

TECH  
SPEC

# IC-80



### AT A GLANCE

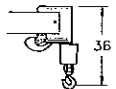
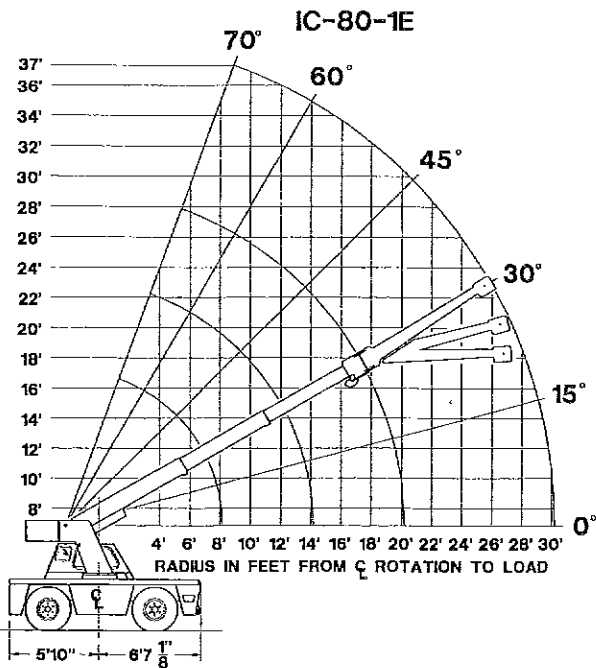
- Rated Capacity - 17,000 pounds
- Vertical Reach to 37'5"
- Horizontal Reach to 30'
- Continuous Rotation
- 10'6" Turning Radius with  
• Optional Four Wheel Steer
- Carry Deck
- Hydraulic Outriggers

**bmc BRODERSON**  
Manufacturing Corp.

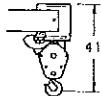
P.O. Box 14770, Lenexa, KS 66285-4770  
(913) 888-0606 • FAX (913) 541-0690

• FAX (913) 888-8431 (Sales)

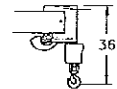
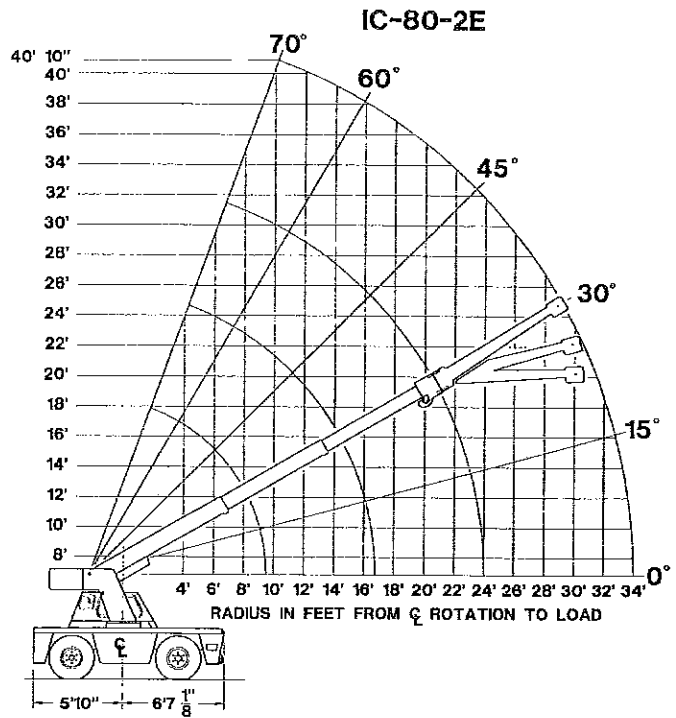
# IC-80



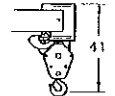
USE SINGLE PART  
LOAD LINE FOR  
LOADS TO 9000  
LBS.  
(WT. 90LBS.)



USE TWO PART  
LOADLINE FOR  
LOADS TO 17000  
LBS.  
(WT. 124LBS.)



USE SINGLE PART  
LOAD LINE FOR  
LOADS TO 9000  
LBS.  
(WT. 90LBS.)



USE TWO PART  
LOADLINE FOR  
LOADS TO 17000  
LBS.  
(WT. 124LBS.)

IC-80-1E

IC-80-2E

**CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE**

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LOAD RADIUS FEET	MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS			
	360° ROTATION		OVER FRONT	
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
5	9600	17000	11700	17000
6	7900	14500	10400	14500
8	5750	10250	8400	10250
10	4150	7700	6300	7700
12	3100	6550	4650	6550
14	2425	5550	3650	5550
16	1975	4650	3000	4650
18	1625	3950	2500	4150
20	1400	3550	2150	3800
22	1275	3000	1900	3000
24	1075	2750	1650	2800
26	925	2450	1425	2600
28	775	2150	1250	2400
30	675	1950	1100	2250
10' BOOM EXT. ANGLE	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET			
	MAIN BOOM ANGLE			
	0°	30°	45°	60°
	15°	2400	2700	3500
	30°	2250	2500	3000

LOAD RADIUS FEET	MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS			
	360° ROTATION		OVER FRONT	
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
5	9500	17000	11600	17000
6	7800	14500	10200	14500
8	5500	10250	8250	10250
10	3900	7700	6200	7700
12	2900	6550	4550	6550
14	2300	5550	3550	5550
16	1850	4550	2850	4550
18	1550	3950	2400	4050
20	1300	3250	2050	3650
22	1100	2875	1750	3300
24	925	2475	1550	3100
26	850	2250	1350	2750
28	700	2000	1175	2500
30	600	1775	1025	2300
32	500	1625	900	2100
34	425	1400	800	1950
10' BOOM EXT. ANGLE	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET			
	MAIN BOOM ANGLE			
	0°	30°	45°	60°
	15°	2400	2700	3500
	30°	2250	2500	3000

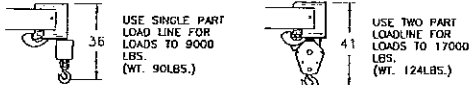
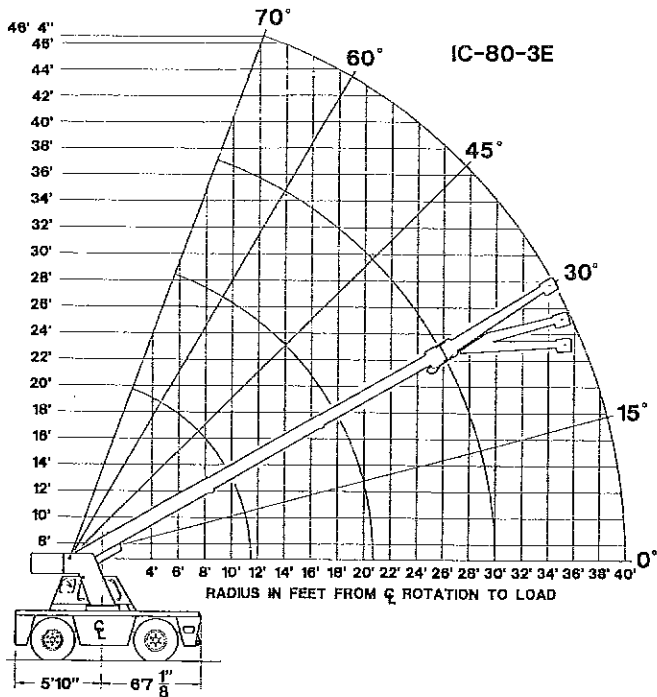
\* USE 0° FOR STRAIGHT BOOM EXTENSION  
† USE 0°, 15° OR 30° FOR OFFSET BOOM EXTENSION  
BOOM EXT. LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

Capacities on outriggers are 85% of tipping loads. Capacities on rubber are 75% of tipping loads. Capacities below BOLD line are limited by tipping. Other capacities are limited by structural or hydraulic capabilities. Deduct 120 pounds with Boom Extension in stowed position.

\* USE 0° FOR STRAIGHT BOOM EXTENSION  
† USE 0°, 15° OR 30° FOR OFFSET BOOM EXTENSION  
BOOM EXT. LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

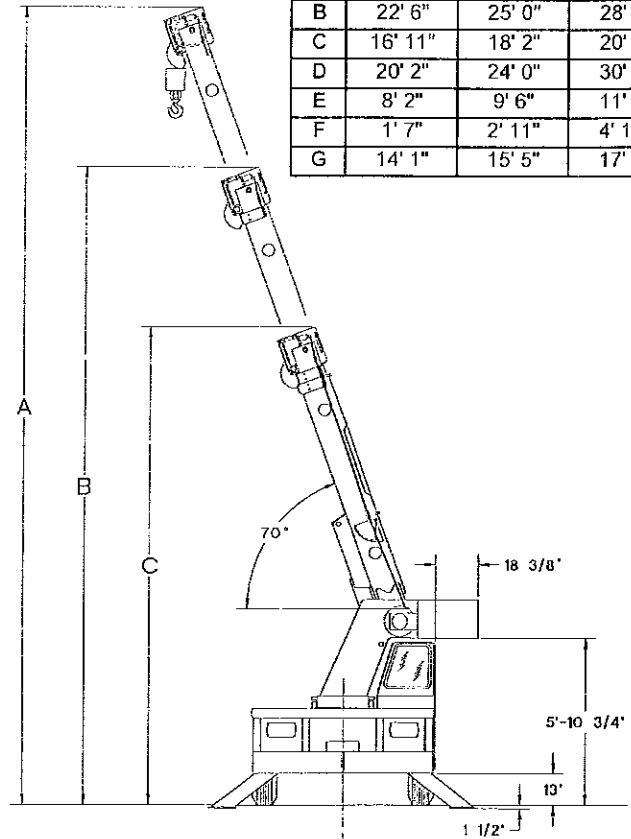
Capacities on outriggers are 85% of tipping loads. Capacities on rubber are 75% of tipping loads. Capacities below BOLD line are limited by tipping. Other capacities are limited by structural or hydraulic capabilities. Deduct 120 pounds with Boom Extension in stowed position.

# IC-80



IC-80-3E

	IC-80-1E	IC-80-2E	IC-80-3E
A	28' 2"	31' 9"	37' 5"
B	22' 6"	25' 0"	28' 9"
C	16' 11"	18' 2"	20' 0"
D	20' 2"	24' 0"	30' 0"
E	8' 2"	9' 6"	11' 6"
F	1' 7"	2' 11"	4' 11"
G	14' 1"	15' 5"	17' 5"

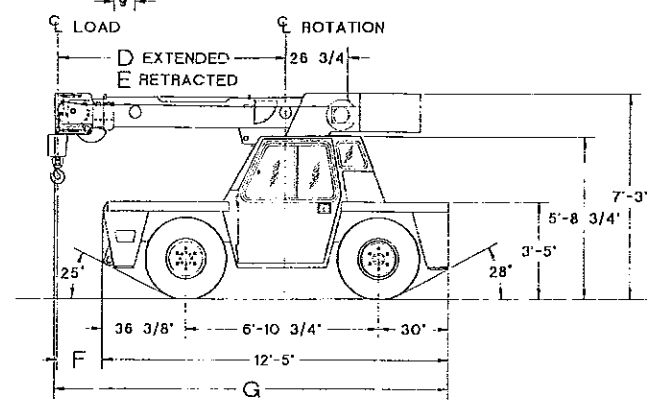
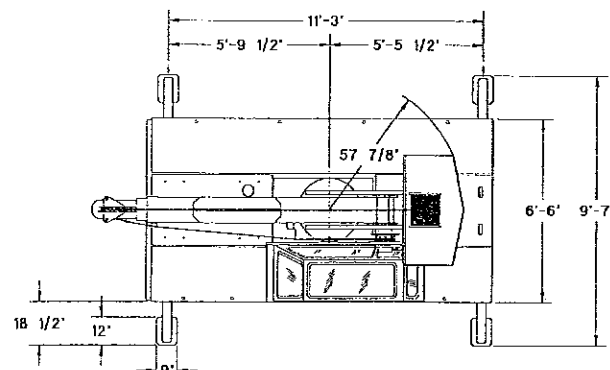


**CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE**

LOAD RADIUS FEET	MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS					
	360° ROTATION		OVER FRONT			
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS		
5	9400	17000	11400	17000		
6	7550	14000	10000	14000		
8	5250	10000	8100	10000		
10	3600	7700	6100	7700		
12	2650	6100	4450	6100		
14	2050	5200	3400	5200		
16	1600	4400	2700	4400		
18	1250	3650	2200	3900		
20	1050	3050	1800	3400		
22	850	2650	1550	3050		
24	750	2300	1350	2800		
26	650	2050	1150	2550		
28	550	1850	1000	2350		
30	450	1650	900	2150		
32	350	1550	750	1950		
34	250	1400	650	1800		
36	200	1250	550	1650		
38	150	1100	450	1500		
40	100	1000	400	1400		
10 FOOT BOOM EXTENSION	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET					
	MAIN BOOM ANGLE					
	ANGLE	0°	30°	45°	60°	70°
	*1 0'	2250	2600	3200	5000	7000
	†115'	---	2400	2700	3500	4200
†130'	---	2250	2500	3000	3300	

\* USE 0° FOR STRAIGHT BOOM EXTENSION  
 † USE 0°, 15° OR 30° FOR OFFSET BOOM EXTENSION  
 BOOM EXT. LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

Capacities on outriggers are 85% of tipping loads. Capacities on rubber are 75% of tipping loads. Capacities below BOLD line are limited by tipping. Other capacities are limited by structural or hydraulic capabilities. Deduct 120 pounds with Boom Extension in stowed position.





**GENERAL:**

	<u>Standard</u>	<u>Optional</u>	
<b>Weight:</b>	<u>Drive Axle</u>	<u>Drive Steer Axle</u>	
IC-80-1E	14,600 lbs.	14,800 lbs.	
IC-80-2E	14,800 lbs.	15,000 lbs.	
IC-80-3E	15,100 lbs.	15,300 lbs.	
<b>Gradeability:</b>	71%	71%	
<b>Turning Radius:</b> (C/L of Outside Steering Wheel)	15' 0"	10' 6"	
<b>Aisle Width for 90° Turn:</b>	11' 0"	9' 9"	
<b>Boom Movement:</b>	<u>IC-80-1E</u>	<u>IC-80-2E</u>	<u>IC-80-3E</u>
Rotation	Continuous	Continuous	Continuous
Elevation	0° to 70°	0° to 70°	0° to 70°
Extension	12'	14' 6"	18' 6"
<b>Boom Speeds:</b>			
Rotation	1.7 RPM	1.7 RPM	1.7 RPM
Elevation	10.0 sec.	10.0 sec.	10.0 sec.
Extension	28.0 sec.	34.0 sec.	43.0 sec.

**ENGINE:**

	<u>Standard</u>	<u>Optional</u>	<u>Optional</u>	<u>Optional</u>
<b>Make</b>	Continental	Cummins	Perkins	John Deere
<b>Model</b>	TM27	4B3.9	D4.236	4.239
<b>Type</b>	Gas	Diesel	Diesel	Diesel
<b>No. Cyl.</b>	4	4	4	4
<b>Displacement</b>	165 CID	239 CID	236 CID	239 CID
<b>HP @ Gov.</b>				
Speed	64	80	80	76

**Fuel Tank Capacity:** 20 Gallons

**TRANSMISSION:**

**Make:** Borg Warner  
**Model:** 72T/T18  
**Type:** Reversing gearbox and manual shift 4-speed gearbox. Equipped with torque convertor and transmission oil cooler. Torque convertor has stall ratio of 2.15:1.

<b>Gear Ratio:</b>	<u>Forward</u>	<u>Reverse</u>
First	6.324:1	6.956:1
Second	3.092:1	3.401:1
Third	1.686:1	1.855:1
Fourth	1.000:1	1.000:1

**AXLES:**

<b>Drive Axle:</b>	<u>Standard</u>	<u>Optional</u>
<b>Make</b>	Hurth	Hurth
<b>Model</b>	172	272A
<b>Gear Ratio</b>	11.98:1	11.98:1
<b>Location</b>	Front	Front
<b>Gear</b>	<u>Travel Speed</u>	<u>Drawbar Pull*</u>
First	3 MPH	11,900**
Second	7 MPH	5,820**
Third	12 MPH	3,170
Fourth	21 MPH	1,880

\*Drawbar pull is calculated, based on Continental TM27 engine  
 \*\*Wheels will spin before these values are reached.

**Steering Axle: (Non-Driving)**

<b>Make</b>	Rockwell
<b>Model</b>	FF-931
<b>Location</b>	Rear

**STEERING:**

**Standard:**  
 Full hydraulic orbitrol unit with two double-acting hydraulic cylinders attached to rear axle.

**Optional:**  
 Full hydraulic orbitrol unit with two double-acting hydraulic cylinders attached to both front and rear axles. Steering modes include: Rear wheel steer & round steer.

**BRAKES:**

**Service:**

Front	Internal wet disc brakes
Rear	Drum type brakes

**Parking:** Band type mounted on transmission

**TIRES:**

**Standard:** 10.00 x 15, 14-Ply, Highway Tread  
**Optional:** Grizzly Supersoft XS250 x 15 Solid Rubber  
**Optional:** Foam filling of the above pneumatic tires

**CHASSIS:**

**CARGO DECK:**  
 62 square feet of deck area\*. 14,000 lbs. capacity on deck when load is centered over or between axles\*\*. A storage box is located in front carry deck. Steps located on front corners.  
 \*52 square feet with Cummins or John Deere engine  
 \*\*14,000 pounds allowed at creep speed of 200 feet in 30 minutes

**OUTRIGGERS:**

Four hydraulic outriggers of box beam construction with direct-connected holding valves. Independent controls for left and right-hand outriggers. Outrigger pad dimension 9" x 12".

**ACCESSORY STORAGE BOX:**

Storage box is 14" deep x 10-1/2" long x 27" wide, located in front carry deck.

**ELECTRICAL:**

**12 Volt System**  
**Lighting Package:**  
 One pair headlights with Hi and Low beams, back-up lights, integral tail, brake and turn signals and front turn signals.

**Instrument Package:**  
 Fuel, ammeter, oil pressure, water temperature, convertor oil temperature gauges and hourmeter.

**Back-Up Alarm:**  
 Provides pulsating sound when transmission is in reverse.

**HYDRAULIC SYSTEM:**

Tandem pump, direct-driven by engine crankshaft, rated at 16 and 32.5 GPM at rated RPM. Hydraulic oil tank capacity of 16 gallons.

**BOOM ASSEMBLY:**

Three-section boom assembly equipped with bearing pads, double acting hydraulic cylinders with direct-connected holding valves and boom angle indicator on each side of boom.

**Boom Rotation:**  
 Heavy-duty ball bearing rotation gear with external teeth. Rotation is powered by hydraulic motor and worm gear drive.

**Boom Hoist:**  
 Turret mounted planetary gear hoist hydraulically powered with a bare drum line pull of 10,000 lbs. at a line speed of 110 FPM. Includes downhaul weight, swivel hook and sheave block for 2-part line and 125 ft. of 9/16" hoist rope.

**Anti-Two Block Device:**  
 Prevents damage to hoist rope and/or crane components from pulling load hook against tip.

Listed below are brief descriptions of each option available for the IC-80-E Industrial Cranes.  
Consult the IC-80-E Engineering Spec for additional information on each option.

**MODELS:**

1. IC-80-1E Industrial Crane with 8'2"-20'2" Boom
2. IC-80-2E Industrial Crane with 9'6"-24' Boom
3. IC-80-3E Industrial Crane with 11'6"-30' Boom

**ENGINE:**

5. LP Gas Fuel System  
Contains all necessary components for LP gas operations.
6. Dual Fuel System  
Contains all necessary components to burn LP gas and gasoline.
- Diesel Engines:
  7. Cummins  
4-cylinder, Model 4B3.9.7.
  8. Perkins  
4-cylinder, Model D4.236
  9. John Deere  
4-cylinder, Model 4239D
10. Spark Arrester Muffler  
Installed in addition to std. muffler.
11. Catalytic Convertor  
Reduces engine emissions, Diesel only.
12. Engine Heater  
Engine coolant heater installed to circulate warm water through engine, plugs into 120 volt AC.
13. Ether Injection System  
Ether starting aid controlled by switch in operator compartment and injects ether directly into intake manifold.
14. Engine Shut Down Gauges  
Shuts engine off when high water temperature or low engine oil pressure occurs.

**FRONT AXLE OPTIONS:**

16. Four-Wheel Steering  
Hurth drive/steer axle for four-wheel steering, differential equipped with Limited Slip Differential.

**TIRE OPTIONS:**

- Solid Rubber Tires:
18. 8.25 x 15
  19. Low Profile
  20. 10.00 x 15, 14-Ply Rating, Mining & Industrial Tires
  21. 10.00 x 15 Tires, Foam Filled
- SPARE TIRE AND WHEELS:**
22. 10.00 x 15, 14-ply, Highway Tread
  23. 10.00 x 15 Mining & Industrial

**CHASSIS OPTIONS:**

25. Outrigger Control - Selector  
Provide electric selector valves with existing two controls for individual operation.

**CHASSIS OPTIONS: Cont'd**

26. Outrigger Control - Individual  
Provides four controls for individual outrigger operations.
27. Auxiliary Winch  
Mounted behind front bumper, hydraulically driven with control in operator's console.  
Pintle Hook:
28. Pintle Hook, Rear
29. Pintle Hook, Front
30. Headlight and Taillight Grilles  
Welded steel protective grilles for headlights and taillights.
31. Rearview Mirrors  
One mounted on right-hand deck stake and 1 mounted on left-hand deck stake.
32. Lifting Rings  
Lifting rings at each corner of carry deck so sling can be attached for lifting crane.

**OPERATOR COMPARTMENT**

**OPTIONS:**

33. Operator Guard  
Tubular steel weldment with heavy expanded steel mesh top section.
34. Operator Guard Cover  
Clear vinyl cover to go over Operator Guard, for inclement weather operations.
35. Operator Guard Door  
Hinged door covers operator compartment side opening.
36. All-Weather Cab  
Rigid-mounted canopy section and removable hinged door. Includes heater, electric windshield wiper, one sliding glass window in the door & one in the right side of canopy. Defroster fan included.
37. Cab Heater  
Heater with two-speed fan for units without All Weather Cab.
38. Windshield Washer  
Includes reservoir pump and nozzle.
39. Floor Mat  
Vinyl mat with foam backing.
40. Operator Suspension Seat  
Provides additional operator comfort.
41. Noise Reduction Kit  
Includes floor mat, control valve and side panels of foam backed vinyl for noise reduction.

**ELECTRICAL OPTIONS:**

42. Outrigger Warning System  
Two-tone alarm is activated when "outrigger down" controls are operated.
43. Strobe Lights  
Yellow strobe light mounted on each side of turret weight box.

**ELECTRICAL OPTIONS: Cont'd**

44. Lighted Instrument Gauges  
Instrument gauges equipped with lights for night operations.
45. Amber Rotating Beacons  
Amber rotating beacon mounted on each side of turret weight box.
46. Boom Work Lights  
One work light mounted to boom to light boom tip and one work light mounted to turret to light ground under boom tip.
47. Boom Work Lights and Beacons  
Boom work lights and amber rotating beacons installed.
48. Boom Work Lights and Strobe  
Boom work lights and strobe lights installed.
49. Dome Light  
Interior light installed for units equipped with an All Weather Cab.
50. Work Lights - Rear  
Two rectangular work lights in the rear panel of the chassis.

**HYDRAULIC OPTIONS:**

51. Boom Structural Protection System  
Important to understand fully the description of the Boom Structural Protection System described in the IC-80 Engineering Spec. This option is not intended to and will not replace an LMI.

**BOOM ATTACHMENTS:**

53. Boom Extension, 10 Foot  
Boom stowable.
54. Boom Extension, 10 Foot, Offsettable  
Same as item 53, except the boom extension is offsettable to 3 different positions; 0 degree (inline), 15 degree and 30 degree offset.
- Searcher Hook:
55. Link Under Boom
56. Nose Mount
57. Load Moment Indicator-Krueger or PAT  
Warns operator of impending overload with audible and visual signals. Prevents overload by stopping boom functions that cause overloads. Readouts for load, boom angle, boom length, and load radius.
58. Load Indicator - Krueger or PAT  
Includes 3-sheave load sensor on top of boom and readout box on top of instrument panel.

Should you, as an end user, require an option or special equipment on your IC-80-E that is not listed on our sales literature, please contact your dealer salesperson or the factory to receive a special quoted price.

