Link-Belt
EARTHMOVING • FORESTRY
MATERIAL HANDLING EQUIPMENT

80 Spin Ace

Swing Boom

Operating Weight: 18,400 lbs (8 350 kg)
SAE Net Horsepower: 52 HP (39.1 kW)
Bucket Range: .24 - .45 cu. yd. (.18 - .34 cu. m.)

LBX Company LLC

Operator's Control Station

Confined space and restricted access don't necessarily mean limited productivity with the new Link-Belt 80 Spin Ace minimum swing radius excavator. This addition to the Spin Ace family of excavators opens opportunities for working within tight spaces while increasing the ability to maneuver safely and productively with its boom that has a swing radius of 130 degrees.

Low Noise Cab Design

Four silicon-filled isolation mounts "float the entire cab above the noise and vibration of an already quiet machine", greatly reducing operator fatigue. Large entry door and access width makes entering and exiting the cab a breeze.

Best Seat at the Site

The KAB 515 seat adjusts to your size for comfort. The semi-bucket seat provides firm support and comfort with armrests, adjustable seat suspension, adjustable lumbar support, and durable urethane cushions. The seat slides independently of the control consoles to assure optimal joystick positions at all times. The entire platform can then be moved forward or backward for best foot pedal positioning.

Exceptional Visibility

This cab provides great visibility. Even the sunroof is large. Safety glass windows encompass the entire cab.

Easy access cup holder, ashtray and adjustable vents

Control Panel

Machine function switches are concentrated in a panel in clear view and easy reach of the operator.

A/C and Heat

Link-Belt excavators provide exceptional heating/cooling capabilities, for optimum operator comfort. Air conditioning is standard.

AM/FM Stereo Radio

Standard equipment.

Standard Accessories

Convenient vents to direct air at face, as well as easy to reach cup holder and ash tray. Spin Ace® excavators also come with cigarette lighter, and 12 volt accessory jack for your phone, two-way radio, etc.

One-Touch Decelerator

You can choose to use the one-touch idling switch, located at the top of the right controller so that you are always in control of fuel consumption. This function returns the excavator to and from idle.

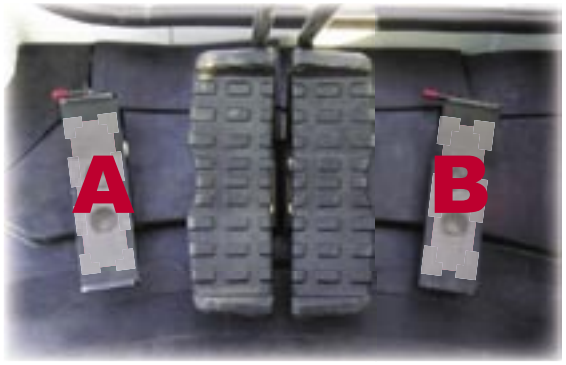
Pedal Configuration

The Link-Belt model 80 Swing Boom pedal configuration.

A. Swing Pedal

B. Single or double acting pedal
(if equipped)

Foot Rest
(if not equipped with hydraulics)



Engine

Isuzu Engines

Known for their long-life and dependability, Isuzu engines are also extremely quiet and reliable with advanced technologies for maximum power and fuel efficiency. This engine, and all Link-Belt Spin Ace engines, meet EPA requirements for Tier II compliance.

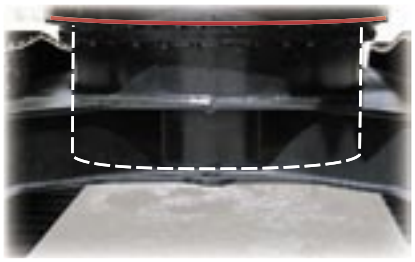
Engine Product Support

Isuzu North America offers 24-hour access to their full line of engine parts through 2 regional distribution centers, 27 Master Distributors and 690 Authorized Service Dealers.

Undercarriage

Long Undercarriage

The 80 Spin Ace® has a long undercarriage with heavy duty excavator style components to improve both stability and ground bearing pressure. The modified X style carbody is integrally welded for maximum strength and durability. High torque compact final drives keep you going up steep grades and through deep mud.



Bearing Tub

Built into the "X" style carbody is the turntable bearing "tub" which extends down through the top plate and is welded to the bottom of the carbody as well as the top for increased strength and durability.

Blade Attachment

A blade attachment is standard equipment on the 80 Swing Boom, for back-filling to eliminate having additional equipment on site.

Track Rollers

Filled with synthetic oil to reduce heat build up when traveling long distances, and for long term reliability.

Track Adjustment

Adjustments are made easy with standard grease cylinder track adjusters and shock absorbing idler springs.

Side Frames

Incorporate a peaked saddle shape and large cut-out under the carrier roller for reduced dirt build-up.

Optional Rubber Tracks

Rubber tracks are optional with Link-Belt 75, 80 and 135 MSR models. The latest in technology, these pads bolt right to the standard rail, offering easy replacement for a damaged shoe.

Rubber tracks may be used on any terrain and are especially advantageous on paved surfaces such as curbing and driveways.

Features

Control Pattern Selector Valve (CPSV)

Standard equipment control pattern selector valve makes it easy to quickly switch from SAE control pattern to tractor loader backhoe (TLB) pattern. Easy access under cab floor mat.

Swing Boom

Whether you're trying to dig around a corner, improve visibility to the trench, or simply performing in tight work conditions, the swing boom provides versatility.

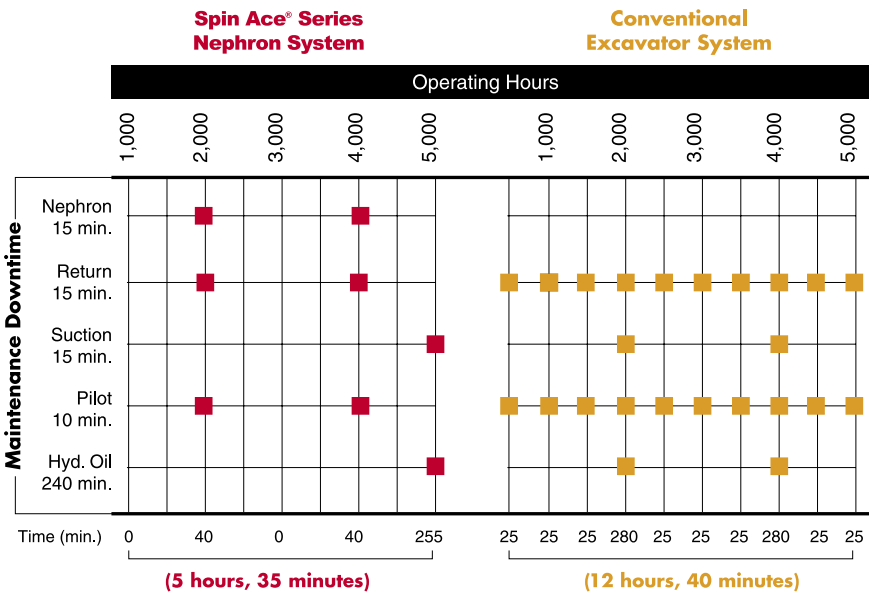
Reliability/Serviceability

Nephron® Filtration Extends the Service Life of the Hydraulic System

The Nephron® Filtration System eliminates contaminants of 1 micron or more in size. This significantly reduces hydraulic system breakdown and maintenance costs under normal usage. Less wear and tear on the hydraulic components means more years of reliable performance.

Nephron® Filter Advantages

1. Problems associated with hydraulic system contamination are substantially reduced. Machine down time and costs for repairing are saved as a consequence.
2. The interval of hydraulic oil replacement is extended to every 5000 hours.
3. The wear of hydraulic components is reduced, which lengthens the service life of the machine.



This chart shows the Spin Ace® machine with the Nephron® filter vs. most other excavators. As you can see hydraulic fluid changes are reduced from every 2,000 hours to every 5,000 hours. Also, 22 filter changes on a typical excavator is reduced to 7 filter changes. All of this results in lower labor, downtime, and maintenance costs.

Improved Pin and Bushing Life

Chrome plated boom foot and boom to arm pins mounted in brass bushings make a durable and long lasting connection at the two highest stress points on the attachment. This also makes it possible to extend the lubrication interval on this type of pin to once every 6 months or 1,000 hours of operation, whichever comes first.

A. The surface of the bushing is stratified with a solid lubricant in hard brass to protect the parts from abrasion.

B. The pin's surface is plate-processed to increase hardness and protect from abrasion

C. The original dust seal is double-structured to keep out dust and dirt and protect from subsequent abrasion.

Sealed Automotive Style Wiring Harness

These harnesses are sealed to eliminate dirt and moisture that can cause a circuit to short out. Wiring is also color and number coded to make trouble shooting faster and easier.

Hydraulic Fittings

"O" ring face seals are used as hydraulic connectors to assure tighter seals.

Air Conditioner Air Intake Filter

This filter lets in fresh clean air and is mounted on the outside of the cab, enabling easy cleaning and replacement.

Servicing a Link-Belt Spin Ace® is easy due to a number of properly placed access panels

Specifications

Engine

Isuzu CC-4JG1 water cooled, 4-cycle diesel, 4 cylinder in-line, direct injection, 187 CID (3 059 cc), 3.76" (95 mm) bore x 4.21" (107 mm) stroke.

SAE net horsepower.....52 HP (39.1 kW) @ 2,100 rpm
Maximum torque .....136 ft-lbs. (184 N-m) @ 1,800 rpm
Starter..... 12V
Alternator.....50 amp
Battery Cold Cranking .....715 amp
Air cleaner .....Double element
Governor ..... Mechanical
Fuel Usage*
- Heavy - ..... 1.8 gph (6.81 l/hr)
- Average - ..... 1.5 gph (5.67 l/hr)
- Light - ..... 1.2 gph (4.54 l/hr)

*Fuel economy varies widely depending upon application.

The "Heavy" category represents nearly continuous operation in tough digging applications. The "Light" category represents applications that utilize the machine about 40% of the time, in easier digging.

Hydraulic System

Two variable displacement axial piston pumps for working hydraulics; one gear pump for pilot controls; one gear pump for blade.

Hydraulic Pumps
Two variable volume piston pumps provide power for attachment, swing and travel.

Maximum flow..... 2 x 18.9 gpm (2 x 71.4 l/min)
Pilot pump max. flow ..... 5.9 gpm (22.5 l/min)
Blade pump max. flow..... 6.7 gpm (25.4 l/min)

Relief Valve Settings
Boom/arm/bucket/boom swing.....4,260 psi (300 kg/cm^2)
Swing circuit.....3,280 psi (230 kg/cm^2)
Travel circuit .....4,260 psi (300 kg/cm^2)
Blade circuit.....3,280 psi (230 kg/cm^2)

Hydraulic Cylinders – number of cylinders – bore x rod x stroke.
Boom ..... 1– 4.3" x 2.8" x 35.9" (110 mm x 70 mm x 911 mm)
Arm ..... 1 – 3.7" x 2.4" x 31.4" (95 mm x 60 mm x 797 mm)
Boom Swing ..... 1 – 3.7" x 2.2" x 25.2" (95 mm x 55 mm x 640 mm)
Bucket ..... 1 – 3.3" x 2.2" x 26.2" (85 mm x 55 mm x 665 mm)
Blade ..... 1 – 3.9" x 2.4" x 7.1" (100 mm x 60 mm x 180 mm)

Control Valve One 4-spool valve for right track travel, boom, bucket, and arm acceleration, and one 5-spool valve for left track travel, swing, boom acceleration, auxiliary and arm. One two spool valve used for blade and boom swing function.

Oil Filtration
Nephron® filter ..... 1 micron
Return filter..... 10 micron
Pilot filter ..... 10 micron
Suction screen..... 105 micron

Cab and Controls

Cab mounted on 4 fluid-filled mountings. Features include safety glass windows, sliding front window with auto-lock, sun visor, windshield washer and wiper, heater, air-conditioner, AM/FM radio with auto tuner, floor mat, cup holder, skylight window and right and rear side mirrors, KAB 515 operators seat with manual weight adjustment, seat height and tilt adjustment, adjustable headrest, backrest angle adjustment, adjustable pivoting arm rests and seat belt. Reliable soft-touch switches.

Heater output..... 12,900 BTU/hr (3 250 kcal/hr)
A/C output..... 13,490 BTU/hr (3 400 kcal/hr)
Noise level (inside cab)..... 76 dB(A)
Noise level (exterior)..... 97 dB(A)

Swing

Fixed displacement axial piston motor with planetary final drive. Internal ring gear with grease cavity for swing pinion. Swing bearing is single-row shear type ball bearing. Swing cushion valve and dual stage relief valves for smooth swing deceleration and stops. Mechanical disc swing brake.

Swing speed..... 0 – 10 rpm
Tail swing .....5' 4" (1.63 m)
Swing torque .....12,520 ft-lbs. (17.0 kNm)

Undercarriage

X-style carbody is integrally welded for strength and durability. Grease cylinder track adjusters with shock absorbing springs. Undercarriage equipped with sealed track, lubricated rollers and idlers. Three-bar grouser track shoes.

Carrier rollers ..... 1 per side
Track rollers ..... 5 per side
Track link pitch .....6" (154 mm)
Shoes.....39 per side
Shoe width .....17.7" (450 mm)
Ground Pressure .....5.37 psi (.38 kg/cm^2)

Travel System

2 speed variable displacement axial piston motors and planetary final drives. Mechanical disc brake. All hydraulic components mounted within the width of side frame.

Max. travel speed ..... 2.1/3.0 mph (3.4/4.9 km/h)
Traction Force ..... 13,040 lbs. (58 kN)
Gradeability.....70%

Capacities

Hydraulic tank ..... 13 gal. (50 liters)
Hydraulic system..... 25 gal. (95 liters)
Final drive (per side)..... 0.3 gal. (1.3 liters)
Engine ..... 2.5 gal. (9.6 liters)
Fuel tank ..... 26 gal. (100 liters)
Cooling system..... 2.5 gal. (9.6 liters)

Attachment

Boom ..... 11' 6" (3.50 m)

Arm digging force*
- 5' 7" (1.71 m).....8,610 lbs. (3 905 kg)
- 6' 11" (2.12 m).....7,640 lbs. (3 465 kg)

Check Lift Charts for Blade on Ground

Bucket Digging Force* .....12,790 lbs. (5 800 kg)

**Digging forces will change with the addition of longer arms, thumbs, couplers and larger buckets.*

Blade Attachment

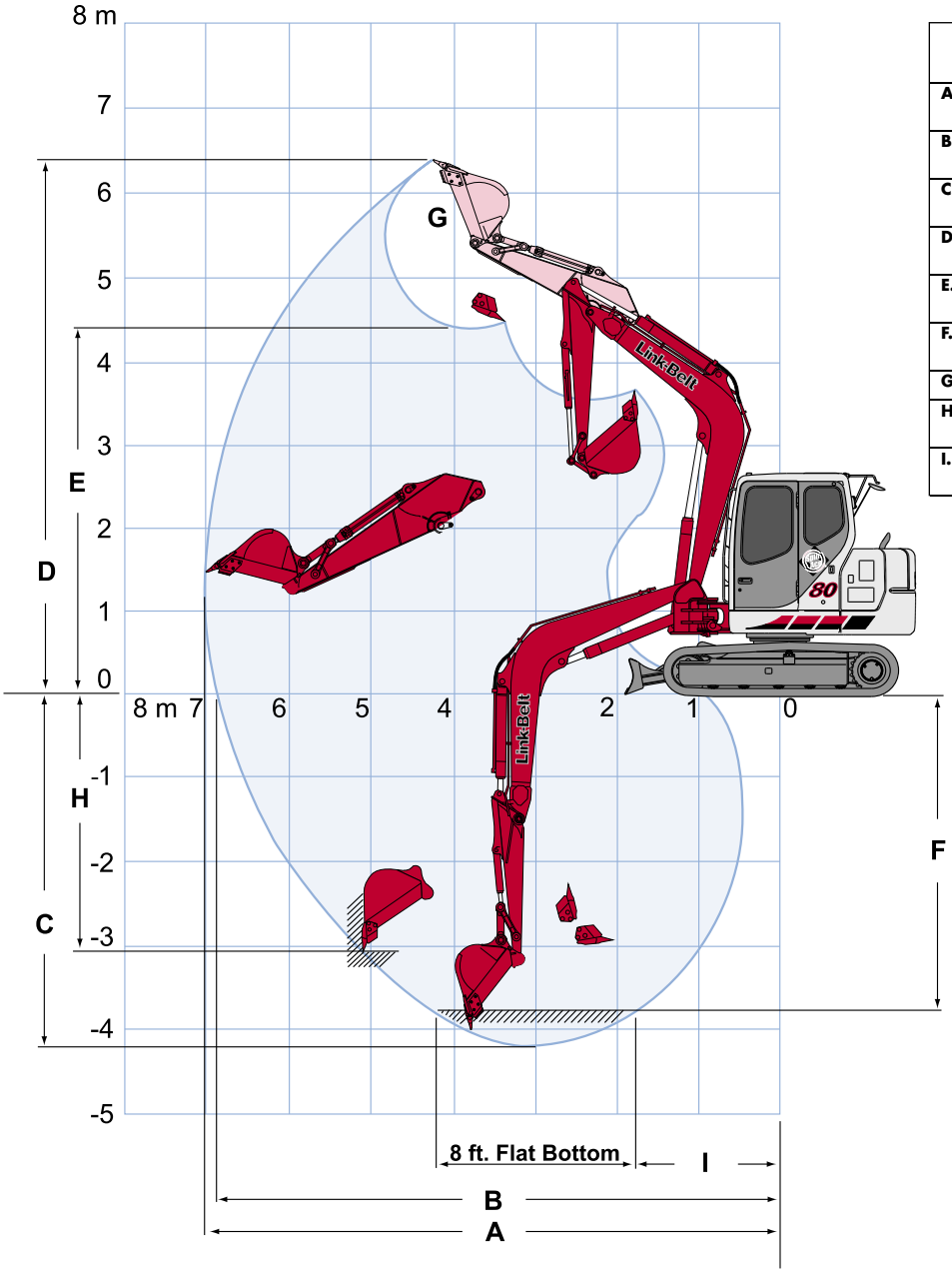
Width .....7' 7" (2320 mm)
Height .....17.7" (450 mm)
Max. lift above ground .....16.3" (415 mm)
Dig depth below ground .....8" (205 mm)

Operating Weight

Standard Excavator - Working weight with 17.7" (450 mm) shoes, 11' 6" (3.50 m) boom, 5' 7" (1.71 m) arm, 460 lb. (210 kg) bucket and 2,690 lb. (1 220 kg) counterweight.....18,400 lbs. (8 350 kg)

Specifications (continued)

Working Ranges



Machine equipped with 11' 6" (3.50 m) boom.	5' 7" Arm (1.71 m)	6' 11" Arm (2.12 m)
A. Max. digging radius	23' 1" (7.03 m)	24' 3" (7.40 m)
B. Max. digging radius @ ground level	22' 7" (6.89 m)	23' 10" (7.27 m)
C. Max. digging depth	13' 9" (4.18 m)	15' 1" (4.59 m)
D. Max. digging height	21' 0" (6.39 m)	21' 8" (6.60 m)
E. Max. dumping height	14' 5" (4.39 m)	15' 1" (4.60 m)
F. Digging depth – 8' (2.44 m) level bottom	12' 5" (3.78 m)	13' 11" (4.23 m)
G. Bucket wrist angle	177°	177°
H. Max. vertical wall depth	10' 1" (3.08 m)	11' 8" (3.55 m)
I. Digging Radius to 8' Level clean-up	5' 9" (1.76 m)	5' 7" (1.72 m)

Bucket Sizes

80 Spin® Ace Swing Boom

Bucket Type	Capacity	Width Outside Lip	Weight	# Teeth	Arm Length 5' 7" (1.71 m)	Arm Length 6' 11" (2.12 m)
ESCO STDP	.24 yd³ (.18 m³)	18" (457 mm)	403 lb. (183 kg)	3	H	H
	.35 yd³ (.27 m³)	24" (610 mm)	473 lb. (215 kg)	4	H	H
	.45 yd³ (.34 m³)	30" (762 mm)	542 lb. (246 kg)	5	H	M
ESCO DITCH	.60 yd³ (.46 m³)	42" (1 067 mm)	596 lb. (270 kg)	0	L	L

Approval Code For Arm/Bucket Combinations:

H .....Heavy material (up to 3,370 lbs./yd³)

M.....Medium material (up to 2,700 lbs./yd³)

L ..... Light material (up to 2,020 lbs./yd³)

Lifting Capacities 80 Spin® Ace Swing Boom

5' 7" (1.71 m) Arm

11' 6" (3.50 m) Boom

and 460 lb. (208 kg) Bucket **(Blade off Ground)**

Bucket Hook Height		Radius of Load							
		5' 0" (1.52 m)		10' 0" (3.05 m)		15' 0" (4.57 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side	End	Side
+15' 0" (4.57 m)	**lbs.** kg					**3,050*** 1 383*	**3,050*** 1 383*	**3,200*** 1 451	**3,200*** 1 451
+10' 0" (3.05 m)	**lbs.** kg					**3,650*** 1 655*	**3,650** 1 655	**2,800** 1 270	**2,500** 1 133
+5' 0" (1.52 m)	**lbs.** kg			**7,050** **3 197**	**6,150** 2 789	**3,800** 1 723	**3,400** 1 542	**2,450** 1 111	**2,200** 997
Ground Line	**lbs.** kg			**6,600** 2 993	**5,750** 2 608	**3,550** 1 610	**3,200** 1 451	**2,500** 1 133	**2,250** 1 020
-5' 0" (1.52 m)	**lbs.** kg	**8,200*** 3 719*	**8,200*** 3 719*	**6,600** 2 993	**5,750** 2 608	**3,500** 1 587	**3,150** 1 428	**3,000** 1 360	**2,700** 1 224
-10' 0" (3.05 m)	**lbs.** kg			**6,850** **3 107**	**6,000** 2 721			**5,700** 2 585	**5,000** 2 267

5' 7" (1.71 m) Arm

11' 6" (3.50 m) Boom

and 460 lb. (208 kg) Bucket **(Blade on Ground)**

Bucket Hook Height		Radius of Load					
		10' 0" (3.05 m)		15' 0" (4.57 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side
+15' 0" (4.57 m)	**lbs.** kg			**3,050*** 1 383*	**3,050*** 1 383*	**3,200*** 1 451*	**3,200*** 1 451*
+10' 0" (3.05 m)	**lbs.** kg			**3,650*** 1 655*	**3,650** 1 655	**3,650*** 1 655*	**2,500** 1 133
+5' 0" (1.52 m)	**lbs.** kg	**9,500*** 4 309	**6,150** 2 789	**5,150*** 2 336*	**3,400** 1 542	**4,150*** 1 882*	**2,200** 997
Ground Line	**lbs.** kg	**9,400*** 4 263*	**5,750** 2 608	**6,450*** 2 925*	**3,200** 1 451	**4,800*** 2 177*	**2,250** 1 020
-5' 0" (1.52 m)	**lbs.** kg	**11,800*** 5 352*	**5,750** 2 608	**6,700*** 3 039*	**3,150** 1 428	**5,750*** 2 608*	**2,700** 1 224
-10' 0" (3.05 m)	**lbs.** kg	**9,050*** 4 105*	**6,000** 2 721			**7,800*** 3 538*	**5,000** 2 267

6' 11" (2.12 m) Arm

11' 6" (3.50 m) Boom

and 460 lb. (208 kg) Bucket **(Blade off Ground)**

Bucket Hook Height		Radius of Load									
		5' 0" (1.52 m)		10' 0" (3.05 m)		15' 0" (4.57 m)		20' 0" (6.10 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side	End	Side	End	Side
+15' 0" (4.57 m)	**lbs.** kg									**2,850*** 1 292*	**2,850*** 1 292*
+10' 0" (3.05 m)	**lbs.** kg					**3,050*** 1 383*	**3,050*** 1 383*	**2,500** 1 133	**2,250** 1 020	**2,500** 1 133	**2,250** 1 020
+5' 0" (1.52 m)	**lbs.** kg			**7,200** 3 265	**6,300** 2 857	**3,800** 1 723	**3,400** 1 542	**2,400** 1 088	**2,150** 975	**2,200** 997	**2,000** 907
Ground Line	**lbs.** kg			**6,600** 2 993	**5,750** 2 608	**3,550** 1 610	**3,150** 1 428	**2,300** 1 043	**2,050** 929	**2,250** 1 020	**2,000** 907
-5' 0" (1.52 m)	**lbs.** kg	**6,750*** 3 061*	**6,750*** 3 061*	**6,500** 2 948	**5,650** 2 562	**3,450** 1 564	**3,050** 1 383			**2,600** 1 179	**2,300** 1 043
-10' 0" (3.05 m)	**lbs.** kg	**11,250*** 5 102*	**11,250*** 5 102*	**6,700** 3 039	**5,800** 2 630					**4,100** 1 859	**3,600** 1 632

6' 11" (2.12 m) Arm

11' 6" (3.50 m) Boom

and 460 lb. (208 kg) Bucket **(Blade on Ground)**

Bucket Hook Height		Radius of Load							
		10' 0" (3.05 m)		15' 0" (4.57 m)		20' 0" (6.10 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side	End	Side
+15' 0" (4.57 m)	**lbs.** kg							**2,850*** 1 292*	**2,850*** 1 292*
+10' 0" (3.05 m)	**lbs.** kg			**3,050*** 1 383*	**3,050*** 1 383*	**3,300*** 1 496*	**2,250** 1 020	**3,300*** 1 496*	**2,250** 1 020
+5' 0" (1.52 m)	**lbs.** kg	**7,900*** 3 583*	**6,300** 2 857	**4,600*** 2 086*	**3,400** 1 542	**3,800*** 1 723*	**2,150** 975	**3,700*** 1 678*	**2,000** 907
Ground Line	**lbs.** kg	**9,700*** 4 399*	**5,750** 2 608	**6,100*** 2 766*	**3,150** 1 428	**4,400*** 1 995*	**2,050** 929	**4,300*** 1 950*	**2,000** 907
-5' 0" (1.52 m)	**lbs.** kg	**12,050*** 5 465*	**5,650** 2 562	**6,700*** 3 039*	**3,050** 1 383			**5,100*** 2 313*	**2,300** 1 043
-10' 0" (3.05 m)	**lbs.** kg	**10,200*** 4 626*	**5,800** 2 630					**6,600*** 2 993*	**3,600** 1 632

Notes: Excavator lifting capacities

1. Lifting capacities shown should not be exceeded. Weight of all lifting accessories must be deducted from the above lifting capacities.
2. Lifting capacities are based on machine standing on firm, uniform supporting surface. User must make allowances for job conditions such as soft or uneven ground.
3. Lifting capacities shown do not exceed 75% of minimum tipping loads or 87% of hydraulic capacities. Capacities marked with an asterisk (*) are limited by hydraulic capacities.
4. Least stable position is over the side.
5. Operator should be fully acquainted with the Operator's Manual & Operating Safety Booklet, furnished by LBX before operating the machine.
6. Capacities apply only to the machine as originally manufactured and normally equipped by LBX Company, LLC.
7. Lift capacity ratings are based on SAE J/ISO 10567, "Earthmoving Machinery – Hydraulic Excavators – Lift Capacity".

Specifications

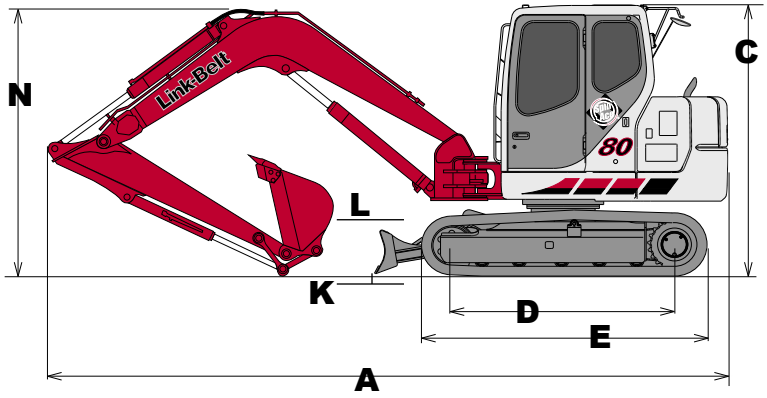
Travel Dimensions

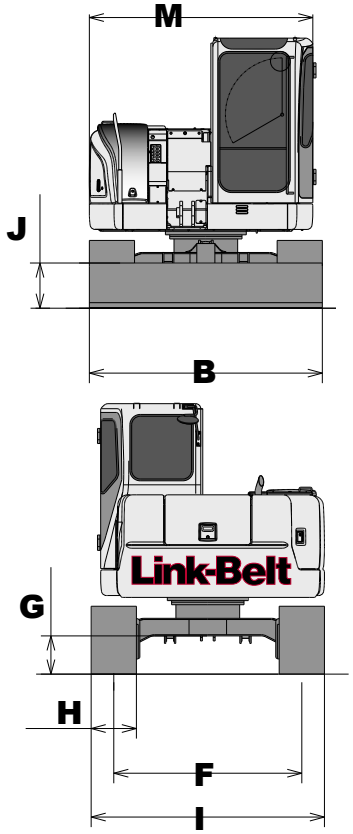
Dimensions - w/5' 7" (1.71 m) arm

A.	Overall Length	21' 9" (6.63 m)
B.	Overall Width	7' 7" (2.32 m)
C.	Overall Height	8' 10" (2.70 m)
D.	Distance Between Tumblers	7' 3" (2.21 m)
E.	Overall Length of Crawler	9' 4" (2.85 m)
F.	Track Gauge	6' 2" (1.87 m)
G.	Min. Ground Clearance	1' 2" (.36 m)
H.	Shoe Width	17.7" (450 mm)
I.	Overall Crawler Width (w/standard shoes)	7' 7" (2.32 m)
J.	Blade Height	17.7" (450 mm)
K.	Blade Dig Depth	8" (205 mm)
L.	Blade Raise Height	16.3" (415 mm)
M.	Overall Width of Upper	7' 4" (2.23 m)
N.	Boom Transport Height	7' 8" (2.33 m)
	Swing Radius	Right - 50°, Left - 80°

Dimensions - w/6' 11" (2.12 m) arm

A.	Overall Length	22' 0" (6.72 m)
B.	Overall Width	7' 7" (2.32 m)
C.	Overall Height	8' 10" (2.70 m)
N.	Boom Transport Height	8' 8" (2.65 m)





Standard Equipment

- Control pattern selector valve
- One-touch decelerator
- Integral cylinder cushioning
- Cushioned attachment
- Swing anti-reverse valve
- Swing cushion valve
- Boom holding valve
- Auxiliary valve spool
- Spark arrest muffler
- Travel alarm
- Nephron® filtration system
- Low noise/low vibration cab floating on 4 fluid filled mounts
- Sliding/reclining, suspension cloth upholstered seat with adjustable arm rests and lumbar support, seat belt
- Analog gauge package
- Heater and air conditioner
- Rear view mirrors
- Two work lights, cab and boom
- Horn, interior lighting, AM/FM Stereo radio, clock, floor mat, cigarette lighter
- 12 volt accessory outlet for cell phones/ audio extras
- Safety glass windows with windshield wiper and washer
- Gate lock lever (hydraulic lockout device)
- Vandalism locks
- Common key for cab & house doors and engine hood
- Upper and lower undercovers
- Chrome plated boom foot pin with brass bushing
- Chrome plated boom to arm connection pin with brass bushing
- 17.7" (450 mm) 3-bar grouser shoes
- 2,690 lb. (1 220 kg) Counterweight

Options

- Arms
  - 5' 7" (1.71 m)
  - 6' 11" (2.12 m)
- 23.6" (600 mm) 3-bar grouser shoes
- 17.7" (450 mm) rubber track (individual shoes bolting to standard rail)
- Auxiliary hydraulics
  - Single acting
  - Multi-function
  - Thumb
- Hose burst check valves
- Couplers (field install)
  - Esco multi-pin grabber
  - Hendrix hydraulic coupler
- Thumbs (field install)
  - Esco universal rigid
  - Esco hydraulic non-link
  - Esco hydraulic non-link (for coupler)
  - Esco hydraulic link

LBX Company LLC
Lexington, Kentucky www.lbxco.com

Litho in USA 5/05 #LBX2100 (supersedes #LBX2095)