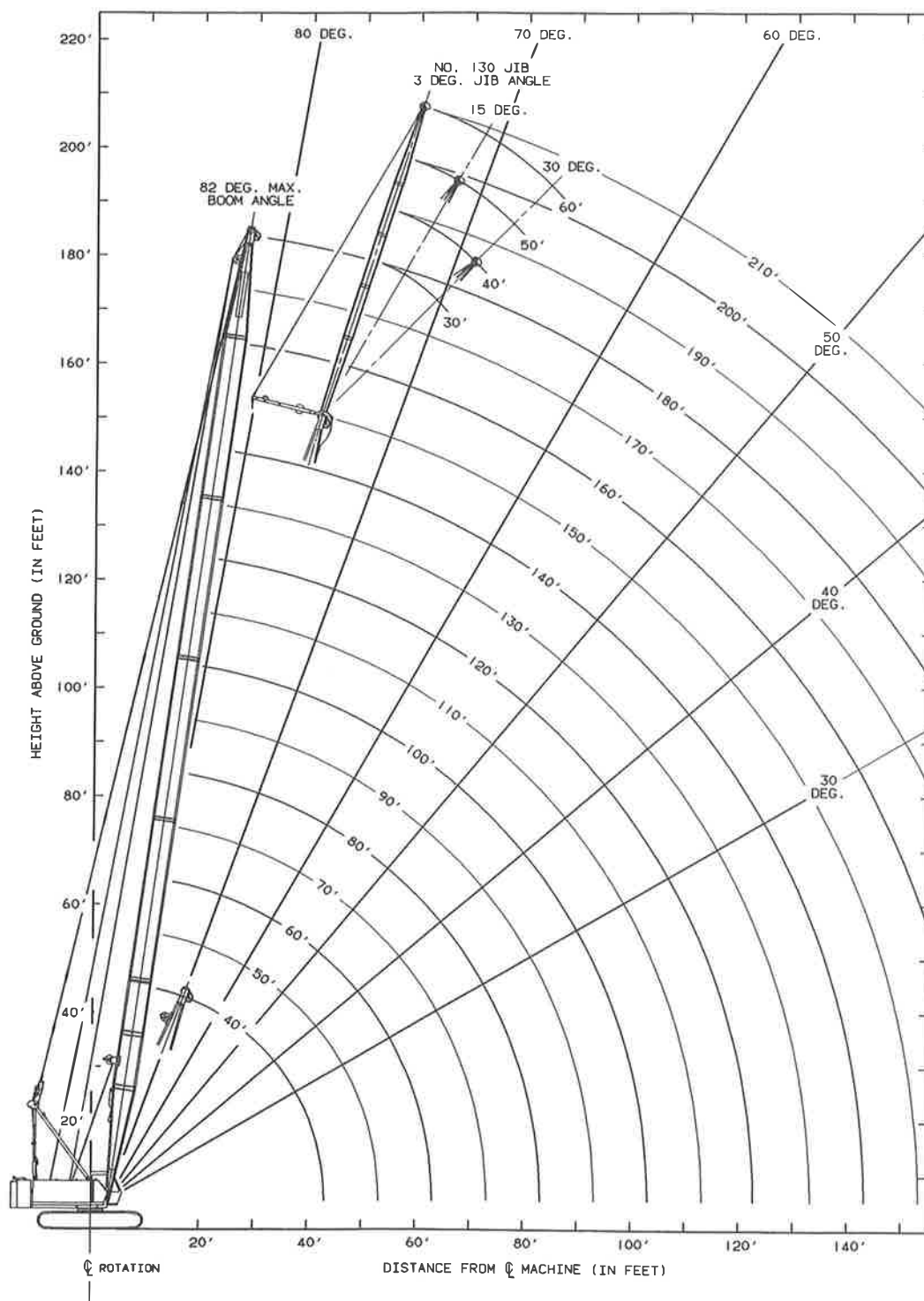
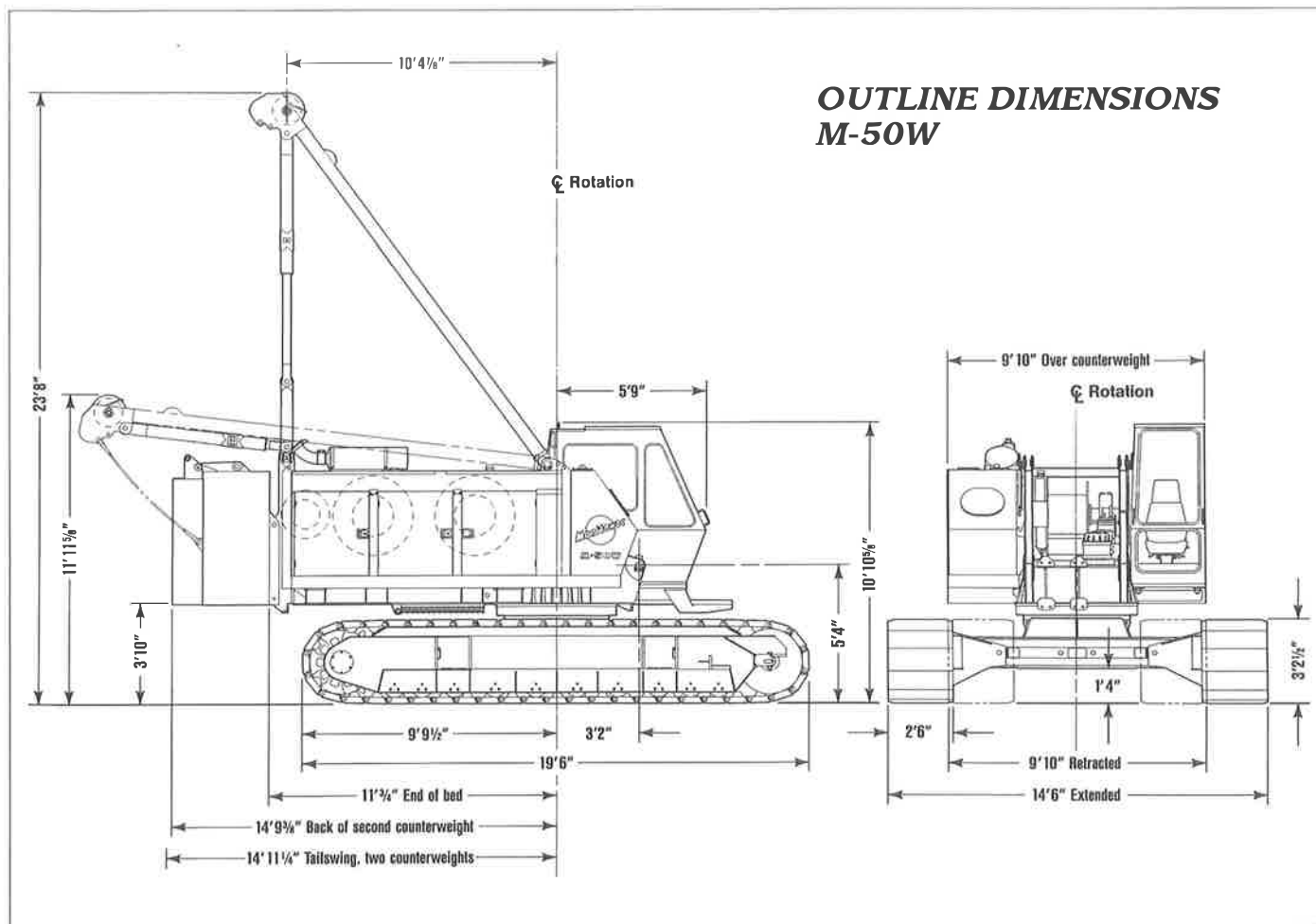




MANITOWOC M-50W



60-Ton Liftcrane ■ 15,000-Lb. Clamshell ■ 13,500-Lb. Dragline



SPECIFICATIONS

BASIC MACHINE

Upperworks

ROTATING BED: Fabricated steel rotating bed is mounted on 52½" diameter turntable bearing.

DRUMS: Basic machine is equipped with two full-width drums. Drums are 18" wide and 16½" diameter. Each drum is antifriction mounted on a separate shaft and is driven independently by a fixed-displacement hydraulic motor through a reduction gear. Internal-expanding drum clutches are spring set, air released. External-contracting drum brakes are air applied, spring released. Parking brakes are spring set, air released.

BOOM HOIST: Rear-mounted independent two-drum boom hoist is powered by a fixed-displacement hydraulic motor coupled to a planetary reduction, and is equipped with ratchet and pawl.

SWING SYSTEM: Front-mounted independent swing is powered by a fixed-displacement hydraulic motor coupled to an internal brake and planetary reduction. Includes gear-segment type swing lock.

OPERATOR'S STATION: Fully enclosed and insulated steel module mounted to the left front corner of rotating bed. Module is equipped with sliding door, large safety glass windows on all sides and roof. Electric signal horn, cab space heater, upper front windshield wiper, dome light, and air circulating fan are standard equipment.

Lowerworks

CARBODY: Single-piece steel fabricated carbody incorporates wide wings that facilitate removal from pockets in crawler frames. Crawlers hydraulically extend to 14' 6" and hydraulically retract to 9' 10".

CRAWLERS: Crawler assemblies are 19' 6" long reinforced steel fabrications with 30" closed treads and sealed "low-maintenance" rollers. Each crawler is powered independently by a variable-displacement hydraulic motor driving through a planetary reduction. Crawlers provide counter-rotation capability.

ENGINE/TRANSMISSION: Cummins 6 CT 8.3 diesel engine rated at 210 HP at 2200 RPM provides independent power for all machine operations through the multi-hydraulic-pump transmission. Power system also includes engine block heater (120V), high silencing muffler, hydraulic oil cooler, radiator, and fan.

CONTROLS: Modulating electric-over-hydraulic controls provide infinite function speed response directly proportional to control movement. Selector switch permits hoisting drums to be operated in power-down (liftcrane), free-fall (excavator), or clamshell mode.

**PERFORMANCE DATA**

Wire Rope Specifications					
Application	Dia.	Description	Breaking Strength	Weight	Max. Operating Length
Lift	¾"	6 x 25 EIPS Regular Lay	58,800 Lbs.	1.04 Lbs./Ft.	617' Hoist 617' Whip 252' Auxiliary*
Clam	¾"	6 x 25 EIPS Regular Lay	58,800 Lbs.	1.04 Lbs./Ft.	230' Closing 180' Holding
Drag	¾"	6 x 25 EIPS Lang Lay	58,800 Lbs.	1.04 Lbs./Ft.	185' Hoist 100' Drag
Boom Hoist	9/16"	6 x 26 EIPS Alternate Lay	33,600 Lbs.	0.61 Lbs./Ft.	480'

*Optional drum mounted on rear drum shaft for 3-drum applications. 15,000-lb. line pull.

Line Pull Vs. Line Speed* — Line Pull Infinitely Variable From 0 to 15,000 Lbs.			
Line Pull	Line Speed	Divert 1 Travel Pump	Divert 2 Travel Pumps
0 Lbs.	245 FPM	382 FPM	520 FPM
5,000 Lbs.	242 FPM	376 FPM	510 FPM
10,000 Lbs.	238 FPM	370 FPM	396 FPM
15,000 Lbs.	234 FPM	264 FPM	264 FPM

*Chart data based on 16½" diameter smooth drum, 5th layer.

SWING SPEED: 3.5 RPM.

TRAVEL SPEED: 1.0 MPH.

GRADEABILITY: 30%.

BOOM HOIST SPEED: 180' boom, 0° to 82° — 1 minute, 14 seconds.

LIFTCRANE ATTACHMENT

BASIC BOOM: The liftcrane is equipped with 40' No. 45A basic boom consisting of 21' butt and 19' top with four 20" diameter antifriction-bearing-mounted steel sheaves. Includes rope guides, boom hoist wire rope, boom angle indicator, and hook and weight ball.

Gantry with telescopic backhitch and power operated back-hitch pins.

Telescopic air-cushioned boom stop.

Automatic boom stop.

COUNTERWEIGHT: Two-piece removable counter-weight, total 26,700 lbs., with power-operated pins and with counterweight-handling pendants.

OPTIONAL EQUIPMENT**BOOM AND JIB:**

- 10' No. 45A Boom insert with pendants
- 20' No. 45A Boom insert with pendants
- 30' No. 45A Boom insert with pendants
- 30' No. 130 Jib with mounting parts
- 10' Jib insert with pendants

ATTACHMENTS:

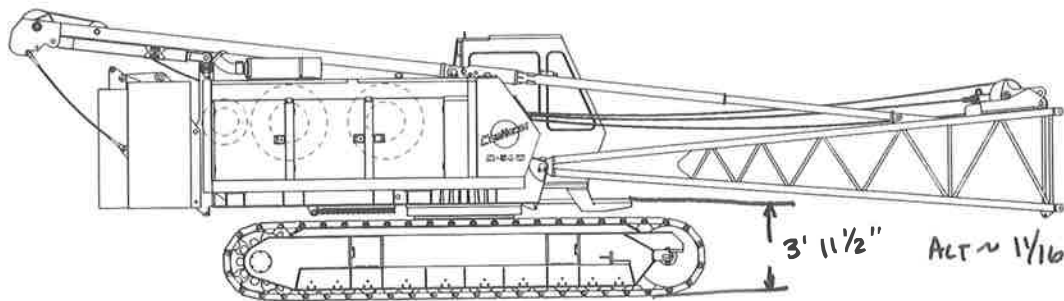
Manitowoc 60-ton four-sheave load block
Single-sheave upper boom point (whipline)
Pendant links for load-moment sensor pin
Dragline fairlead
Tagline, Rud-O-Matic No. 1248, two barrel
Liftcrane lagging, 18" diameter, grooved for
¾" diameter rope — front/rear
Clamshell/dragline lagging, 18" diameter, grooved
for ¾" diameter rope — front/rear
Lift/clam/drag wire rope, ¾" diameter, 6x25 EIPS
Machine preparation for X-SPANDER®
X-SPANDER attachment
Other attachments on request

BASIC MACHINE OPTIONS:

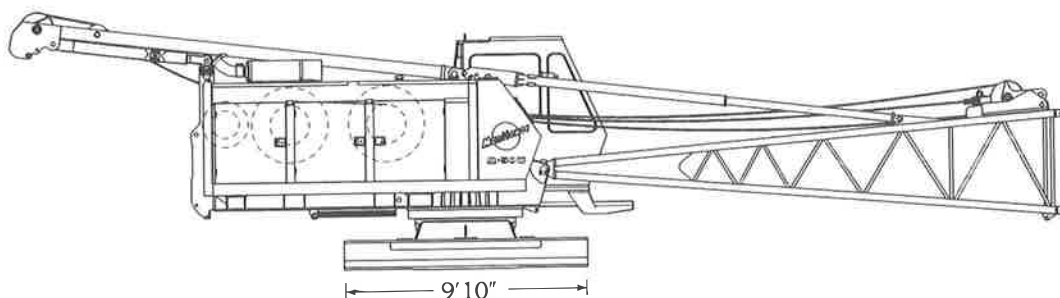
36" Treads in place of 30" treads
Split drum shaft assembly in place of
single drum shaft
Drum rotation indicators (2)
Windshield wiper, lower front window
Windshield wiper, roof window
Ether starting aid
Alcohol injector in air line
Fire extinguisher
Air conditioner in operator's cab
Hydraulic third drum on front of rotating bed,
9,700 lb. line pull
Special paint — machinery enamel in color other than
Manitowoc standard
Block-up limit control for load or auxiliary line
Bail limit control for hoist drums

**SHIPPING DATA** — All dimensions Length x Width x Height

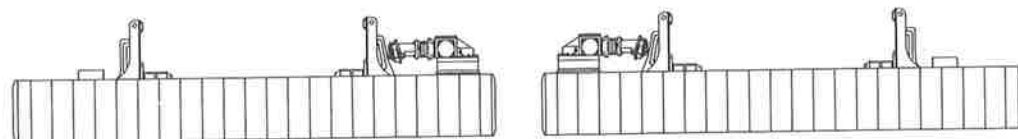
M-50W



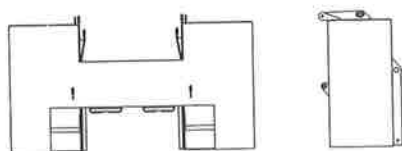
Complete liftcrane less boom top: 98,595 Lbs. 42'9" x 9'10" x 11'11"



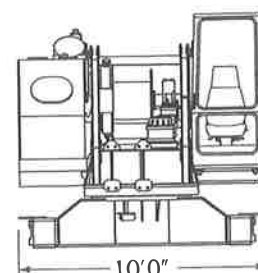
Basic machine with boom butt & gantry: 45,380 Lbs. 42'9" x 9'10" x 10'8"



Crawler frames: Each 13,065 Lbs. 19'6" x 5'6" x 3'3"

Inner counterweight: 21,200 Lbs.
9'10" x 3'2" x 5'6"

Boom top: 1,510 Lbs. 20'11" x 4'4" x 4'9"

Outer counterweight: 5,500 Lbs.
4'5" x 1'3" x 5'10"

Unit	Weight (Lbs.)	Dimensions (L x W x H)
10' Boom insert	515	10'6" x 4'4" x 4'7"
20' Boom insert	895	20'6" x 4'4" x 4'7"
30' Boom insert	1,185	30'6" x 4'4" x 4'7"
30' Basic jib	1,540	Pack inside 30' boom insert
10' Jib insert	190	Pack inside 30' boom insert
60-Ton hook block with steel sheaves	1,575	5'0" x 2'0" x 1'9"
Pendant box	1,675	5'0" x 4'10" x 2'3"
Miscellaneous box, including weight ball	2,895	7'6" x 2'10" x 2'4"

Manitowoc M-Series
...the new generation of
liftcrane performance!

MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc.

500 South 16th St. ■ Manitowoc, WI 54221-0070

Telephone: 414-684-6621 ■ Telefax: 414-683-6277

**MANITOWOC ENGINEERING CO.**

Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220

**DRUM AND LAGGING CHART** **M-50W****TABLE 1: TANDEM DRUMS - 16" (406 mm) WIDE DRUMS (FOR S/N 510001 AND 510002)**

APPLICATION	DRUM	PART NUMBER	DIAMETER	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<u>LIFTCRANE</u>						
HOIST WHIP	FRONT REAR	420831 420831	17-1/4" (438 mm) 17-1/4" (438 mm)	16" (406 mm) 16" (406 mm)	GROOVED DRUM GROOVED DRUM	3/4" (19 mm) 3/4" (19 mm)
<u>CLAMSHELL</u>						
CLOSING HOLDING	FRONT REAR	420831 420831	17-1/4" (438 mm) 17-1/4" (438 mm)	16" (406 mm) 16" (406 mm)	GROOVED DRUM GROOVED DRUM	3/4" (19 mm) 3/4" (19 mm)
<u>DRAGLINE</u>						
DRAG HOIST	FRONT REAR	420831 420831	17-1/4" (438 mm) 17-1/4" (438 mm)	16" (406 mm) 16" (406 mm)	GROOVED DRUM GROOVED DRUM	3/4" (19 mm) 3/4" (19 mm)

TABLE 2: TANDEM DRUMS - 16" (406 mm) WIDE DRUMS

APPLICATION	DRUM	PART NUMBER	DIAMETER	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<u>LIFTCRANE</u>						
HOIST WHIP	FRONT REAR	420845 420845	15-15/16" (405 mm) 15-15/16" (405 mm)	16" (406 mm) 16" (406 mm)	BARE DRUM BARE DRUM	3/4" (19 mm) 3/4" (19 mm)
<u>CLAMSHELL</u>						
CLOSING HOLDING	FRONT REAR	502337 502337	17-7/16" (443 mm) 17-7/16" (443 mm)	16" (406 mm) 16" (406 mm)	GROOVED GROOVED	3/4" (19 mm) 3/4" (19 mm)
<u>DRAGLINE</u>						
DRAG HOIST	FRONT REAR	502337 502337	17-7/16" (443 mm) 17-7/16" (443 mm)	16" (406 mm) 16" (406 mm)	GROOVED GROOVED	3/4" (19 mm) 3/4" (19 mm)

NOTE: LEBUS LAGGING NO. 502336 GROOVED FOR 3/4" (19 mm) DIA. ROPE IS OPTIONAL FOR LIFTCRANE APPLICATION AND MAY BE ADDED TO DRUM NO. 420845.

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**DRUM AND LAGGING CHART** **M-50W**

TABLE 3: TANDEM DRUMS - SPLIT REAR DRUMS OPTIONAL (FOR S/N 510072 AND 510496)

APPLICATION	DRUM	PART NUMBER	DIAMETER	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<u>LIFTCRANE</u>						
HOIST	FRONT	420846	15-15/16" (405 mm)	18" (457 mm)	BARE DRUM	3/4" (19 mm)
WHIP	R REAR	420846	15-15/16" (405 mm)	18" (457 mm)	BARE DRUM	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	420849	15-15/16" (405 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)
<u>CLAMSHELL</u>						
CLOSING	FRONT	170107	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
HOLDING	R REAR	170107	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	420849	15-15/16" (405 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)
<u>DRAGLINE</u>						
DRAG	FRONT	170107	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
HOIST	R REAR	170107	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	420849	15-15/16" (405 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)

NOTE: LEBUS LAGGING NO. 170106 GROOVED FOR 3/4" (19 mm) DIA. ROPE IS OPTIONAL FOR LIFTCRANE APPLICATION AND MAY BE ADDED TO DRUM NO. 420846.

TABLE 4: TANDEM DRUMS - SPLIT REAR DRUMS OPTIONAL

APPLICATION	DRUM	PART NUMBER	DIAMETER	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZE
<u>LIFTCRANE</u>						
HOIST	FRONT	169561	16-1/2" (419 mm)	18" (457 mm)	BARE DRUM	3/4" (19 mm)
WHIP	R REAR	169561	16-1/2" (419 mm)	18" (457 mm)	BARE DRUM	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	169577	16-1/2" (419 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)
<u>CLAMSHELL</u>						
CLOSING	FRONT	502339	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
HOLDING	R REAR	502339	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	169577	16-1/2" (419 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)
<u>DRAGLINE</u>						
DRAG	FRONT	502339	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
HOIST	R REAR	502339	18" (457 mm)	18" (457 mm)	GROOVED	3/4" (19 mm)
AUXILIARY (OPTIONAL)	L REAR	169577	16-1/2" (419 mm)	6-1/4" (159 mm)	BARE DRUM	3/4" (19 mm)

NOTE: LEBUS LAGGING NO. 502338 GROOVED FOR 3/4" (19 mm) DIA. ROPE IS OPTIONAL FOR LIFTCRANE APPLICATION AND MAY BE ADDED TO DRUM NO. 169561.

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**AUXILIARY DRUM SPECIFICATIONS — M-50W, M-65W, M-80W**
FRONT MOUNTED AUXILIARY DRUM
9,700 LB. (4 400 kg) LINE PULL

MAXIMUM SPOOLING AND LINE PULL CAPACITIES				
1/2" (13 mm) WIRE ROPE				
LAYER	MAXIMUM SPOOLING CAPACITY		MAXIMUM LINE PULL	
	FT.	METERS	LBS.	kg
1	56	17	7,600	3 450
2	127	39	7,600	3 450
3	204	62	7,600	3 450
4	288	88	7,600	3 450
5	378	115	7,300	3 310
8' (2m) IS DEDUCTED FROM MAXIMUM SPOOLING CAPACITIES FOR 3 DEAD WRAPS.				
9/16" (14 mm) WIRE ROPE				
LAYER	MAXIMUM SPOOLING CAPACITY		MAXIMUM LINE PULL	
	FT.	METERS	LBS.	kg
1	50	15	9,700	4 400
2	115	35	8,875	4 030
3	187	57	8,170	3 710
4	264	80	7,565	3 430
8' (2m) IS DEDUCTED FROM MAXIMUM SPOOLING CAPACITIES FOR 3 DEAD WRAPS.				

WIRE ROPE SPECIFICATIONS	
1/2" (13 mm) - 6 X 25 FILLER WIRE, EXTRA IMPROVED PLOW STEEL, REGULAR LAY, IWRC. MINIMUM BREAKING STRENGTH 26,600 LBS. (12 070 kg). MAXIMUM LOAD = 7,600 LBS. PER LINE (3 450 kg). APPROX. WEIGHT = .46 LBS. PER FT. (.68 kg/m).	
9/16" (14 mm) - 6 X 25 FILLER WIRE, EXTRA IMPROVED PLOW STEEL, REGULAR LAY, IWRC. MINIMUM BREAKING STRENGTH 33,600 LBS. (15 240 kg). MAXIMUM LOAD = 9,700 LBS. PER LINE (4 400 kg). APPROX. WEIGHT = .59 LBS. PER FT. (.88 kg/m).	

DRUM SPECIFICATIONS: DRUM NO. 716971 - 9-3/4" (248 mm) BARE DRUM DIAMETER, 13-5/8" (346 mm) WIDTH, AND 15" (381 mm) DIAMETER FLANGE.