.

NOTE: Procedures may be reversed if field conditions warrant.
Saw cutting may be used instead of a hoe ram to cut the deck into 4'–9" x 10' pieces.
Concrete debris will be taken to an approved waste site for disposal.
Canvas demo blankets placed on the moveable trays will catch debris. An excavator will lift the demo blankets from the tray and take debris from the bridge.

General Contractor
Kubricky Construction Corp.
Wilton, NY

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STATE OF VERMONT
STEPHEN H. RUDNICK
NO. 018.0108326
STRUCTURAL
LICENSED PROFESSIONAL ENGINEER

BRF 3000(16)
River Street over Otter Creek

SCALE 1" = 20'	Rutland, VT	DRAWN BY T.A. Cunningham, CE
DATE 12-22-15		

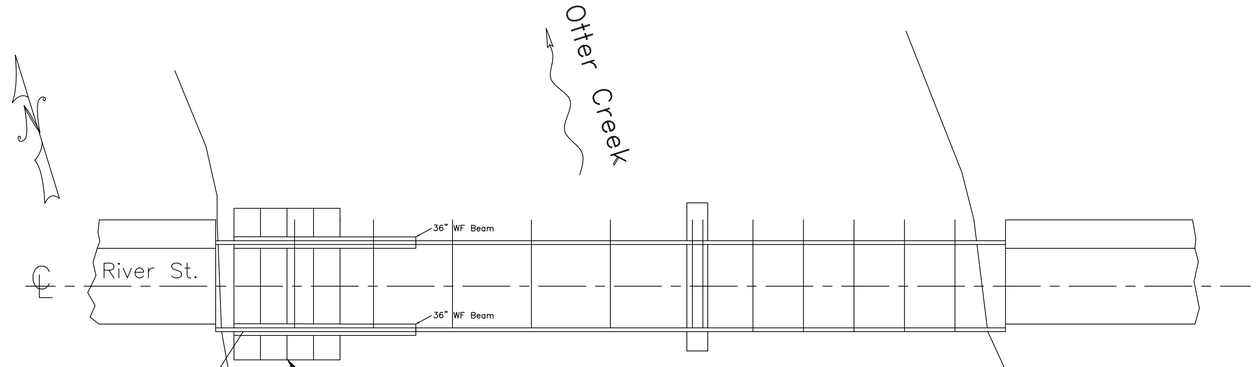
SESSLER WRECKING

1257 NYS RTE 96 WATERLOO, NY

Deck and Sidewalk Removal

DRAWING NO. 152800-01

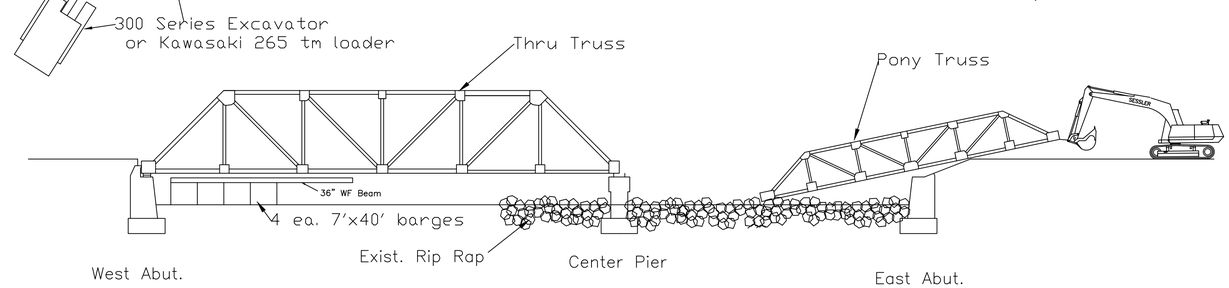
NOTE: This Drawing "Restricted" to use by Sessler Personnel Only.



Plan View

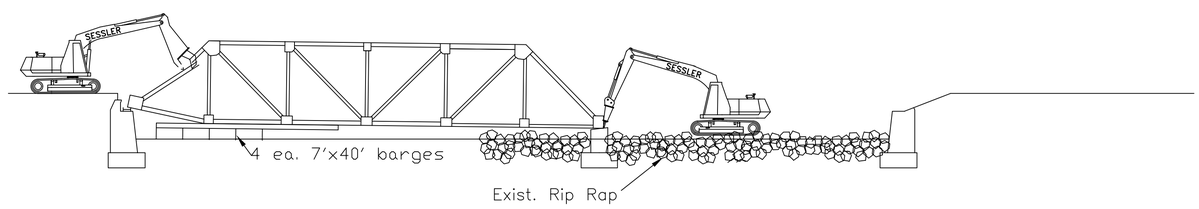
Scale: 1"=20'

Note: Position Hydraulic Excavator or Loader opposite NE corner of bridge with 3/4"cable attached around bottom cord at floor beam. This machine will be used to ensure the East end of the bridge will not drift downstream during the bridge removal process.



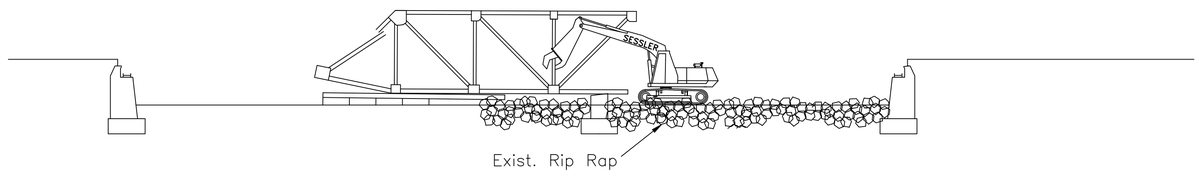
Elevation View

Scale: 1"=20'



Elevation View

Scale: 1"=20'



Elevation View

Scale: 1"=20'

Pony Truss Removal Procedure

1. Remove the roadway material and backwall at the East Abutment down to the pedestal elevation.
2. Pull the Pony Truss in an Easterly direction with 300 Series Hydraulic Excavator, until 30' is on land.
3. The portion of the truss that is over land will be cut up with the Hydraulic Shear on a 300 Series Excavator.
4. Continue pulling the truss and cutting it up until it is completely removed from the creek.
5. All steel will be taken to an approved disposal site.

Thru Truss Removal Procedure

1. Remove the roadway material and backwall at the West Abutment down to the pedestal elevation.
2. Place 4 each 7' x 40' barges under the West end of the truss.
3. Lay 2 each 36WF150 x 50' beams flat on the barge under the truss sides with 20' hanging off of the East side of the barges.
4. Cut both sides of the Truss Frame with Hydraulic Shear, allowing West end of truss to come to rest on the barges below.
5. Hammer the center pier down to the top of the rip rap.
6. Pull the Thru Truss in an Easterly direction with 300 Series Hydraulic Excavator, until 20' is past the center pier.
7. With Hydraulic Shear, cut up 20' of the truss.
8. With Hydraulic Excavator, continue pulling the truss on the barges, cutting it up with the hydraulic shears until the barges come up against the rip rap.
9. With 20' of the 36WF150 beams over the rip rap, pull the truss off of the barges, sliding it on the beams.
10. Continue pulling and cutting up the truss until it is completely removed.
11. All steel will be taken to an approved disposal site.

General Contractor

Kubricky Construction Corp.
Wilton, NY

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STATE OF VERMONT
STEPHEN H. RUDNICK
NO. 018.0108326
STRUCTURAL I
LICENSED
PROFESSIONAL ENGINEER

BRF 3000(16) River Street over Otter Creek		
SCALE 1" = 20'	Rutland, VT	DRAWN BY T.A. Cunningham, CE
DATE 12-22-15		
SESSLER WRECKING 1257 NYS RTE 96 WATERLOO, NY		
Deck and Sidewalk Removal		DRAWING NO. 152800-01

Jensen BRV
ENGINEERING, PLLC
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JOB	River Street over Otter Creek (VT)		
SHEET NO.	1	OF	8
CALCULATED BY	RF	DATE	1/15/16
REVISED BY		DATE	
SCALE			

Evaluate ability of Bridge to Withstand Demolition Process:

STATE OF VERMONT
STEPHEN H. RUDNICKI
NO. 018.0108326
STRUCTURAL I
LICENSED
PROFESSIONAL ENGINEER

Analysis Description:

- This Package considers the demolition process for The River Street Bridge over Otter Creek.
- Due to age of bridge, 1928, assume 10% loss of capacity for all members considered. However for loading purposes self weight will not be reduced.
- Demolition is an Operating event, rather than an Inventory event. As a result, Operating allowable stresses will be the basis of comparison.
- Due to the physical limitations of the excavator arm, it is assumed that the excavator will always be a minimum of 10' from the edge of demolition. This means that even the longest stringers are fully braced by the slab during their worst-case loading situations. Additonally, the steel cross bracing will remain in place throughout the slab demolition procedure.
- Section Properties of Beams and Stringers are taken from Iron and Steel Beams, 1873 to 1952 published by AISC (1953).
- The Professional Engineer's stamp affixed to this page applies to sheets 1-8, attached.

Loads: **Dead:** Per Record drawings: 2.25 KLF

Live: **Bridge Design:** References 1927 AASHO H-15 truck loading (Shoemaker's 1923 Truck Train)
Use 28 Kip point load and 600 plf uniform load, each lane.

Slab Pick:	4.75'x10'x0.125 KSF = 5.95 Kips = Say=>	**6.0 Kips**
PC138USLC-10 Exc:	32,628 Lbs (Max. Op Weight)	
	– 1,605 Lbs (Bucket)	
	+ 2,095 Lbs (Hoe Ram) =	**33.1 Kips**
TOTAL = P_{EX} =		**39.1 Kips**
Maximum Track Load = P_{EX} / 2 = P_{EXT} =		**19.6 Kips**
E32 Mini Exc. = 8,089 lbs. = P_{mini} =		**8.1 Kips**

Allowable Stresses:

The current governing AASHTO Code is from the "Manual for Bridge Evaluation, 2nd edition, 2011." The following allowable stresses apply to a steel bridge constructed between 1905 and 1936:

$F_{y,}$ = 30 ksi,
$F_{b,\ fully\ braced}$ = 22.5 ksi
$F_{b,\ partially\ braced}$ = Not applicable due to the demolition sequence.
F_v = 13.5 ksi

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JOB: RIVER ST. OVER OTTER CREEK
SHEET NO. 2 OF 8
CALCULATED BY: RF DATE: 1/15/16
CHECKED BY: DATE:
SCALE:

CHECK TRUSSES DURING DEMOLITION PROCESS (LIVE LOAD CHECK)

THRU - TRUSSES: (125 FT SPAN)

IMPOSED LIVE LOAD: $V_{MAX} = P_{EX} + P_{MINI} = 39.1\ KIP + 8.1\ KIP = 47.2\ KIP$
(ASSUME BOTH EXC. AT BEARING)

$$M_{MAX} = \frac{(P_{EX} + P_{MINI})(125\ FT)}{4} = \frac{(39.1\ KIP + 8.1\ KIP)(125\ FT)}{4} = 1475\ FT\text{-}KIP$$

(ASSUME BOTH EXC. AT MID SPAN)

DESIGN LIVE LOAD CAPACITY:

NOTE: SITE VISIT INDICATES THAT THE SIDEWALK IS TO DETERIORATED TO SUPPORT MINI EXC. IT HAS BEEN LEFT IN HERE TO ALLOW USE AS SUPPORT VEHICLE.

$$V_{DES} = \left(28\ KIP + \frac{(600\ PLF)(125\ FT)}{2}\right)2 = 131\ KIP$$

2 TRUSSES + LANES

$$M_{DES} = \left[\left(\frac{(28\ KIP)(125\ FT)}{4}\right) + \frac{(600\ PLF)(125\ FT)^2}{8}\right]2 = 4094\ FT\text{-}KIP$$

2 TRUSSES + LANES

CHECK SHEAR:

$$\left[V_{max} = 47.2\ KIP\right] < \left[0.9\,V_{DES} = (0.9)(131\ KIP) = 117.9\ KIP\right] \quad \text{OK}$$

CHECK MOMENT:

$$\left[M_{max} = 1475\ FT\text{-}KIP\right] < \left[0.9\,M_{DES} = (0.9)(4094\ FT\text{-}KIP) = 3684.6\ FT\text{-}KIP\right] \quad \text{OK}$$

PONY TRUSSES: (80 FT SPAN)

IMPOSED LOAD: $V_{max} = P_{EXC} + P_{mini} = 47.2\ KIP$ (SEE ABOVE)

$$M_{MAX} = \frac{(P_{EXC} + P_{mini})(80\ FT)}{4} = \frac{(47.2\ KIP)(80\ FT)}{4} = 944\ KIP\text{-}FT$$

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JOB: RIVER ST OVER OTTER CREEK
SHEET NO. 3 OF 8
CALCULATED BY: RF DATE: 1/15/16
CHECKED BY: DATE:
SCALE:

PONY TRUSSES (CONT.):

DESIGN LIVE LOAD CAPACITY:

$$V_{DES} = \left(28\ \text{KIP} + \frac{(600\ \text{PLF})(80\ \text{FT})}{2}\right) \times 2 = 104\ \text{KIP}$$

2 TRUSSES + LANES

$$M_{DES} = \left[\frac{(28\ \text{KIP})(80\ \text{FT})}{4} + \frac{(600\ \text{PLF})(80\ \text{FT})^2}{8}\right] \times 2 = 2080\ \text{FT-KIP}$$

2 TRUSSES + LANES

CHECK SHEAR:

$$\left[V_{MAX} = 47.2\ \text{KIP}\right] < \left[0.9\ V_{DES} = (0.9)(104\ \text{KIP}) = 93.6\ \text{KIP}\right] \quad \text{OK}$$

CHECK MOMENT:

$$\left[M_{MAX} = 944\ \text{KIP-FT}\right] < \left[0.9\ M_{DES} = (0.9)(2080\ \text{KIP-FT}) = 1872\ \text{FT-KIP}\right] \quad \text{OK}$$

CHECK STRINGERS: (FIRST CHECK LIGHTER PONY TRUSS STRINGERS)

PONY TRUSS: 16" x 40 C.B x 13.33 FT LONG @ 6'-0 O.C.

SECTION PROPS: $S_x = 65.7\ \text{IN}^3 \times 0.9 = 59.1\ \text{IN}^3$

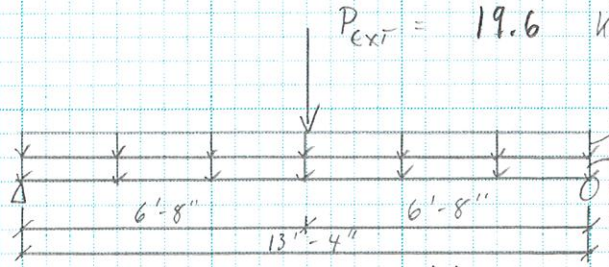
10% SECTION LOSS

$d = 16$ IN

$t_w = 0.292\ \text{IN} \times 0.9 = 0.263\ \text{IN}$

LOADING:

$P_{EXT} = 19.6$ KIP (SEE SHEET 1)



$W_{SLAB} = (0.125\ \text{KSF})(6\ \text{FT}) = 0.75$ KLF

$W_{STEEL} = 40\ \text{PLF} + 20\ \text{PLF (MISC.)} = 0.06$ KLF

$$V_{MAX} = \frac{(0.75\ \text{KLF} + 0.06\ \text{KLF})(13.33')}{2} + 19.6\ \text{KIP} = 25.0\ \text{KIP}$$

(CONSERVATIVELY PLACE EXT. @ BEARING)

$$M_{MAX} = \frac{(0.75\ \text{KLF} + 0.06\ \text{KLF})(13.33\ \text{FT})^2}{8} + \frac{(19.6\ \text{KIP})(13.33\ \text{FT})}{4} = 83.3\ \text{KIP-FT}$$

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CHECK STRINGERS (CONT.):

PONY TRUSS (CONT.):

$$\left[f_v = \frac{V_{max}}{d\, t_w} = \frac{25\ \text{kip}}{(16\ \text{in})(0.263\ \text{in})} = 5.9\ \text{ksi}\right] < \left[F_v = 13.5\ \text{ksi}\right] \quad \text{OK}$$

$$\left[f_b = \frac{M_{max}}{S_x} = \left(\frac{83.3\ \text{kip-ft}}{59.1\ \text{in}^3}\right)\left(\frac{12\ \text{in}}{1\ \text{ft}}\right) = 16.9\ \text{ksi}\right] > \left[F_b = 22.5\ \text{ksi}\right] \quad \text{OK}$$

THRU-TRUSS: 18" x 47 CB x 20'-10" LONG @ 4'-9" O.C.

SECTION PROPS: $S_x = 85.4 \times 0.9 = 76.9\ \text{in}^3$

$d = 18\ \text{in}$

$t_w = 0.32\ \text{in} \times 0.9 = 0.29\ \text{in}$

LOADING: SIMILAR TO PREVIOUS, EXCEPT:

$W_{SLAB} = (0.125\ \text{ksf})(4.75\ \text{ft}) = 0.59\ \text{klf}$

$W_{STL} = 47\ \text{plf} + 20\ \text{plf (misc.)} = 0.067\ \text{klf}$

$$\therefore V_{max} = \frac{(0.59\ \text{klf} + 0.067\ \text{klf})(20.83\ \text{ft})}{2} + 19.6\ \text{kip} = 26.4\ \text{kip}$$

$$M_{max} = \frac{(0.59\ \text{klf} + 0.067\ \text{klf})(20.83\ \text{ft})^2}{8} + \frac{(19.6\ \text{kip})(20.83\ \text{ft})}{4} = 137.7\ \text{kip-ft}$$

$$\left[f_v = \frac{26.4\ \text{kip}}{(18\ \text{in})(0.29\ \text{in})} = 5.1\ \text{ksi}\right] < \left[F_v = 13.5\ \text{ksi}\right] \quad \text{OK}$$

$$\left[f_b = \left(\frac{137.5\ \text{kip-ft}}{76.9\ \text{in}^3}\right)\left(\frac{12\ \text{in}}{1\ \text{ft}}\right) = 21.5\ \text{ksi}\right] < \left[F_b = 22.5\ \text{ksi}\right] \quad \text{OK}$$

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CHECK FLOOR BEAMS: COMPARE TO DESIGN LIVE LOADS ON RECORD DRAWINGS, REDUCED BY 10%

ALL FLOOR BEAMS: L = 23 FT.

SEE SHEETS 7 + 8 FOR MAXIMUM LIVE LOAD MOMENT + SHEAR PRODUCED IN FLOOR BEAMS.

$M_{LL\,MAX}$ = 166 FT - KIP

$V_{LL\,MAX}$ = 33.5 KIP

PONY TRUSS:

ALLOWABLE LL MOMENT = 0.9 (DESIGN LL MOMENT + DESIGN IMPACT MOMENT)
= 0.9 (1,997,000 IN-LB + 599,000 IN-LB)
= 2336400 IN-LB = 194.7 FT-KIP

ALLOWABLE LL SHEAR = 0.9 (DESIGN LL SHEAR + DESIGN IMPACT SHEAR)
= 0.9 (26000 LB + 8000 LB)
= 30600 LB

[$M_{LL\,MAX}$ = 166 FT - KIP] < [$M_{LL\,ALLOW}$ = 194.7 FT-KIP] OK

[$V_{LL\,MAX}$ = 33.5 KIP] > [$V_{LL\,ALLOW}$ = 30.6 KIP] NG

⇒ SINCE NO GOOD, CHECK AGAINST ACTUAL SECTION PROPERTIES.

FLOOR BEAM: 27" X 101 CB ⇒ d = 27.166 IN
t_w = (0.51 IN)(0.9) = 0.459
∴ A_V = 12.47 IN²

V_{ACT} = 33.5 KIP + 20 KIP (DL PER RECORD DWG.) = 50.5 KIP

[$f_v = \frac{50.5\ \text{KIP}}{12.47\ \text{IN}^2}$ = 4.0 KSI] < [F_V = 13.5 KSI] OK

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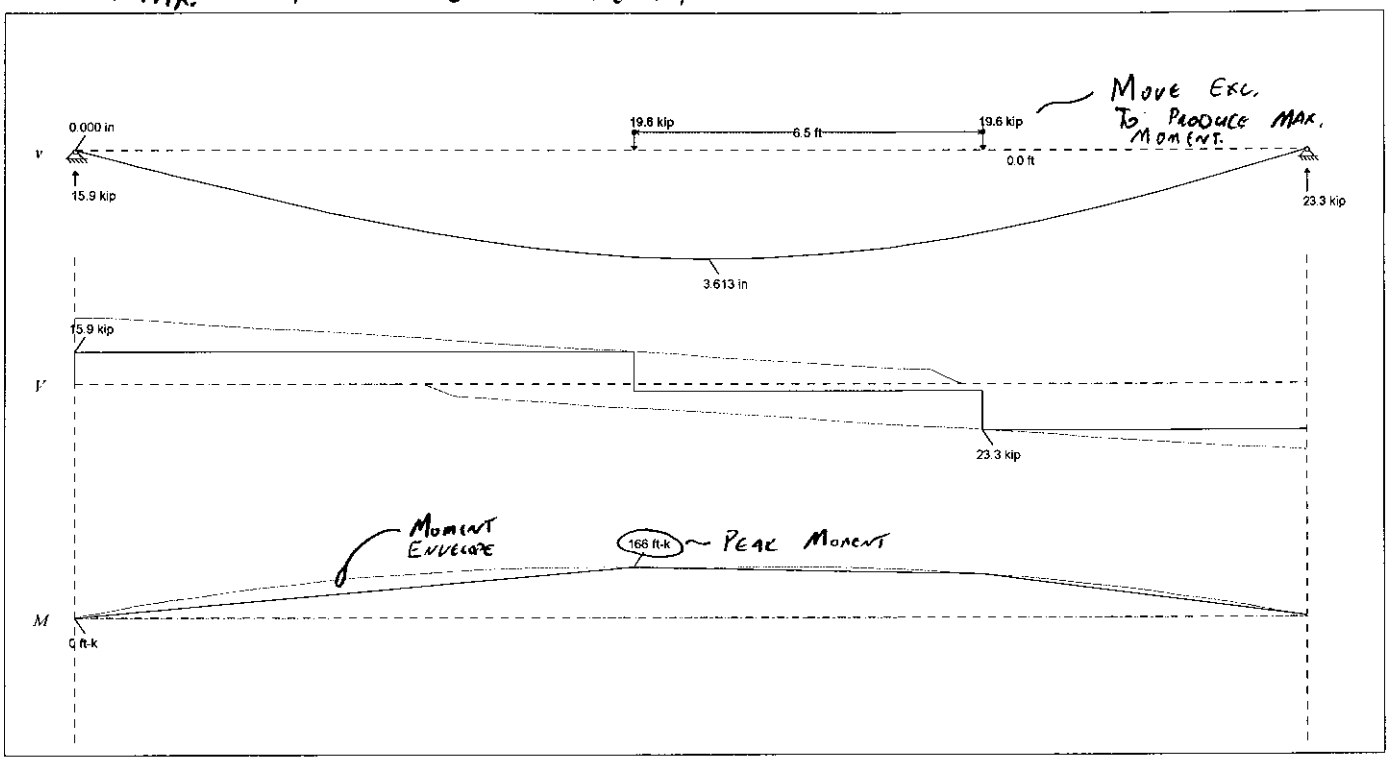
JOB: RIVER ST. OVER OTTER CREEK
SHEET NO. 6 OF 8
CALCULATED BY: RF DATE: 1/15/16
CHECKED BY: DATE:
SCALE:

CHECK FLOOR BEAMS (CONT.):

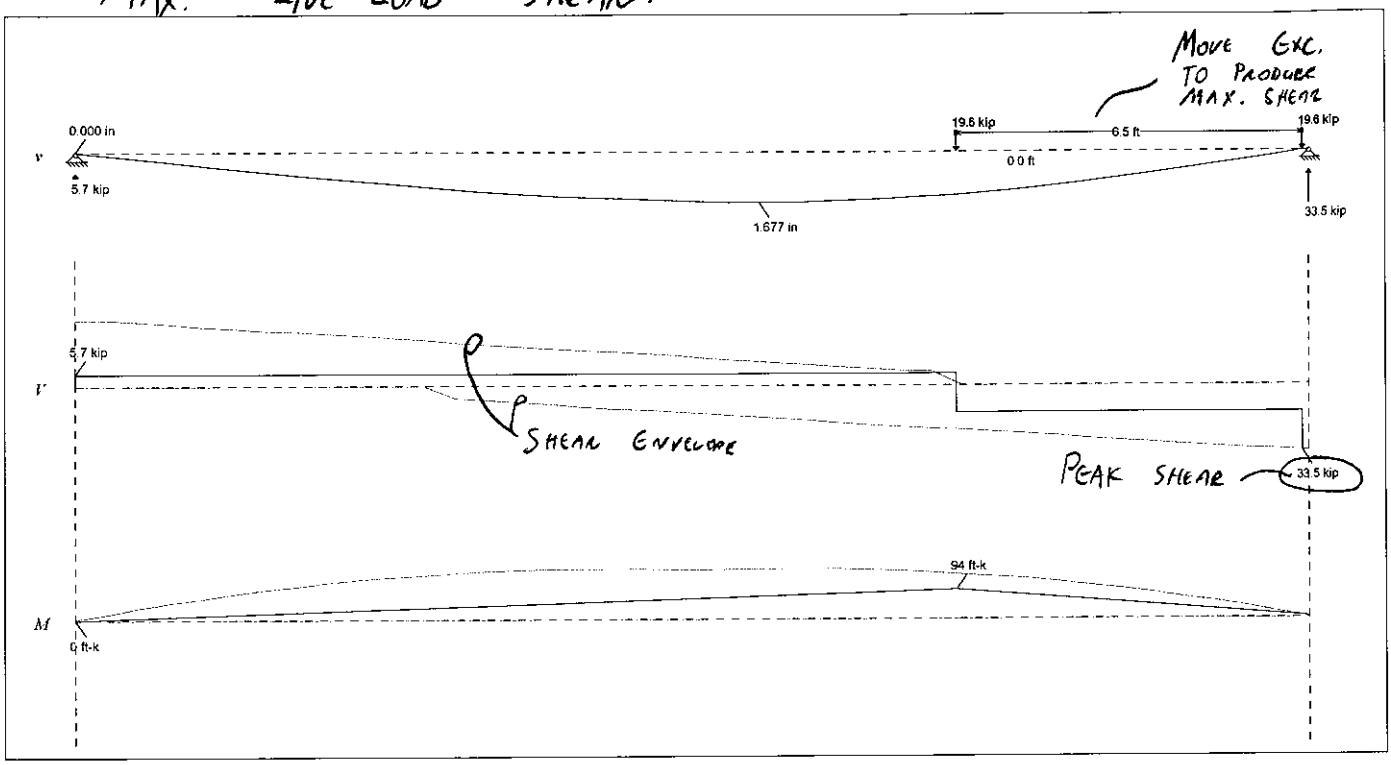
THRU-TRUSS: FLOOR BEAMS ARE LARGER (30 CB x 115's) BUT SAME SPAN + SUBJECT TO SAME LIVE LOAD. ∴ BY INSPECTION, OK

MAX. LIVE LOAD MOMENT:



Beam Parameters: Length = 23.0 ft,

MAX. LIVE LOAD SHEAR:



Beam Parameters: Length = 23.0 ft,

KOMATSU®

PC138USLC-10

Tier 4 Interim Engine

PC138USLC

NET HORSEPOWER	OPERATING WEIGHT	BUCKET CAPACITY
93.5 HP @ 2050rpm	31,791–32,628 lb	0.34–1.00 yd^3
68.8 kW @ 2050rpm	14420–14800 kg	0.26–0.76 m^3

PHOTOS MAY INCLUDE OPTIONAL EQUIPMENT

SPECIFICATIONS

ENGINE

Model ..... Komatsu SAA4D95LE-6*
Type ..... Water-cooled, 4-cycle, direct injection
Aspiration ..... Variable flow, turbocharged, air-to-air aftercooled
Number of cylinders 4
Bore ..... 95 mm **3.74"**
Stroke ..... 115 mm **4.53"**
Piston displacement ..... 3.26 ltr **199 in³**
Horsepower:
SAE J1995 ..... Gross 72 kW **98 HP**
ISO 9249 / SAE J1349 ..... Net 68 kW **93 HP**
Rated rpm 2050
Governor ..... All-speed control, electronic
Lubrication system:
Method ..... Gear pump, force-lubrication
Filter ..... Full-flow
Air cleaner ..... Dry type with double elements and auto dust evacuator, plus dust indicator

*EPA Tier 4 Interim and EU stage 3B emissions certified

HYDRAULICS

Type ..... HydrauMind (Hydraulic Mechanical Intelligence New Design) system, closed-center system with load sensing valve and pressure compensated valve
Main pump:
Type ..... Variable capacity piston type
Pumps for ..... Boom, arm, bucket, swing, and travel circuits
Maximum flow ..... 242 ltr/min **64 gal/min**
Hydraulic motors:
Travel ..... 2 x piston motor with parking brake
Swing ..... 1 x piston motor with swing holding brake
Relief valve setting:
Implement circuits ..... 34.8 MPa 355 kgf/cm² **5,050 psi**
Swing circuit ..... 27.1 MPa 276 kgf/cm² **3,920 psi**
Pilot circuit ..... 3.2 MPa 33 kgf/cm² **470 psi**
Hydraulic cylinders:
(Number of cylinders – bore x stroke)
Boom ..... 2–105 mm x 1055 mm **4.1" x 41.5"**
Arm ..... 1–110 mm x 1175 mm **4.3" x 46.3"**
Bucket ..... 1–95 mm x 885 mm **3.7" x 34.8"**

DRIVES AND BRAKES

Steering control ..... Two levers with pedals
Drive method ..... Fully hydrostatic
Maximum drawbar pull ..... 123 kN 12500 kgf **27,560 lbf**
Maximum travel speed: High ..... 5.1 km/h **3.2 mph**
Low ..... 2.9 km/h **1.8 mph**
Service brake ..... Hydraulic lock
Parking brake ..... Wet, multiple-disc

SWING SYSTEM

Driven by ..... Hydraulic motor
Swing reduction ..... Planetary gear
Swing circle lubrication ..... Grease-bathed
Swing lock ..... Wet, multiple-disc brake
Swing speed ..... 11.0 rpm
Swing torque ..... 2991 kg•m **21,627 ft lbs**

UNDERCARRIAGE

Center frame ..... X-frame leg
Track frame ..... Box-section
Track type ..... Sealed track
Track adjuster ..... Hydraulic
Number of shoes (each side) 46
Number of carrier rollers (each side) 2
Number of track rollers (each side) 8

COOLANT & LUBRICANT CAPACITY (REFILLING)

Fuel tank ..... 200 ltr **52.8 U.S. gal**
Radiator ..... 16.7 ltr **4.4 U.S. gal**
Engine ..... 11.5 ltr **3.0 U.S. gal**
Final drive, each side ..... 2.1 ltr **.55 U.S. gal**
Swing drive ..... 2.5 ltr **0.7 U.S. gal**
Hydraulic tank ..... 69.0 ltr **18.2 U.S. gal**

OPERATING WEIGHT (APPROXIMATE)

Operating weight includes 4600 mm **15'1"** one-piece boom, 2500 mm **8'2"** arm, SAE heaped 0.5 m³ **0.65 yd³** backhoe bucket, rated capacity of lubricants, coolant, full fuel tank, operator, and standard equipment.

Triple-Grouser Shoes	Operating Weight	Ground Pressure
500 mm	14420 kg	45.1 kPa / 0.46 kg/cm²
20"	**31,791 lb**	**6.54 psi**
600 mm	14600 kg	38.2 kPa / 0.39 kg/cm²
24"	**32,187 lb**	**5.55 psi**
700 mm	14800 kg	33.3 kPa / 0.34 kg/cm²
28"	**32,628 lb**	**4.83 psi**

Component Weights

Arm including bucket cylinder and linkage
2500 mm **8'2"** arm assembly ..... 529 kg **1,166 lb**
2500 mm **8'2"** arm assembly w/piping ..... 558 kg **1,230 lb**
3000 mm **9'10"** arm assembly ..... 643 kg **1,418 lb**
3000 mm **9'10"** arm assembly w/piping ..... 678 kg **1,498 lb**

One piece boom including arm cylinder
4600 mm **15'1"** boom ..... 943 kg **2,079 lb**

Counterweight (standard) ..... 3550 kg **7,826 lb**

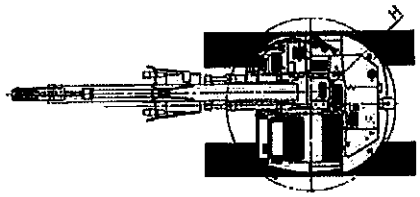
0.50 m³ **0.65 yd³** bucket - 24" width ..... 400 kg **883 lb**

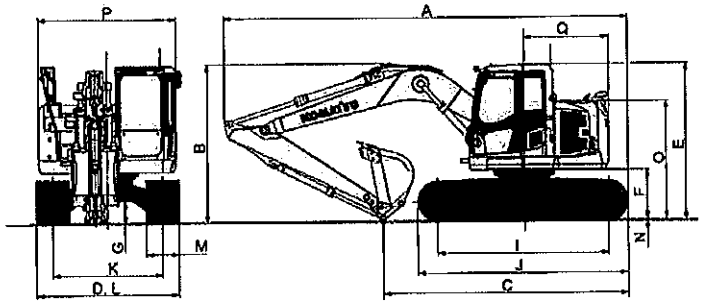
SPECIFICATIONS

DIMENSIONS

	Arm Length	2500 mm	8'2"	3000 mm	9'10"
	Boom length	4600 mm	15'1"	4600 mm	15'1"
A	Overall length	7385 mm	24'3"	7285 mm	23'11"
B	Overall height (to top of boom)*	2850 mm	9'4"	3210 mm	10'6"
C	Length on ground (transport)	4540 mm	14'11"	4400 mm	14'5"
D	Overall width	2590 mm	8'6"		
E	Overall height (to top of cab)*	2815 mm	9'3"		
F	Ground clearance, counterweight	900 mm	2'11"		
G	Ground clearance, minimum	395 mm	1'4"		
H	Tail swing radius	1545 mm	5'1"		
I	Track length on ground	3140 mm	10'4"		
J	Track length	3870 mm	12'8"		
K	Track gauge	1990 mm	6'6"		
L	Width of crawler	2590 mm	8'6"		
M	Shoe width	600 mm	24"		
N	Grouser height	20 mm	0.8"		
O	Machine height to top of counterweight	1980 mm	6'6"		
P	Machine upper width	2490 mm	8'2"		
Q	Distance, swing center to rear end	1545 mm	5'1"		

*: Including grouser height



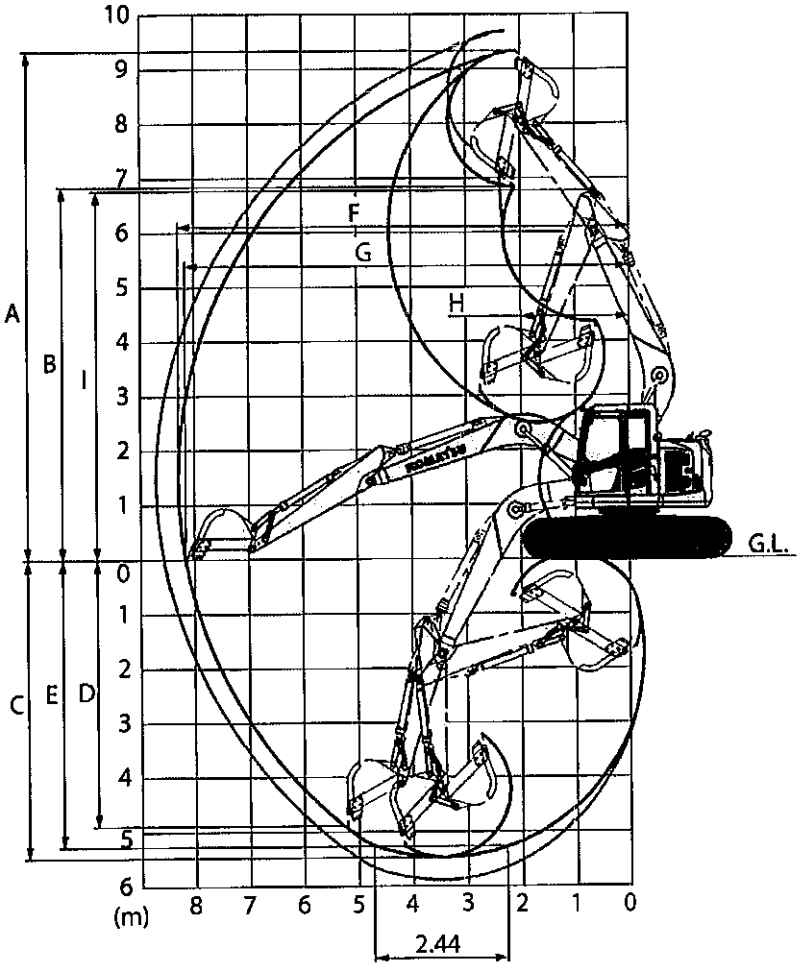


BACKHOE BUCKET, ARM AND BOOM COMBINATION

Bucket Type	Bucket Capacity		Bucket Width		Bucket Weight		Arms 2.5 m (8'2")	Arms 3.0 m (9'10")
Komatsu GSK	0.26 m³	0.34 yd³	457 mm	18"	332 kg	732 lb	V	V
	0.38 m³	0.50 yd³	610 mm	24"	387 kg	853 lb	V	V
	0.51 m³	0.67 yd³	762 mm	30"	437 kg	963 lb	V	V
	0.63 m³	0.83 yd³	914 mm	36"	499 kg	1,099 lb	W	X
	0.76 m³	1.00 yd³	1067 mm	42"	559 kg	1,232 lb	X	Y
Komatsu HP	0.26 m³	0.34 yd³	457 mm	18"	379 kg	836 lb	V	V
	0.31 m³	0.40 yd³	508 mm	20"	396 kg	873 lb	V	V
	0.38 m³	0.50 yd³	610 mm	24"	457 kg	1,007 lb	V	V
	0.51 m³	0.67 yd³	762 mm	30"	517 kg	1,140 lb	V	W
	0.63 m³	0.83 yd³	914 mm	36"	591 kg	1,303 lb	W	X
	0.76 m³	1.00 yd³	1067 mm	42"	664 kg	1,464 lb	Y	Z
Komatsu HPS	0.26 m³	0.34 yd³	457 mm	18"	406 kg	895 lb	V	V
	0.31 m³	0.40 yd³	508 mm	20"	426 kg	939 lb	V	V
	0.38 m³	0.50 yd³	610 mm	24"	493 kg	1,086 lb	V	V
	0.51 m³	0.67 yd³	762 mm	30"	562 kg	1,240 lb	V	W
	0.63 m³	0.83 yd³	914 mm	36"	645 kg	1,423 lb	X	Y
	0.76 m³	1.00 yd³	1067 mm	42"	728 kg	1,605 lb	Y	Z

V - Used with material weights up to 3,500 lb/yd³
W - Used with material weights up to 3,000 lb/yd³
X - Used with material weights up to 2,500 lb/yd³
Y - Used with material weights up to 2,000 lb/yd³
Z - Not useable

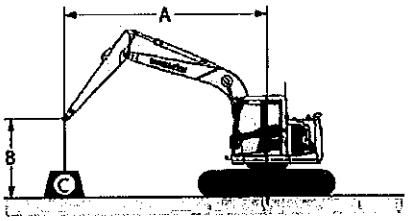
WORKING RANGE



		Arm Length	2500 mm	8'2"	3000 mm	9'10"
A	Max. digging height		9340 mm	30'6"	9700 mm	31'10"
B	Max. dumping height		6840 mm	22'5"	7350 mm	24'1"
C	Max. digging depth		5480 mm	18'0"	5900 mm	19'4"
D	Max. vertical wall digging depth		4900 mm	16'1"	5340 mm	17'6"
E	Max. digging depth for 8' level bottom		5265 mm	17'3"	5715 mm	18'9"
F	Max. digging reach		8300 mm	27'3"	8720 mm	28'7"
G	Max. digging reach at ground level		8180 mm	26'10"	8600 mm	28'3"
H	Min. swing radius		1980 mm	6'6"	2264 mm	7'5"
I	Max. height at min. swing radius		6770 mm	22'3"	6770 mm	22'3"
SAE rating	Bucket digging force		81.4 kN 8300 kg / **18,300 lb**		78.0 kN 7950 kg / **17,530 lb**	
	Arm crowd force		60.8 kN 6200 kgf / **13,670 lb**		54.4 kN 5550 kgf / **12,240 lb**	
ISO rating	Bucket digging force		93.2 kN 9500 kg / **20,950 lb**		88.3 kN 9000 kg / **19,840 lb**	
	Arm crowd force		61.8 kN 6300 kgf / **13,890 lb**		55.9 kN 5700 kgf / **12,570 lb**	

LIFT CAPACITIES

LIFTING CAPACITY WITH LIFTING MODE



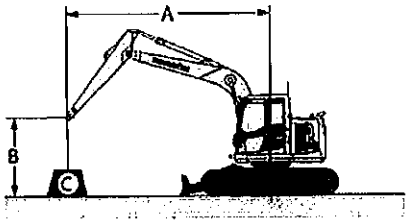
A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
❽ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 2500 mm 8'2" Shoes: 500 mm 20" Unit: kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⧗ MAX Cf	⧗ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	2490			* 1870	* 1870
					* 8220	* 8220	* 6650	5500			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	3730	3890	2440			* 1870	* 1870
			* 13230	* 13230	* 10150	8230	8590	5380			* 4140	* 4140
1.5 m 5'			* 8460	* 6340	* 5570	3510	3790	2350			* 1980	1820
			* 18660	* 13980	* 12290	7750	8370	5180			* 4370	4010
0 m 0'			* 6730	* 5970	5680	3350	3700	2270			* 2210	1830
			* 14850	* 13160	12540	7380	8170	5010			* 4880	4050
-1.5 m -5'	* 3920	* 3920	* 9030	5910	5600	3270	3660	2230			* 2680	2000
	* 8640	* 8640	* 19920	13030	12340	7210	8080	4920			* 5920	4420
-3.0 m -10'	* 7540	* 7540	* 7570	5980	* 5240	3290					* 3790	5460
	* 16620	* 16620	* 16700	13200	* 11570	7260					* 8350	5460
-4.6 m -15'												

*Load is limited by hydraulic capacity rather than tipping. Ratings are based on ISO standard No. 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.



A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
❽ : Rating at maximum reach

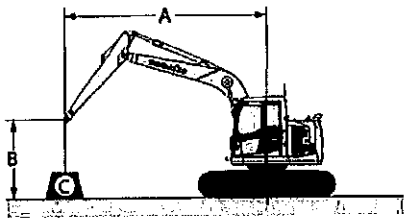
Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

Arm: 2500 mm 8'2" Shoes: 500 mm 20" Unit: kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⧗ MAX Cf	⧗ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	5800			* 1870	* 1870
					* 8220	* 8220	* 6650	5800			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	3920	* 3950	2570			* 1870	* 1870
			* 13230	* 13230	* 10150	8660	* 8710	5680			* 4140	* 4140
1.5 m 5'			* 8460	6680	* 5570	3710	* 4320	2480			* 1980	1930
			* 18660	14730	* 12290	8180	* 9520	5480			* 4370	4250
0 m 0'			* 6730	* 6310	* 6160	3540	* 4560	2400			* 2210	1950
			* 14850	* 13920	* 13580	7810	* 10050	5310			* 4880	4300
-1.5 m -5'	* 3920	* 3920	* 9030	6250	* 6100	3460	* 4390	2370			* 2680	2130
	* 8640	* 8640	* 19920	13780	* 13440	7640	* 9690	5220			* 5920	4590
-3.0 m -10'	* 7540	* 7540	* 7570	6330	* 5240	3480					* 3790	2620
	* 16620	* 16620	* 16700	13950	* 11570	7690					* 8350	5790
-4.6 m -15'												

*Load is limited by hydraulic capacity rather than tipping. Ratings are based on ISO standard No. 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.

LIFTING CAPACITY WITH LIFTING MODE



A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 3000 mm **9'10"** **Shoes:** 500 mm **20"** **Unit:** kg lb

A / B	1.5 m 5'		3.0 m 10'		4.6 m 15'		6.1 m 20'		7.6 m 25'		⊖ MAX	
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2500			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5510			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2430	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5360	* 3640	* 3640	* 3420	* 3420
1.5 m			* 7590	6440	* 5180	3510	3770	2320	* 2410	1660	* 1620	1610
5'			* 16740	14210	* 11420	7740	8320	5120	* 5310	3670	* 3580	3550
0 m			* 7920	5940	5650	3310	3660	2220	* 2300	1620	* 1780	1620
0'			* 17460	13100	12470	7290	8080	4900	* 5070	3580	* 3940	3570
-1.5 m	* 3520	* 3520	* 8510	5780	5520	3190	3600	2160			* 2100	1740
-5'	* 7770	* 7770	* 18760	12750	12180	7050	7940	4770			* 4640	3850
-3.0 m	* 7130	* 7130	* 8150	5830	* 5490	3190	3610	2170			* 2780	2080
-10'	* 15710	* 15710	* 17970	12860	* 12120	7040	7950	4790			* 6130	4500
-4.6 m			* 5710	* 5710	* 3680	3300					* 3190	3070
-15'			* 12600	* 12600	* 8120	7280					* 7050	6780

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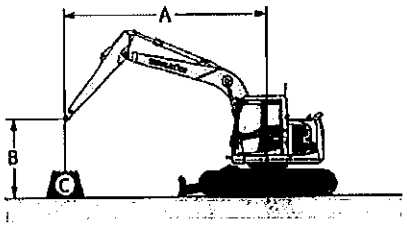

A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

Arm: 3000 mm **9'10"** **Shoes:** 500 mm **20"** **Unit:** kg lb

A / B	1.5 m 5'		3.0 m 10'		4.6 m 15'		6.1 m 20'		7.6 m 25'		⊖ MAX	
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2630			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5810			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2560	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5660	* 3640	* 3640	* 3420	* 3420
1.5 m			* 7590	* 6780	* 5180	3700	* 4070	2460	* 2410	1770	* 1620	* 1620
5'			* 16740	* 14950	* 11420	8170	* 8980	5420	* 5310	3900	* 3580	* 3580
0 m			* 7920	6280	* 5940	3500	* 4420	2360	* 2300	1730	* 1780	1720
0'			* 17460	13850	* 13110	7720	* 9740	5200	* 5070	3810	* 3940	3800
-1.5 m	* 3520	* 3520	* 8510	6130	* 6070	3390	* 4430	2300			* 2100	1860
-5'	* 7770	* 7770	* 18760	13510	* 13400	7480	* 9770	5070			* 4640	4100
-3.0 m	* 7130	* 7130	* 8150	6170	* 5540	3380	* 3770	2310			* 2780	2210
-10'	* 15710	* 15710	* 17970	13610	* 12220	7460	* 8320	5090			* 6130	4880
-4.6 m			* 5710	* 5710	* 3680	* 3460					* 3190	* 3190
-15'			* 12600	* 12600	* 8120	* 7640					* 7050	* 7050

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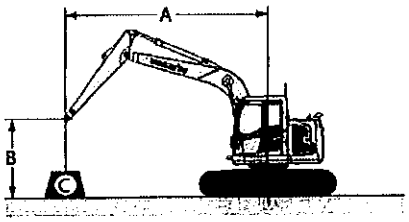
LIFT CAPACITIES

LIFTING CAPACITY WITH LIFTING MODE



A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 2500 mm 8'2" **Shoes:** 600 mm 24" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	* 2520			* 1870	* 1870
					* 8220	* 8220	* 6650	* 5560			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	3770	3940	2470			* 1870	* 1870
			* 13230	* 13230	* 10150	8320	6690	5440			* 4140	* 4140
1.5 m 5'			* 8460	6410	* 5570	3550	3840	2380			* 1980	1840
			* 18660	14130	* 12290	7840	8470	5250			* 4370	4060
0 m 0'			* 6040	* 6040	5750	3390	3750	2300			* 2210	1860
			* 13320	* 14850	12690	7470	8270	5070			* 4880	4100
-1.5 m -5'	* 3920	* 3920	* 9030	5980	5660	3310	3710	2260			* 2680	2030
	* 8640	* 8640	* 19920	13190	12490	7300	8180	4990			* 5920	4480
-3.0 m -10'	* 7540	* 7540	* 7570	6060	* 5240	3330					* 3790	2510
	* 16620	* 16620	* 16700	13360	* 11570	7350					* 8350	5530
-4.6 m -15'												

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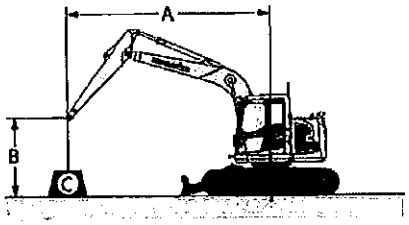

A: Reach from swing center
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⊖ : Rating at maximum reach

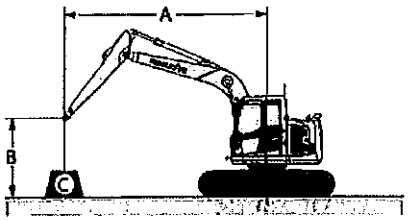
Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

Arm: 2500 mm 8'2" **Shoes:** 600 mm 24" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	2650			* 1870	* 1870
					* 8220	* 8220	* 6650	5860			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	3970	* 3950	2600			* 1870	* 1870
			* 13230	* 13230	* 10150	8750	* 8710	5740			* 4140	* 4140
1.5 m 5'			* 8460	6750	* 5570	3750	* 4320	2510			* 1980	1950
			* 18660	14890	* 12290	8270	* 9520	5540			* 4370	4300
0 m 0'			* 6730	* 6380	* 6160	3580	* 4560	2430			* 2210	1970
			* 14850	* 14070	* 13580	7900	* 10050	5370			* 4880	4350
-1.5 m -5'	* 3920	* 3920	* 9030	6320	* 6100	3500	* 4390	2390			* 2680	2150
	* 8640	* 8640	* 19920	13940	* 13440	7730	* 9590	5280			* 5920	4750
-3.0 m -10'	* 7540	* 7540	* 7570	* 6400	* 5240	3520					* 3790	2650
	* 16620	* 16620	* 16700	* 14110	* 11570	7780					* 8350	5860
-4.6 m -15'												

*Load is limited by hydraulic capacity rather than tipping. Ratings are based on ISO standard No. 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.

LIFTING CAPACITY WITH LIFTING MODE



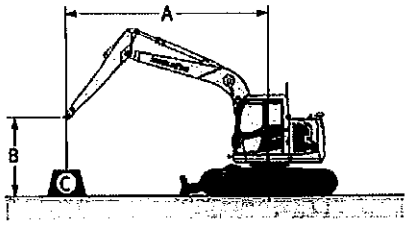
A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 3000 mm 9'10" **Shoes:** 600 mm 24" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2530			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5580			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2460	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5420	* 3640	* 3640	* 3420	* 3420
1.5 m			* -7590	6510	* 5180	3550	3820	2350	* 2410	1680	* 1620	* 1620
5'			* 16740	14360	* 11420	7830	8420	5190	* 5310	3720	* 3580	* 3580
0 m			* 7920	6010	5720	3350	3710	2250	* 2300	1640	* 1780	1640
0'			* 17460	13260	12620	7380	8180	4970	* 5070	3630	* 3940	3620
-1.5 m	* 3520	* 3520	* 8510	5850	5590	3240	3640	2190			* 2100	1770
-5'	* 7770	* 7770	* 18760	12910	12330	7140	8040	4840			* 4640	3900
-3.0 m	* 7130	* 7130	* 8150	5900	* 5540	3230	3650	2200			* 2780	2110
-10'	* 15710	* 15710	* 17970	13010	* 12220	7130	8050	4850			* 6130	4660
-4.6 m			* 5710	* 5710	* 3680	3340					* 3190	3110
-15'			* 12600	* 12600	* 8120	7370					* 7050	6860

*Load is limited by hydraulic capacity rather than tipping. Ratings are based on ISO standard No. 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.



A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

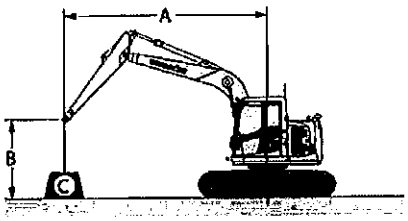
Arm: 3000 mm 9'10" **Shoes:** 600 mm 24" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2660			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5870			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2590	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5720	* 3640	* 3640	* 3420	* 3420
1.5 m			* 7590	6860	* 5180	3740	* 4070	2480	* 2410	1790	* 1620	* 1620
5'			* 16720	15120	* 11420	8260	* 8980	5480	* 5310	3950	* 3580	* 3580
0 m			* 7920	6350	* 5940	3540	* 4420	2390	* 2300	1750	* 1780	1740
0'			* 17460	14010	* 13110	7810	* 9740	5260	* 5070	3860	* 3940	3850
-1.5 m	* 3520	* 3520	* 8510	6200	* 6070	3430	* 4430	2330			* 2100	1880
-5'	* 7770	* 7770	* 18760	13870	* 13400	7570	* 9770	5140			* 4640	4150
-3.0 m			* 5710	* 5710	* 3680	* 3500					* 3190	* 3190
-10'			* 12600	* 12600	* 8120	* 7720					* 7050	* 7050
-4.6 m												
-15'												

*Load is limited by hydraulic capacity rather than tipping. Ratings are based on ISO standard No. 10567. Rated loads do not exceed 87% of hydraulic lift capacity or 75% of tipping load.

LIFT CAPACITIES

LIFTING CAPACITY WITH LIFTING MODE



A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 2500 mm 8'2" **Shoes:** 700 mm 28" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	2550			* 1870	* 1870
					* 8220	* 8220	* 6650	5630			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	3820	* 3950	2500			* 1870	* 1870
			* 13230	* 13230	* 10150	8420	* 8710	5510			* 4140	* 4140
1.5 m 5'			* 8460	6490	* 5570	3600	3890	2410			* 1980	1860
			* 18660	14310	* 12290	7940	8580	5320			* 4370	4120
0 m 0'			* 6730	* 6120	5830	3430	3800	2330			* 2210	1880
			* 14850	* 13490	12860	7570	8390	5140			* 4880	4160
-1.5 m -5'	* 3920	* 3920	* 9030	6060	5740	3360	3760	2290			* 2680	2060
	* 8640	* 8640	* 19920	13360	12660	7400	8290	5050			* 5290	4540
-3.0 m -10'	* 7540	* 7540	* 7570	6140	* 5240	3380					* 3790	2540
	* 16620	* 16620	* 16700	13530	* 11570	7450					* 8350	5610
-4.6 m -15'												

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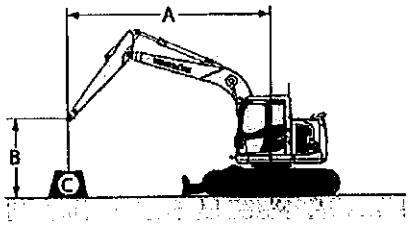

A: Reach from swing center
B: Bucket hook height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side
⊖ : Rating at maximum reach

Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

Arm: 2500 mm 8'2" **Shoes:** 700 mm 28" **Unit:** kg lb

A / B	1.5 m 5' Cf	1.5 m 5' Cs	3.0 m 10' Cf	3.0 m 10' Cs	4.6 m 15' Cf	4.6 m 15' Cs	6.1 m 20' Cf	6.1 m 20' Cs	7.6 m 25' Cf	7.6 m 25' Cs	⊖ MAX Cf	⊖ MAX Cs
7.6 m 25'											* 2500	* 2500
											* 5510	* 5510
6.1 m 20'					* 3360	* 3360					* 2010	* 2010
					* 7420	* 7420					* 4430	* 4430
4.6 m 15'					* 3730	* 3730	* 3010	2690			* 1870	* 1870
					* 8220	* 8220	* 6650	5930			* 4140	* 4140
3.0 m 10'			* 6000	* 6000	* 4600	4010	* 3950	2630			* 1870	* 1870
			* 13230	* 13230	* 10150	8850	* 8710	5810			* 4140	* 4140
1.5 m 5'			* 8460	6830	* 5570	3790	* 4320	2540			* 1980	1970
			* 18660	15070	* 12290	8370	* 9250	5610			* 4370	4360
0 m 0'			* 6730	* 6460	* 6160	3630	* 4560	2460			* 2210	2000
			* 14850	* 14250	* 13580	8000	* 10050	5440			* 4880	4410
-1.5 m -5'	* 3920	* 3920	* 9030	6400	* 6100	3550	* 4390	2430			* 2680	2180
	* 8640	* 8640	* 19920	14120	* 13440	7830	* 9590	5350			* 5920	4810
-3.0 m -10'	* 7540	* 7540	* 7570	6480	* 5240	3570					* 3790	2690
	* 16620	* 16620	* 16700	14290	* 11570	7880					* 8350	5930
-4.6 m -15'												

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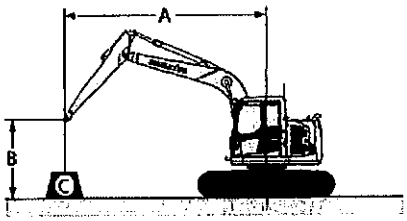
LIFTING CAPACITY WITH LIFTING MODE



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Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- No blade

Arm: 3000 mm **9'10"** **Shoes:** 700 mm **28"** **Unit:** kg lb

A / B	1.5 m 5'		3.0 m 10'		4.6 m 15'		6.1 m 20'		7.6 m 25'		⊖ MAX	
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2560			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5650			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2490	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5490	* 3640	* 3640	* 3420	* 3420
1.5 m			* 7590	6590	* 5180	3590	3870	2380	* 2410	1710	* 1620	* 1620
5'			* 16740	14450	* 11420	7930	8540	5250	* 5310	3770	* 3580	* 3580
0 m			* 7920	6090	5800	3390	3760	2280	* 2300	1670	* 1780	1660
0'			* 17460	13430	12790	7480	8290	5030	* 5070	3680	* 3940	3670
-1.5 m	* 3520	* 3520	* 8510	5930	5670	3280	3690	2220			* 2100	1790
-5'	* 7770	* 7770	* 18760	13090	12500	7240	8150	4910			* 4640	3960
-3.0 m	* 7130	* 7130	* 8150	5980	* 5540	3270	3700	2230			* 2780	2140
-10'	* 15710	* 15710	* 17970	13190	* 12220	7230	8170	4920			* 6130	4720
-4.6 m			* 5710	* 5710	* 3680	3380					* 3190	3150
-15'			* 12600	* 12600	* 8120	7470					* 7050	6960

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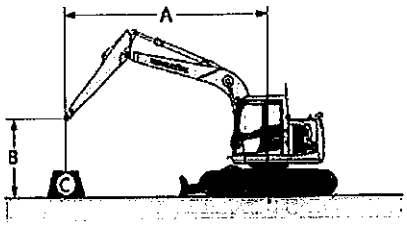

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Conditions :
- 4600 mm **15' 1"** one-piece boom
- Counterweight (Standard): 3550 kg **7,826 lb**
- Bucket: None
- Lifting mode: On
- Blade included

Arm: 3000 mm **9'10"** **Shoes:** 700 mm **28"** **Unit:** kg lb

A / B	1.5 m 5'		3.0 m 10'		4.6 m 15'		6.1 m 20'		7.6 m 25'		⊖ MAX	
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs
7.6 m					* 2060	* 2060					* 1980	* 1980
25'					* 4550	* 4550					* 4380	* 4380
6.1 m					* 2960	* 2960	* 1860	* 1860			* 1660	* 1660
20'					* 6520	* 6520	* 4100	* 4100			* 3670	* 3670
4.6 m					* 2990	* 2990	* 2910	2690			* 1560	* 1560
15'					* 6600	* 6600	* 6420	5940			* 3430	* 3430
3.0 m			* 3850	* 3850	* 3680	* 3680	* 3470	2620	* 1650	* 1650	* 1550	* 1550
10'			* 8500	* 8500	* 8110	* 8110	* 7650	5790	* 3640	* 3640	* 3420	* 3420
1.5 m			* 7590	6940	* 5180	3790	* 4070	2520	* 2410	1810	* 1620	* 1620
5'			* 16740	15300	* 11420	8360	* 8980	5550	* 5310	4000	* 3580	* 3580
0 m			* 7920	6430	* 5940	3590	* 4420	2420	* 2300	1770	* 1780	1770
0'			* 17460	14190	* 13110	7910	* 9740	5330	* 5070	3910	* 3940	3900
-1.5 m	* 3520	* 3520	* 8510	6280	* 6070	3470	* 4430	2360			* 2100	1910
-5'	* 7770	* 7770	* 18760	13840	* 13400	7670	* 9770	5200			* 4640	4210
-3.0 m	* 7130	* 7130	* 8150	6320	* 5540	3470	* 3770	2370			* 2780	2270
-10'	* 15710	* 15710	* 17970	13940	* 12220	7650	* 8320	5220			* 6130	5010
-4.6 m			* 5710	* 5710	* 3680	* 3550					* 3190	* 3190
-15'			* 12600	* 12600	* 8120	* 7820					* 7050	* 7050

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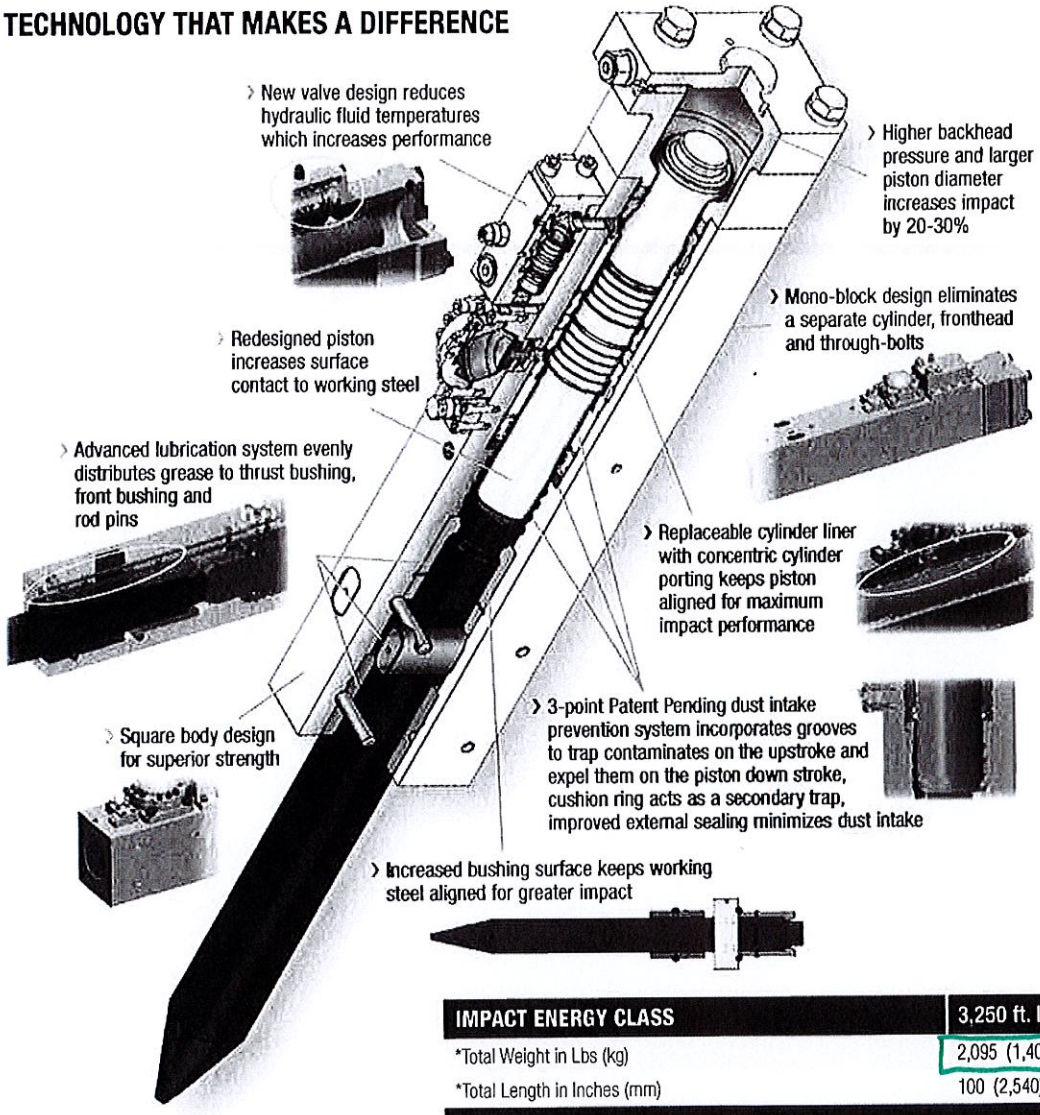
INNOVATIVE TECHNOLOGY THAT MAKES A DIFFERENCE



IMPACT ENERGY CLASS	3,250 ft. lbs.
*Total Weight in Lbs (kg)	2,095 (1,402)
*Total Length in Inches (mm)	100 (2,540)
Working Steel	
Diameter in Inches (mm)	4.72 (120)
New Length of Steel Measured from Front Face in Inches (mm)	27.36 (695)
Replaceable Steel Length, Measured from Front Face in Inches (mm)	16.14 (410)
General Specifications	
Adjustable Blows Per Minute (BPM)	450 ~ 600
Acceptable GPM Range (LPM)	26 ~ 42 (98 ~ 158)
Acceptable PSI Range (Bar)	2,320 ~ 2,610 (160 ~ 180)
85 dB(A) @	~ 13 meters
Recommended Carrier Range in U.S. Tons (tonnes)	13 ~ 22 (12 ~ 20)
Carrier Options	■

CARRIER OPTIONS

EXCAVATOR

***Note:** Total weight and total length include standard working steel and universal top cap less mounting pins and bushings.

FRD FURUKAWA

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155 Dexter Road
Spartanburg, SC 29303
Ph: 864-541-0125

Furukawa's policy is one of continual improvement. Specifications may change between printing.

FRD FURUKAWA | *FORMERLY KENT DEMOLITION TOOLS*

Fx175 Qtv

This mid-size hammer is designed for use on excavators in the 13 to 22 ton range and pedestal systems. It is ideal for roads, bridges, rock, utility applications and in quarries. Incorporating the latest in design technology, the Fx175 Qtv hammer improves day-to-day performance, offering less maintenance and downtime, smoother operation, superior strength and the highest level of reliability.

The Fx175 Qtv offers improved durability, with features that include a square, mono-block body design for superior strength. The elimination of thru-bolts also reduces maintenance and failure. A patent pending dust prevention system incorporates grooves to trap contaminates on the upstroke and expel them on the piston down stroke, while a cushion ring acts as a secondary trap. This improves the life of the piston, bushings and working steel.

Operators appreciate performance features that include a new valve design to reduce hydraulic fluid temperatures. A redesigned piston enhances surface contact to working steel, while a larger bushing surface keeps it aligned for greater impact. A replaceable cylinder liner increases tool life and reduces time-consuming maintenance.

The Fx175 Qtv is also designed to accommodate automatic lubrication systems for quick daily maintenance. Excavators equipped with quick couplers can take advantage of our Floating Top-Mount Boss mounting system. This incorporates standard mounting hardware while meeting "OEM Pin Centers" for specific carrier mounting eliminating the need for specific OEM top caps.

All hammers come complete with exclusive Pro-Pak for ease of installation. The Pro-Pak includes hose whips, mounting hardware, standard working steel and tool kit with operating manual at no additional charge.

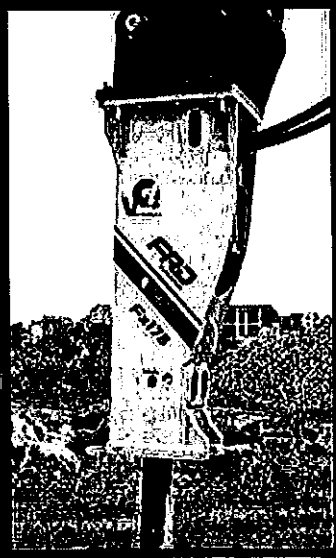
Features and Benefits:

- Increased hydraulic flow range for use on a wider range of carriers
- Mono-block design eliminates a separate cylinder, frontheat and thru-bolts
- Improved Dust Intake Prevention system increases reliability
- Replaceable cylinder liner with concentric porting keeps piston aligned for maximum impact performance
- Improved valve design reduces hydraulic fluid temperatures which increases performance
- Square body design for superior strength
- 3-point sealing system prevents internal contamination
- Redesigned piston increases surface contact to working steel
- Improved dampening system keeps breaker properly secure in cradle to reduce wear
- Qtv cradle for improved protection, sound suppression and dampening
- Increased and improved lubrication to critical components
- Longer thrust bushing for increased internal alignment also insures direct impact with piston

FxSERIES

NO torquing of Thru-Bolts.
NO broken Thru-Bolts.
NO downtime due to Thru-Bolts.

Why? **NO THRU-BOLTS.**



See Reverse For Additional Mounting Options