



Read these Instructions thoroughly before operating the equipment. Keep it with the equipment at all times. Replacements are available from Thern, Inc., 5712 Industrial Park Road, Winona, MN 55987, 507-454-2996. www.thern.com

ORIGINAL TEXT



Supplemental Instructions For 5PT10R and 5PT20R Series Portable Davit Cranes Rated for Rescue Use



Requirements for Safe Operation

⚠ WARNING

DO the following:

Use these instructions as part of an employee training program as required by OSHA. Instructions must be provided to the rescuer.

The user must read and understand instructions or have them explained prior to using the equipment.

Make only stable and compatible interfaces and connections.

Remove equipment from field service for inspection, repair or replacement if it has been subjected to the forces of arresting a fall or affecting a rescue.

Have a rescue plan and the means at hand to implement it when using the equipment.

Use caution when using the equipment around moving machinery and electrical hazards.

Use caution when using the equipment near sharp edges and abrasive surfaces.

Follow inspection and maintenance procedures.

DO NOT do the following:

Do not alter or misuse the equipment.

Do not use for personnel or overhead lifting other than during rescue.

Do not exceed the load rating of any component in the system.

Do not exceed the rated maximum arresting force for fall protection.

Do not use combinations of components or subsystems, or both, which may affect or interfere with the safe function of each other.

Do not attach more than one rescue system to an anchorage connector unless certified for such purpose.

Do not expose the equipment to chemicals, high heat, severe cold or other harsh environments which may produce a harmful effect. Contact the manufacturer in any case of doubt.

Do not make repairs to the equipment without written authorization from the manufacturer.

The Occupational Safety and Health Act of 1970 states that it is the employer's responsibility to provide a workplace free of hazard. To this end, all equipment should be installed, operated, and maintained in compliance with applicable trade, industrial, federal, state, and local regulations. It is the equipment owner's responsibility to obtain copies of these regulations and to determine the suitability of the equipment to its intended use.

These supplemental instructions and warning labels attached to the equipment are to serve as guidelines for installation, operation, and maintenance. They should not be understood to prepare you for every possible situation.

1.1 Installation and Assembly

Important!

- Inspect the equipment during assembly. This will give you a record of the condition of the equipment with which to compare future inspections.
- Contact the factory immediately if any parts are missing or damaged.

Refer to crane and winch owner’s manuals for additional information including standard inspection, maintenance, and storage requirements.

- 1.1.1 **INSTALL THE BASE.** Refer to crane owner’s manual for additional information and crane loads, overturning moments, and mounting bolt reaction forces when used for material handling.
- 1.1.2 **INSTALL THE MAST** in the base. Move the mast side-to-side to make sure the bottom of the mast properly seats on the pin in the bottom of the base. **The crane will not be stable unless properly seated.**
- 1.1.3 **ASSEMBLE THE CRANE** following the steps outlined in the crane owner’s manual. **Do not operate or apply loads without all pins securely in place.**
- 1.1.3 **INSTALL THE WINCH** following the steps outlined in the crane owner’s manual. **Do not operate or apply loads without all pins securely in place.**

2.1 General Theory of Operation

- 2.1.1 **THE INTENDED USE** of this equipment is to lift and lower loads of its rated capacity or less. **Load ratings and boom positions are restricted when used as part of a rescue system.** This equipment is intended to be installed and used by persons who have been properly trained.
- 2.1.2 **THE FORCE REQUIRED** to lift the load must not exceed the load rating of the crane. Consider the total force required to lift the load, not the weight of the load.
- 2.1.3 **THIS EQUIPMENT CAN** develop forces that will exceed the load rating. It is the responsibility of the equipment user to limit the size of the load. Inspect the equipment regularly for damage according to the instructions.
- 2.1.4 **THIS EQUIPMENT MEETS** ANSI/ASSE Z359.4 and OSHA safety standards for rescue equipment when configured and used properly as part of a complete system which maintains a safety factor of at least two. **Do not use for personnel or overhead lifting other than during rescue.**
- 2.1.5 **THE MATERIAL USED** in construction of the anchorage connector is steel and/or stainless steel.
- 2.1.6 **STRENGTH REQUIREMENT.** Anchorages used for rescue systems must meet a factor of safety of 5:1 based on the static load and be used under the supervision of a qualified person. See Table 1.

Crane Model	Static Rated Load	Mast Moment	Suggested Bolt Size	Pedestal Base	Wall Mount Base	
				Tension Force per Bolt	Tension Force per Bolt	Shear Force per Bolt
5PT10R	310 lbs	12580 in-lbs	5/8 inch	510 lbs	490 lbs	390 lbs
5PT20R	620 lbs	31640 in-lbs	5/8 inch	1340 lbs	1220 lbs	940 lbs

Reactions are un-factored. Mounting structure and fasteners must meet a safety factor of 5:1 when used for rescue.

2.2 Operation

▲WARNING

The retrieval unit anchorage must be independent from fall protection anchorage.

- 2.2.1 **CONSIDER THE OPERATION.** Plan your rescue system before use and consider factors such as site and operational hazards, response time, training, etc.
- 2.2.2 **INSPECT ALL COMPONENTS** of the system prior to use and additionally by a competent person other than the rescuer at least annually.
- a **INSPECT THE CRANE AND WINCH** according to the instructions in the Crane Owner's Manual and Winch Owner's Manual
- b **INSPECTION CRITERIA** for the equipment is set by the rescuer's organization and must meet or exceed the criteria established by the manufacturer's instructions.
- 2.2.3 **OPERATE THE WINCH** to raise or lower the load. Refer to instructions in the Winch Owner's Manual.
- a **FOR RESCUE**, use 1/4 inch (6mm) diameter wire rope, 7x19 construction, steel or stainless steel, with minimum breaking strength 3,400 lbs (15.1 kN) and 60 feet (18.2 m) maximum length.
- b **MAXIMUM WORKING LENGTH** of rope is 52 feet (15.8 m)
- c **FORCE REQUIRED TO OPERATE** during rescue when loaded to maximum capacity is less than 30 lbs.
- 2.2.5 **SYSTEM CAPACITY when used for rescue is limited to boom position 1 (blue or green range) or boom position 2 (green range only). See load rating label on crane.**
- 5PT10R: 1 person, up to 310 lbs (141 kg)
- Fall arrest attachment point: 900 lbs (4kN) Maximum Arresting Force (MAF). This is the total force that can be placed on the crane. 1 person only.
- 5PT20R: 2 persons, up to 620 lbs (282 kg)
- Fall arrest attachment point: 1800 lbs (8kN) Maximum Arresting Force (MAF). This is the total force that can be placed on the crane. 1 person 1800 lbs MAF or 2 persons 900 lbs MAF each.
- 2.2.6 **MAKE ONLY COMPATIBLE CONNECTIONS.** Use self-locking snap hooks and carabiners with this equipment. Make sure all connections are compatible in size, shape, and strength.
- 2.2.7 **REFERENCE STANDARDS** including ANSI/ASSE Z359.4 and applicable local, state and federal (OSHA) requirements for more information on the application of this and associated equipment.

3.1 Inspecting the Equipment

⚠WARNING

Do not use damaged or malfunctioning equipment.

Equipment that has arrested a fall must be removed from service, marked or tagged as unusable and either disposed of or returned to the manufacturer for evaluation.

Important!

Increase the frequency of inspection and maintenance if the equipment is:

- Operated for long periods.
- Used to lift heavy loads
- Operated in wet, dirty, hot, or cold surroundings.

- 3.1.1 DOCUMENTATION OF INSPECTIONS must be maintained by the rescuer's organization and include the identity of the equipment, inspection date, name of the competent person conducting the inspection and the inspection results.
- 3.1.2 REMOVE EQUIPMENT FROM SERVICE or undergo adequate corrective maintenance before returning to service if inspection reveals any of the following problems: defects in equipment, damage to equipment, inadequate maintenance, activated stress indicators, or activated warning systems or devices.
- 3.1.3 INSPECTION REQUIREMENTS in addition to those found in the owner's manuals should be done by the rescuer before each use and additionally by a competent person other than the rescuer at least annually. Inspect for:
- absence or illegibility of marking or tags;
 - absence of any elements affecting the equipment form, fit or function;
 - evidence of defects in or damage to hardware elements including but not limited to cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration or excessive wear;
 - evidence of defects in or damage to straps or ropes including but not limited to fraying, unsplicing, unlaying, kinking, knotting, roping, broken or pulled stitches, excessive elongation, chemical attack, excessive soiling, abrasion, alteration, needed or excessive lubrication, excessive aging or excessive wear;
 - alteration, absence of parts or evidence of defects in, damage to or improper function of, mechanical devices and connectors;
 - any other condition that calls to question the suitability of the equipment for its intended purpose.
- 3.1.4 REPAIRS TO EQUIPMENT are only permitted by the manufacturer unless authorized in writing by the manufacturer.
- 3.1.5 DISPOSE OF EQUIPMENT that shows any sign of permanent damage or deformation that cannot be repaired or replaced.

3.2 Equipment Markings

B6231-C

5PT10 SERIES

Ratings apply when used with standard Thern winches. Use only the load rating chart for the specific winch model being used.

Load ratings shown are based on 1/4 inch diameter GAC wire rope. Ratings will vary with rope diameter and stainless steel rope.

LOAD RATINGS

Crane Model Winch Model	First Layer		Mid Drum		Full Drum		Position	
	lbs	(kg)	lbs	(kg)	lbs	(kg)		
5PT10-M1 M4312PB	1000	(453)	1000	(453)	1000	(453)	1	BLUE RANGE
5PT10-M2 4WM2-K	800	(362)	800	(362)	800	(362)	2	
5PT10-M3 M4312PBSS	650	(294)	650	(294)	650	(294)	3	
	550	(249)	550	(249)	550	(249)	4	
5PT10-E2 4WP2-K	1200	(544)	1200	(544)	1200	(544)	1	GREEN RANGE
5PT10-E4 4777-K	950	(430)	950	(430)	950	(430)	2	
5PT10-E4DC 4777DC-K	750	(340)	750	(340)	750	(340)	3	
	650	(294)	650	(294)	650	(294)	4	

(B6231) 5PT10 material handling load rating label

WARNING

Read and understand operators manual before using this equipment.

Failure to follow operating instructions could result in serious injury or damage to equipment or property.

Keep hands clear of all pinch points.

Do not exceed load ratings.

Do not modify or use damaged or malfunctioning equipment.

Do not lift or lower people or things over people.

Contact factory for free replacement labels when difficult to read.

www.thern.com B5790

(B5790) 5PT10/20 warning label

WARNING

Do not operate or apply loads without all pins securely in place.

B6229

(B6229) 5PT10/20 warning label

WARNING

Fall Arrest Attachment Point
900 lbs (4 kN)
Maximum Arresting Force

Total force that can be placed on the crane. 1 person only.

(A30463) 5PT10R warning label



(B6230) 5PT10/20 load range indicator

A30461

LOAD RATINGS
COMMANDER 5PT10R SERIES

BOOM POSITION	BLUE RANGE		GREEN RANGE	
	lbs	(kg)	lbs	(kg)
1	310	(141)	310	(141)
2	DO NOT USE			
3				
4	DO NOT USE			

900 lbs (4 kN)
MAXIMUM ARRESTING FORCE (MAF)

Ratings and limitations apply when used for rescue. Do not use for personnel lifting other than rescue. Meets ANSI/ASSE Z359.4 and OSHA requirements.

(A30461) 5PT10R rescue load rating label

WARNING

Follow manufacturer's instructions included with the equipment at time of shipment.

Properly assemble and install as described in the owner's manual.

Make only compatible connections.

Avoid contact with sharp edges and abrasive surfaces.

Inspect at periodic intervals as described in the owner's manual - at least annually.

Constructed from steel and/or stainless steel materials.

(A30465) 5PT10R/20R warning label

B6232-D

5PT20 SERIES

Ratings apply when used with standard Thern winches. Use only the load rating chart for the specific winch model being used.

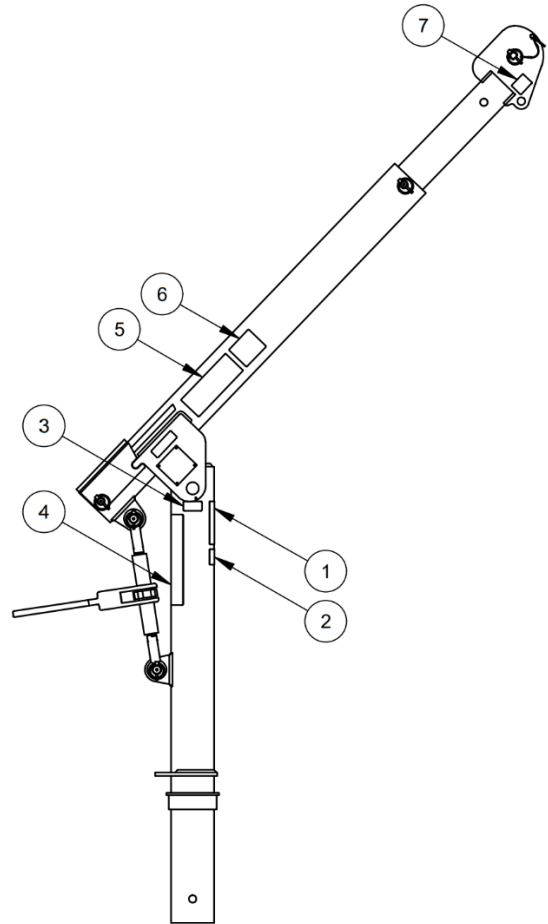
Load ratings shown are based on 1/4 inch diameter GAC wire rope. Ratings will vary with rope diameter and stainless steel rope.

LOAD RATINGS

Crane Model Winch Model	First Layer		Mid Drum		Full Drum		Position	
	lbs	(kg)	lbs	(kg)	lbs	(kg)		
5PT20-M1 M4312PB	2000	(907)	1500	(680)	1200	(544)	1	BLUE RANGE
5PT20-M2 4WM2-K	1600	(725)	1500	(680)	1200	(544)	2	
	1300	(589)	1300	(589)	1200	(544)	3	
5PT20-M3 M4312PBSS	1100	(498)	1100	(498)	1100	(498)	4	GREEN RANGE
5PT20-E2 4WP2-K	2000	(907)	1500	(680)	1200	(544)	1	GREEN RANGE
5PT20-E4 4777-K	1900	(861)	1500	(680)	1200	(544)	2	
	1500	(680)	1500	(680)	1200	(544)	3	
5PT20-E4DC 4777DC-K	1300	(589)	1300	(589)	1200	(544)	4	

Crane Model Winch Model	First Layer		Mid Drum		Full Drum		Position	
	lbs	(kg)	lbs	(kg)	lbs	(kg)		
5PT20-E2T 4WP2T-K	2000	(907)	1200	(544)	900	(408)	1	BLUE RANGE
	1600	(725)	1200	(544)	900	(408)	2	
	1300	(589)	1200	(544)	900	(408)	3	
	1100	(498)	1100	(498)	900	(408)	4	
	2000	(907)	1200	(544)	900	(408)	1	GREEN RANGE
	1900	(861)	1200	(544)	900	(408)	2	
	1500	(680)	1200	(544)	900	(408)	3	
	1300	(589)	1200	(544)	900	(408)	4	

Crane Model Winch Model	First Layer		Mid Drum		Full Drum		Position	
	lbs	(kg)	lbs	(kg)	lbs	(kg)		
5PT20-E3T 3WG4MT-K	2000	(907)	2000	(907)	1700	(771)	1	BLUE RANGE
	1600	(725)	1600	(725)	1600	(725)	2	
	1300	(589)	1300	(589)	1300	(589)	3	
	1100	(498)	1100	(498)	1100	(498)	4	
	2000	(907)	2000	(907)	1700	(771)	1	GREEN RANGE
	1900	(861)	1900	(861)	1700	(771)	2	
	1500	(680)	1500	(680)	1500	(680)	3	
	1300	(589)	1300	(589)	1300	(589)	4	



	5PT10R	5PT20R
1	B5790	
2	B6229	
3	B6230	
4	B6231	B6232
5	A30461	A30462
6	A30465	
7	A30463	A30464

(B6232) 5PT20 material handling load rating label

LOAD RATINGS
COMMANDER 5PT20R SERIES

BOOM POSITION	BLUE RANGE		GREEN RANGE	
	lbs	(kg)	lbs	(kg)
1	620	(282)	620	(282)
2	DO NOT USE		620 (282)	
3				
4				

1800 lbs (8 kN)
MAXIMUM ARRESTING FORCE (MAF)

Ratings and limitations apply when used for rescue. Do not use for personnel lifting other than rescue. Meets ANSI/ASSE Z359.4 and OSHA requirements.

WARNING

Fall Arrest Attachment Point
1800 lbs (8 kN)
Maximum Arresting Force

Total force that can be applied to the crane. 1 person 1800lbs MAF or 2 persons 900lbs MAF each.

(A30464) 5PT20R warning label

(A30462) 5PT20R rescue load rating label

Inspection and Maintenance Log

Model Number: _____ **Serial Number:** _____

Inspection Date: _____ **Approved By:** _____

Inspection Notes: _____

Corrective Action: _____

Maintenance Performed: _____

Inspection Date: _____ **Approved By:** _____

Inspection Notes: _____

Corrective Action: _____

Maintenance Performed: _____

Inspection Date: _____ **Approved By:** _____

Inspection Notes: _____

Corrective Action: _____

Maintenance Performed: _____

Inspection Date: _____ **Approved By:** _____

Inspection Notes: _____

Corrective Action: _____

Maintenance Performed: _____

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