



REGISTER YOUR PRODUCT!

In order for us to best serve you,
please register your product at
www.piercearrowinc.com/warranty/product-registration

Why register?

- Product updates.
- Maintenance reminders.
- Technical service and support.

DISCLAIMER

The PSHV series winch is a powerful tool and must be used with extreme care. Deviating from the manual's instructions may cause personal injury. You may void your warranty if you do not follow the precautions and guidelines outlined in this manual. Keep this manual in a safe place to reference safety and installation instructions, maintenance guidelines and operating recommendations. The owner, operator, and installer must read the entire manual before operating the winch.

SHIPMENT CONTENTS

- 1 – winch
- 8 – bolts
- 8 – lock washers
- 1 – owner's manual

RECOMMENDED TOOLS

- 3/4" wrench or socket
- 13/16" wrench or socket
- 15/16" wrench or socket
- crowbar
- gloves
- safety glasses
- tree saver strap
- safety cut off switch
- first aid kit
- bow shackles
- chains or straps
- wheel blocks or chocks
- heavy blanket
- torque wrench

SAFETY WARNINGS

DRESS PROPERLY

- DO NOT wear loose fitting clothing or jewelry.
- Tie back long hair.
- Wear leather gloves when handling the wire rope.
- Wear non-skid footwear during winch operation.
- Wear eye and ear protection during operation.

DO NOT ABUSE THE WIRE ROPE

- Never carry your winch by the wire rope.
- Never yank the wire rope from the winch.
- Keep the wire rope from heat or sharp edges.
- **The cable must be spooled from the bottom of the drum.**

KEEP A SAFE DISTANCE

- DO NOT step over or under the wire rope.
- All onlookers must keep away from the work area.
- Never work on or around the winch drum when the winch is operating.
- DO NOT alter your winch in any way. Alterations may weaken the structural integrity of the winch and void your warranty.
- Operate your winch with an unobstructed view.

DO NOT OVERWORK YOUR WINCH

- DO NOT maintain power if the motor stalls.
- DO NOT exceed maximum line pull ratings.
- DO NOT overload your winch's pulling capacity. We recommend the use of a pulley block to double line the wire rope on heavy loads.

SAFETY WARNINGS *(continued)*

DO NOT MISUSE YOUR WINCH

- DO NOT lift items vertically. The winch was designed for horizontal use only.
- DO NOT operate the winch with less than eight wraps on the drum. The set screw on the drum is not designed to hold pull force of cable.
- DO NOT use to hold or secure a load. The winch is not to be used as a tie down.
- Avoid continuous pulls from extreme angles. This will cause the wire rope to jam as it piles up on one side.
- Use a nylon sling when winching. Hooking the wire rope to itself will cause considerable damage to the wire rope.
- DO NOT move your vehicle to assist the winch in pulling the load. The combination of the winch and vehicle pulling could overload the wire rope and winch.
- Never release the free spool clutch when a load is connected to the winch.
- DO NOT exceed pulling limitations of winch.
- DO NOT shock loads when winching. A shock load occurs when increased force is suddenly applied to the wire rope.
- DO NOT use your winch as a hoist.
- DO NOT use your winch to lift, support, or transport people.
- DO NOT alter the warning instruction labels.
- DO NOT overheat your winch. Use your winch intermittently.
- Only use your winch for direct winching. Do not use your winch for jerking loads, towing, or securing a load. Any damage incurred as a result of such action will void the warranty.
- DO NOT winch near electrical power lines.

AVOID UNINTENTIONAL STARTING

- The winch clutch must be disengaged when not in use and fully engaged when in use.
- Power must be disconnected when not in use.

MAINTAIN YOUR WINCH

- Check your winch carefully before each use.
- Damaged equipment must be properly repaired or replaced by the manufacturer or an authorized service center.
- Inspect and maintain the wire rope and winch frequently.
- Replace frayed rope strands immediately.
- Use only factory approved switches, remote controls, and accessories.
- Check the tightness of the mounting bolts and electrical connections periodically.

RE-SPOOL THE WIRE ROPE

- Wear leather gloves while re-spooling.
- **DO NOT allow the wire rope to thread through your hand without a glove.**
- Keep a slight load on the wire rope while re-spooling. Hold the wire rope with one gloved hand and the remote control in the other.

INSTALLATION

MOUNTING

- Before installation, ensure the mounting frame in use is capable of withstanding the winch's rated capacity.
- Ensure the motor, wire rope, drum, and gear housing is properly aligned.
- Mount winch to a hard and flat surface.
- Winch should be mounted as close to center and as perpendicular as possible to the direction of the line pull.
- Wound wire rope in an under-wound orientation only.
- Use the following high tensile G8 steel bolts:
 - PSHV10000: Eight (8) 1/2" - 13 (56 lb/ft)
 - PSHV15000: Eight (8) 9/16" - 12 (90 lb/ft)
 - PSHV18000: Eight (8) 9/16" - 12 (90 lb/ft)
 - PSHDH20000: Eight (8) 5/8" - 11 (159 lb/ft)
 - PSHDH30000: Eight (8) 5/8" - 11 (159 lb/ft)
- It is always required to use both tie bars in the final installation configuration.
- Mount the roller guide in front of the winch. Do not attach the roller guide to the winch.
This will void the warranty.
- **The cable must be spooled from the bottom of the drum.**
- Do not mount the winch backwards and reinstall cable to come from bottom. It MUST be installed as it lays from the factory. *(see image to right)*



TORQUE CHART

WINCH	BOLT	TORQUE
PSHV10000	1/2" -13	56 lb/ft
PSHV15000	9/16"-12	90 lb/ft
PSHV18000	9/16"-12	90 lb/ft
PSHDH20000	5/8" -11	159 lb/ft
PSHDH30000	5/8" -11	159 lb/ft

HYDRAULIC CONNECTIONS

- 2x male JIC fittings on the motor (8MJIC)

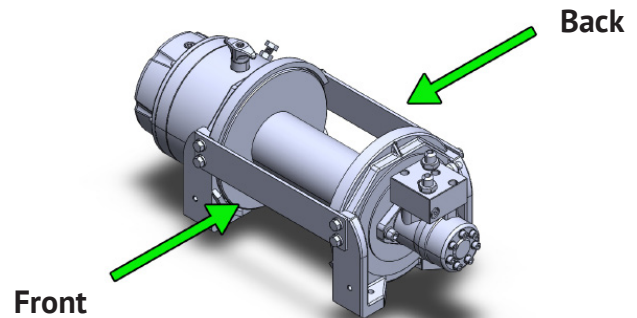
SPOOLING

WIRE ROPE PREPARATION

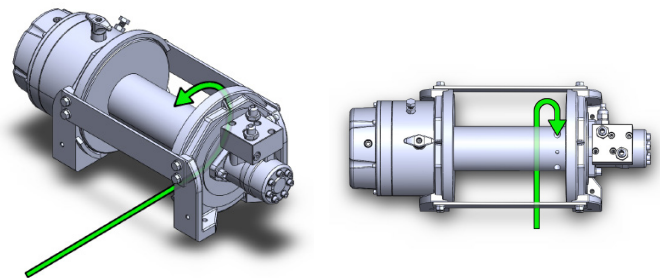
NOTE: The first use of your winch must be a test run during a non-recovery situation. During this trial run begin to recognize the sound of a steady pull, a heavy pull, load jerking or shifting.

- Spool the wire rope.
- Wear leather gloves while spooling. **DO NOT allow the wire rope to thread through your hand without a glove.**
- Unwind the wire rope carefully along the floor to avoid kinking.
- Step 1 Make sure the winch is facing the proper way, with the clutch side being the left side of the winch and the motor side being the right. (See step 1)
- Step 2 Thread the end of the cable from the front, **UNDER** the drum, and up the back side placing the end of the wire rope in to the hole at the end of the drum. The wire rope will protrude $\frac{1}{2}$ "- 1". Tighten the set screw to hold the cable in place.
- Keep a slight load on the wire rope while spooling. If you are facing it from the front the drum will spin down **TOWARDS** you. Spool the wire rope until the red cable is fully spooled at approximately five wraps.
- Under a load of 500 lbs (230 kg) finish spooling the wire rope. This will stretch the new wire rope and create a tight wrap around the drum.
- If there is a rope pile-up on one end of the drum, reverse the winch to relieve the load and move your anchor point further toward the center of the load. Then you can re-wind for a neat layer of the rope.
- Spool the wire rope on to the drum until the load is recovered. During operation, make sure the wire rope lays smoothly on to the drum without spacing or overlapping.

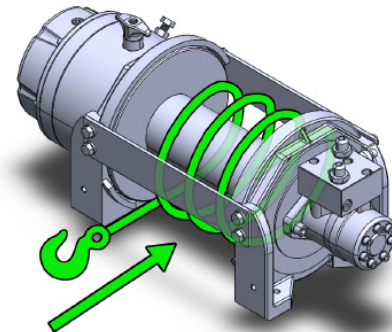
STEP 1



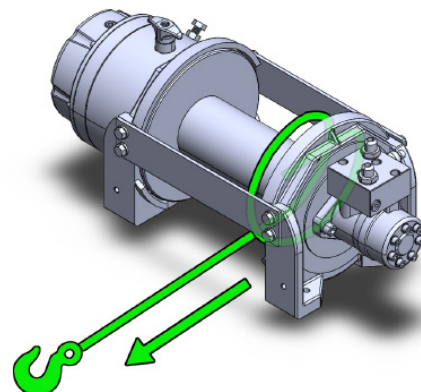
STEP 2



STEP 3



STEP 4



OPERATION

- Apply the parking brake or lock the wheels.
- While the clutch is in the OUT position, spool the winch cable and connect to an anchor point.
- Check cable rigging before proceeding.
- Plug in the winch remote control.
- Engage the clutch by shifting it into the IN position. **NOTE:** When the clutch is engaged, your load may begin to drift until the remote is used to recover your load. To ensure safe operation, it is recommended that winch operation take place from the driver's position.
- Start vehicle engine, select neutral or park and maintain idle engine speed.
- Using the remote control, press IN or OUT until the vehicle has been retrieved. Regularly check the winch to ensure the cable is winding onto the drum evenly. It is recommended you secure the load using chains or straps at this point.
- Detach the load.
- Re-spool the wire rope after winch operation is complete.

MAINTENANCE

NOTE: It is highly recommended that you regularly use your winch. Simply power the cable out 15 feet, free spool five feet and power in. This will keep all components in good condition so that the winch can be ready when needed. Contact the manufacturer or authorized outlet for technical assistance and repairs.

LUBRICATION

- The gearbox has been lubricated using high temperature lithium grease at the factory. No internal lubrication is required.
- Lubricate cable periodically using light penetrating oil. Inspect for broken or worn strands and replace if necessary.

SPARE PARTS

- A comprehensive range of spare parts is available. Please contact the manufacturer, Pierce Arrow at 940-538-5643 for more information.
- DO NOT attempt to disassemble the gearbox. Disassembly may void the warranty. Call Pierce Arrow at 940-538-5643 before repairs are made.

ROPE

- Use aircraft grade cable or approved and rated synthetic rope.
- The life of the rope is directly related to the use and care it receives.
- Replace damaged or frayed rope with manufacturer's identical replacement part.
- Be sure the rope is in good condition and is properly attached.
- DO NOT use the winch if the rope is frayed.
- DO NOT replace the cable with a cable of lesser strength.
- When the rope is replaced, apply Loctite 7471 primer or 222 Threadlocker to the wire rope clamp to prevent loosening of the screw.

SPECIFICATIONS

	PSHV10000	PSHV15000	PSHV18000	PSHDH20000	PSHDH30000
RATED LINE PULL	10,000 lbs	15,000 lbs	18,000 lbs	20,000 lbs	30,000 lbs
LINE SPEED	46 fpm @ 15.9 gpm	30 fpm @ 15.9 gpm	23 fpm @ 15.9 gpm	23 fpm @ 15.9 gpm	16 fpm @ 15.9 gpm
OPERATION PRESSURE	2,175 psi	2,175 psi	2,175 psi	2,500 psi	2,540 psi
MAX OIL FLOW	15.9 gpm	15.9 gpm	15.9 gpm	15.9 gpm	15.9 gpm
HYDRAULIC MOTOR	5.9 in ³ / rev	7.6 in ³ / rev	9.5 in ³ / rev	9.5 in ³ / rev	9.5 in ³ / rev
GEAR RATIO	two-stage planetary gear 16:1	two-stage planetary gear 16:1	two-stage planetary gear 19.4:1	two-stage planetary gear 30:1	two-stage planetary gear 41:1
WINCH CONSTRUCTION	aluminum die cast housings with steel drum	aluminum die cast housings with steel drum	aluminum die cast housings with steel drum	aluminum die cast housings with steel drum	aluminum die cast housings with steel drum
CLUTCH	rotating ring gear	rotating ring gear	rotating ring gear	output shaft disengaged air spool	output shaft disengaged air spool
BRAKE	spring applied drag brake together with over-center valve, supplied	spring applied drag brake together with over-center valve, supplied	spring applied drag brake together with over-center valve, supplied	multidisc brake	multidisc brake
ROTATION OF WINCH	underwound	underwound	underwound	underwound	underwound
DRUM BARREL DIAMETER	4"	4"	4"	5.8"	6"
DRUM FLANGE DIAMETER	7.9"	9.9"	9.9"	12.4"	13.5"
DISTANCE BETWEEN FLANGES	10"	10"	10"	14"	14"
MOUNTING BOLTS PATTERN	11.5" x 6.7" 14.7" x 4.5"	12" x 4.5" 14.5" x 6.7"	12" x 4.5" 14.5" x 6.7"	18" x 7.5" 18" x 10.5"	18" x 7.5" 18" x 10.5"
RECOMMENDED WIRE ROPE	3/8" x 100'	1/2" x 150'	1/2" x 150'	9/16" x 250'	5/8" x 250'
WINCH WEIGHT	81.4 lbs	158.7 lbs	158.7 lbs	331 lbs	434 lbs
GROSS WEIGHT	102.5 lbs	194 lbs	194 lbs	380 lbs	518 lbs
WINCH DIMENSIONS (LxWxH)	24.6" x 9.4" x 9.7"	26.9" x 11.4" x 11.3"	27.1" x 11.4" x 11.3"	34.6" x 14.6" x 13"	41" x 25" x 20"
BOX DIMENSIONS (LxWxH)	26.2" x 14.6" x 11.2"	28.1" x 16.3" x 12.2"	28.1" x 16.3" x 12.2"	shipped in crate or pallet individually	shipped in crate or pallet individually

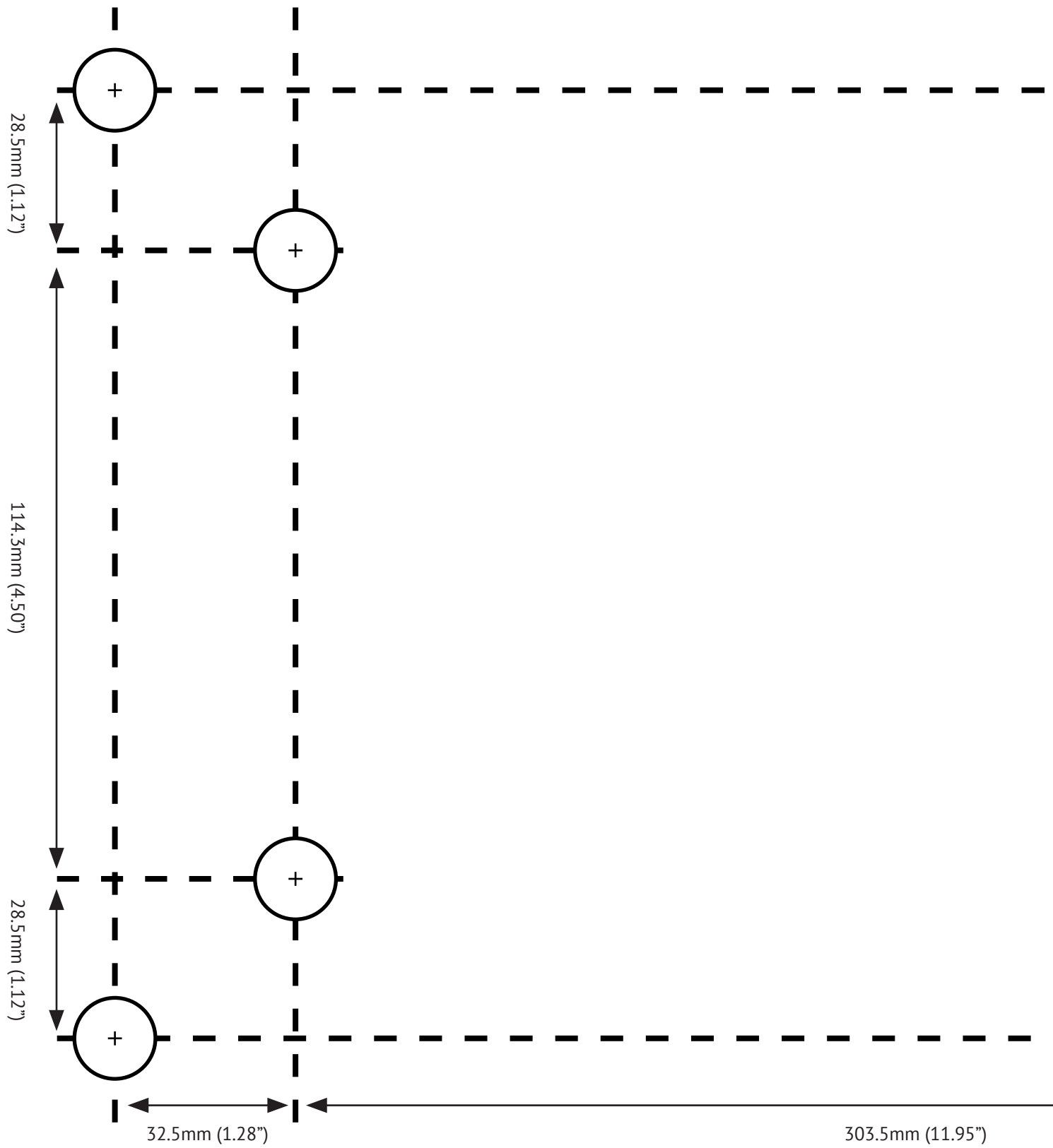
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PIERCE[®]
PULLING FOR YOU

PSHV10000 FOOTPRINT

8-Ø11mm (0.43")

41.3mm (1.63")



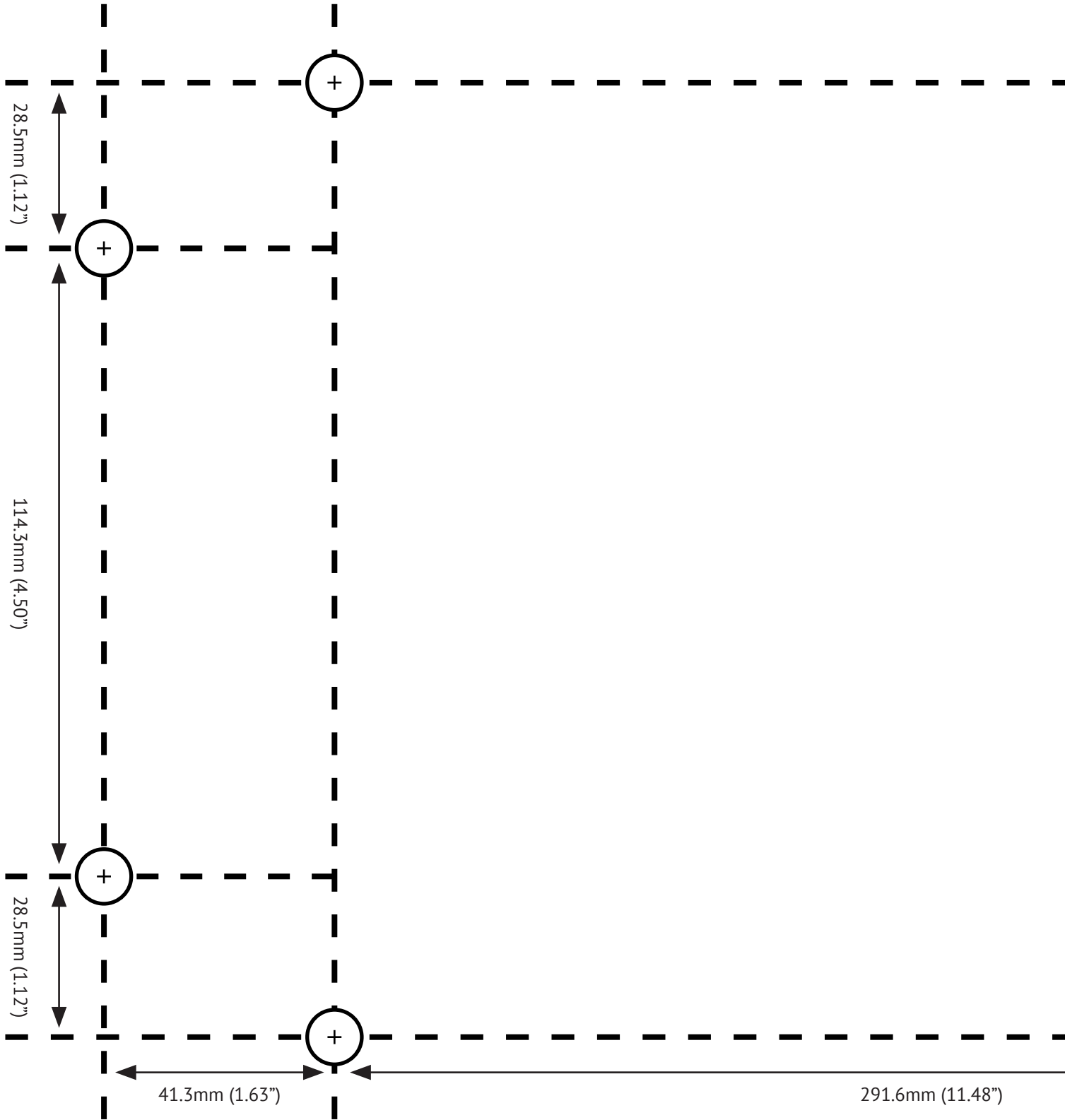
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PIERCE[®]
PULLING FOR YOU

PSHV15000 / PSHV18000 FOOTPRINT

8-Ø16mm (5/8")

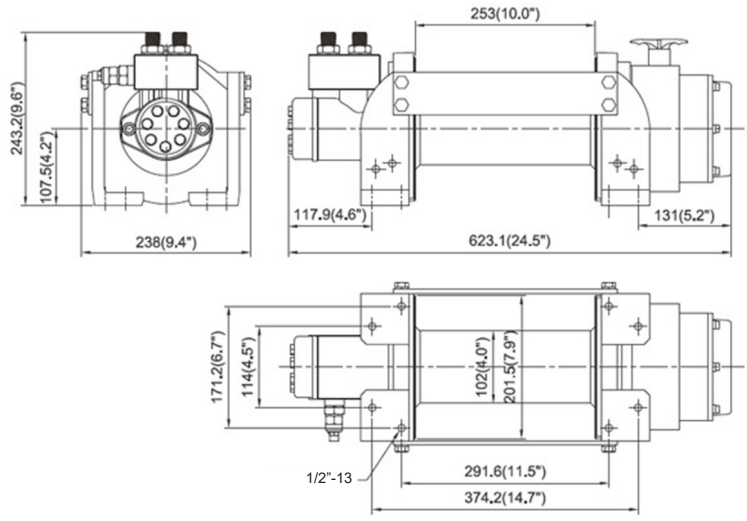
32.5mm (1.28")



LINE SPEEDS & DIMENSIONS

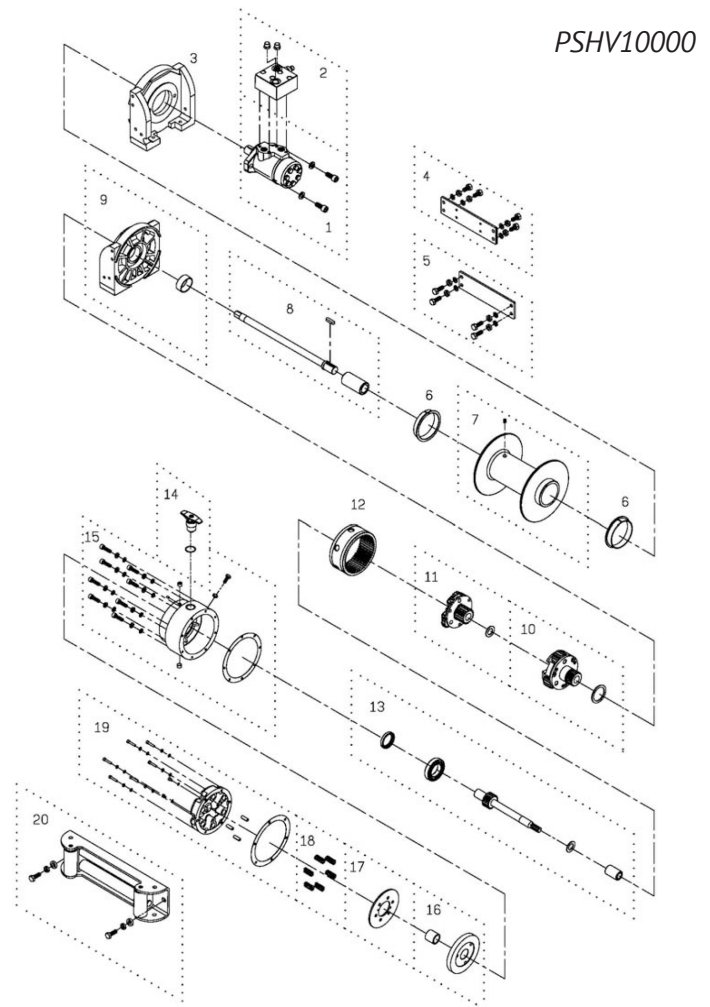
PSHV10000

LAYERS OF WIRE ROPE	PULL (LBS)	WIRE ROPE (FT)	SPEED @ 15.9 GPM (FPM)
1	10,000	26.2	46
2	8,369	57.4	53.5
3	7,196	89	62.3



PARTS DIAGRAM

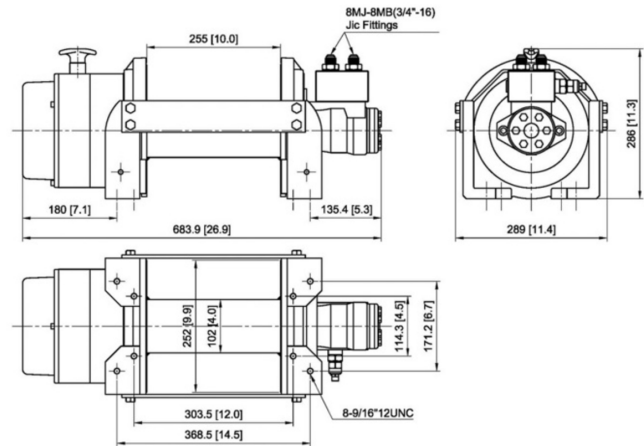
#	DESCRIPTION	PART NO.	QUANTITY
1	hydraulic motor kit	880162	1
2	over center valve	883314	1
3	motor support rack	882093	1
4	tie bar kit	880163	1
5	tie bar kit	881172	1
6	drum bushing	880048	2
7	drum kit	881173	1
8	connecting shaft kit	880165	1
9	gearbox support rack	881135	1
10	second stage carrier	881253	1
11	first stage carrier	880153	1
12	ring gear	880154	1
13	first shaft kit	880155	1
14	clutch kit	880156	1
15	gearbox kit	881315	1
16	drag brake kit	881338	1
17	brake disc	881127	1
18	brake spring	881128	1
19	brake cover kit	881317	1
20	roller fairlead	880180	1



LINE SPEEDS & DIMENSIONS

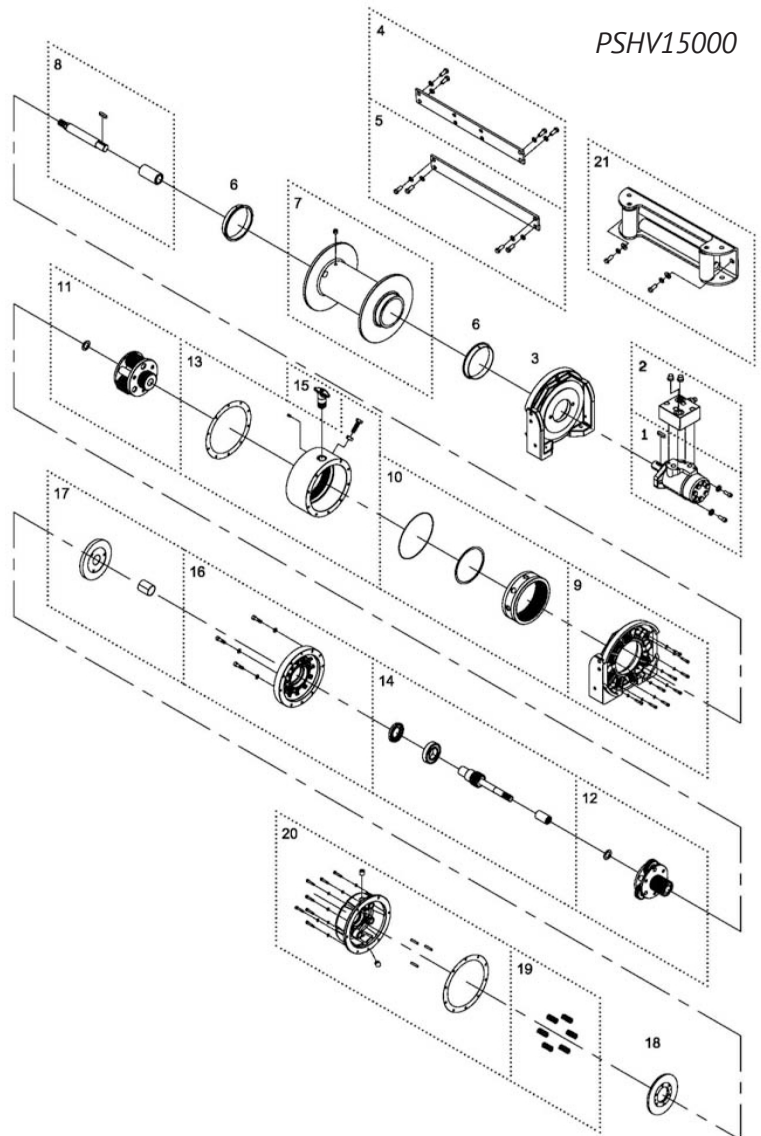
PSHV15000

LAYERS OF WIRE ROPE	PULL (LBS)	WIRE ROPE (FT)	SPEED @ 15.9 GPM (FPM)
1	15,000	23.3	30
2	12,273	51.5	35.8
3	10,390	85	42



PARTS DIAGRAM

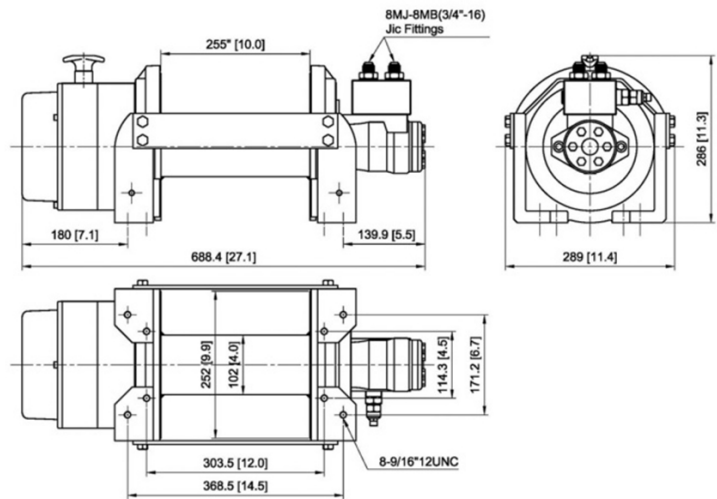
#	DESCRIPTION	PART NO.	QUANTITY
1	hydraulic motor kit	880182	1
2	over center valve	883314	1
3	motor support rack	880279	1
4	tie bar kit	880130	1
5	tie bar kit	880131	1
6	drum bushing	880282	2
7	drum kit	880167	1
8	connecting shaft kit	880168	1
9	gearbox support rack	882290	1
10	second ring gear kit	882292	1
11	second stage carrier	880171	1
12	first stage carrier	880172	1
13	gear box kit B	882306	1
14	first shaft kit	880174	1
15	clutch kit	882214	1
16	gearbox kit	882307	1
17	drag brake kit	881339	1
18	brake disc	881175	1
19	brake spring	881128	1
20	brake cover kit	882308	1
21	roller fairlead	880180	1



LINE SPEEDS & DIMENSIONS

PSHV18000

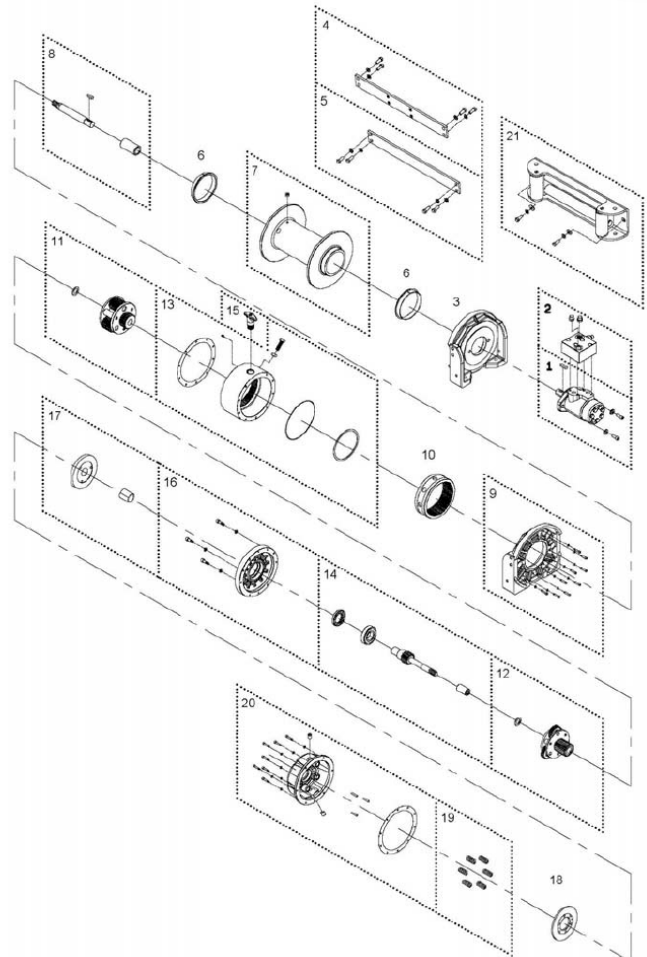
LAYERS OF WIRE ROPE	PULL (LBS)	WIRE ROPE (FT)	SPEED @ 15.9 GPM (FPM)
1	18,000	23	23
2	14,775	51	29
3	12,529	85	34



PARTS DIAGRAM

#	DESCRIPTION	PART NO.	QUANTITY
1	hydraulic motor kit	880182	1
2	over center valve	883315	1
3	motor support rack	882017	1
4	tie bar kit	880130	1
5	tie bar kit	880131	1
6	drum bushing	880282	2
7	drum kit	882018	1
8	connecting shaft kit	880168	1
9	gearbox support rack	882304	1
10	second ring gear kit	882292	1
11	second stage carrier	880171	1
12	first stage carrier	880172	1
13	gear box kit B	882306	1
14	first shaft kit	880174	1
15	clutch kit	882214	1
16	gearbox kit	882307	1
17	drag brake kit	881339	1
18	brake disc	881175	1
19	brake spring	881128	1
20	brake cover kit	882308	1
21	roller fairlead	880180	1

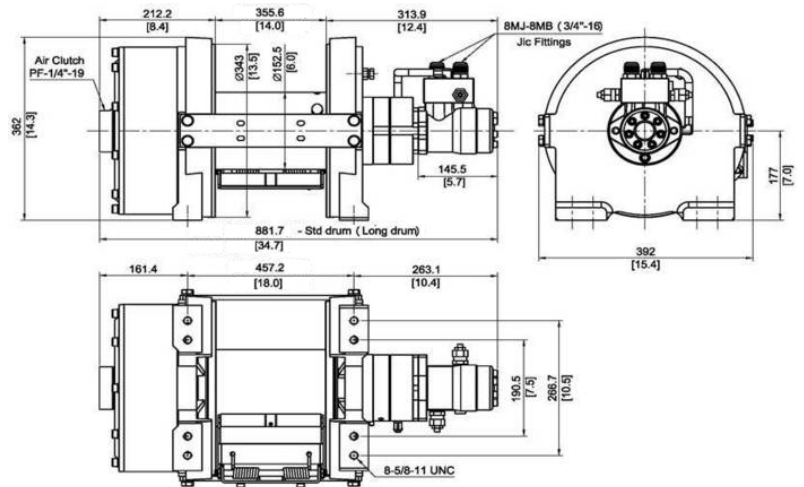
PSHV18000



LINE SPEEDS & DIMENSIONS

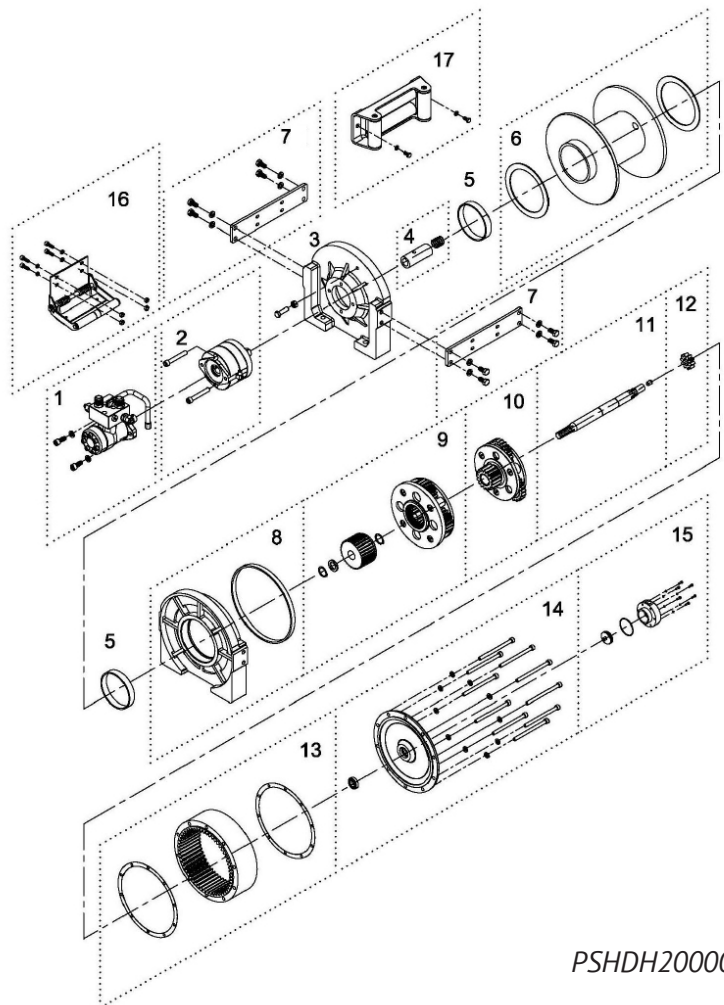
PSHDH20000

LAYERS OF WIRE ROPE	PULL (LBS)	WIRE ROPE (FT)	SPEED @ 15.9 GPM (FPM)
1	20,000	23	23
2	17,017	49	27
3	14,813	79	31



PARTS DIAGRAM

#	DESCRIPTION	PART NO.	QUANTITY
1	hydraulic motor kit, OMP-160	882186	1
2	multi-disc brake kit	881971	1
3	motor support rack	882142	1
4	motor coupling kit	881973	1
5	drum bushing	880187	1
6	drum	882182	1
7	tie bar	882189	2
8	gearbox support rack	882144	1
9	second stage carrier	882145	1
10	first stage carrier	882146	1
11	first shaft kit	882183	1
12	first gear	882052	1
13	first and second ring gear kit	882148	1
14	gearbox rear cover kit	882149	1
15	air inlet cover kit	881982	1
16	cable tensioner	882195	1
17	Roller fairlead	882238	1

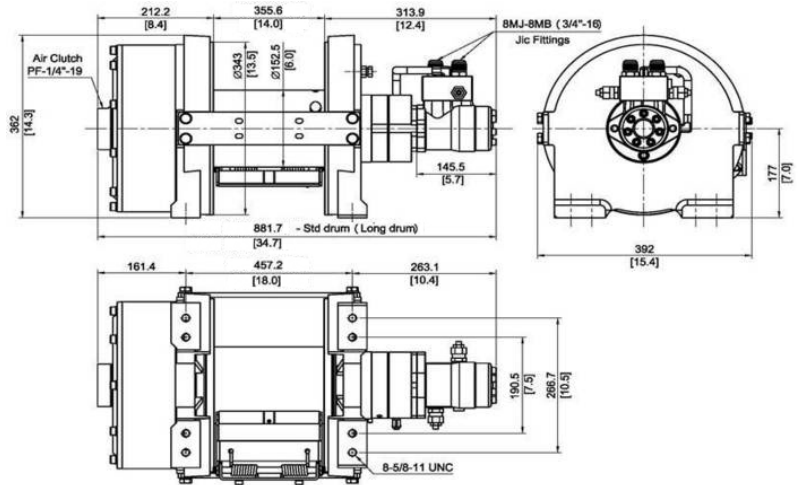


PSHDH20000

LINE SPEEDS & DIMENSIONS

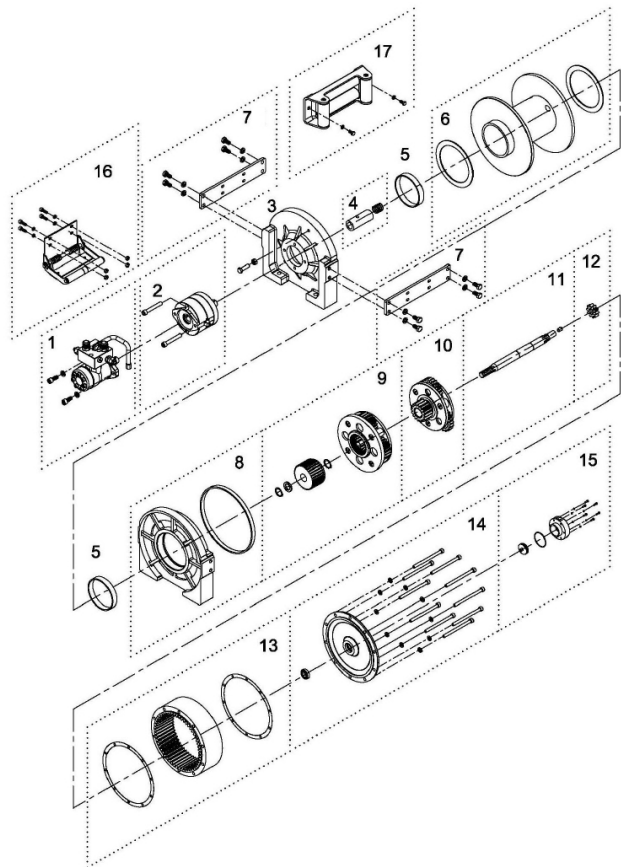
PSHDH30000

LAYERS OF WIRE ROPE	PULL (LBS)	WIRE ROPE (FT)	SPEED @ 15.9 GPM (FPM)
1	30,000	36	16
2	25,216	82	19
3	21,745	131	23



PARTS DIAGRAM

#	DESCRIPTION	PART NO.	QUANTITY
1	hydraulic motor kit, OMP-160	882186	1
2	multi-disc brake kit	881971	1
3	motor support rack	881972	1
4	motor coupling kit	881973	1
5	drum bushing	880204	2
6	drum	882188	1
7	tie bar	882189	2
8	gearbox support rack	881976	1
9	second stage carrier	881977	1
10	first stage carrier	881978	1
11	first shaft kit	882191	1
12	first gear	882052	1
13	first and second ring gear kit	881980	1
14	gearbox rear cover kit	881981	1
15	air inlet cover kit	881982	1
16	cable tensioner	882195	1
17	Roller Guide	882238	1



PSHDH30000

LIMITED WARRANTY

Pierce Arrow Inc. warrants that the goods, equipment, and merchandise manufactured by Pierce Arrow Inc. are free from defects in material and workmanship. The limited warranty includes replacement or repair of defective mechanical and electrical parts for a period of one year from the date of shipment by Pierce Arrow Inc.

OBTAINING WARRANTY SERVICE

Pierce Arrow Inc. must be notified of any defect before repair or replacement may be granted. The merchandise must be delivered by the purchaser to Pierce Arrow Inc. in Henrietta, Texas at the purchaser's expense. Any repairs not made by Pierce Arrow Inc. are not covered by the limited warranty and are the responsibility of the purchaser.

Pierce Arrow Inc. reserves the right to repair or replace defective parts or products in its sole discretion. The cost of any repairs not covered by the warranty will be charged to the purchaser.

EXCLUSIONS

All Pierce products are manufactured for a specific intended purpose. The Pierce Arrow Inc. limited warranty does not cover, and Pierce Arrow Inc. is not liable for, damage arising from any use other than the specific intended use of each product.

All coolers manufactured by Pierce are warranted for general cooling, and are not guaranteed to produce cooling sufficient for any specific purpose or for specific temperature. Pierce is not liable for any injury or damage arising from insufficiently cooled objects placed in the cooler, including but not limited to medications and perishables.

The Pierce Arrow Inc. limited warranty does not cover:

- Ongoing maintenance parts or repair due to normal wear and tear, and
- Any change or defect due to accident, misuse or any use for which the equipment was not intended, improper or unauthorized repair, failure to provide regular maintenance, and deterioration due to weather or road conditions.

Purchasers should consult their owner's manual for safety, installation, operation, and maintenance guidelines.

The Pierce Arrow Inc. limited warranty does not cover purchaser's cost of labor, transportation, shipping damages, installation or removal costs, down time, loss of profit or goodwill, or any other special, incidental, indirect, or consequential damages, concerning or related to any product or

part, whether based upon negligence, strict liability, breach of contract, breach of warranty, misrepresentation, or any other legal theory.

Merchandise manufactured by Pierce Arrow Inc. is not designed or intended for the movement of people and are not to be used in the operation of elevators or other improper uses. Any improper use of the product may void the warranty.

OTHER MANUFACTURERS' WARRANTIES

Pierce Arrow Inc. makes no warranty, expressed or implied, to finished products manufactured or supplied by other manufacturers, and sold by Pierce Arrow Inc. to the purchaser, including but not limited to, any vehicle to which our product is affixed and any accessories. Such merchandise is subject to the manufacturer's warranty only, which will be provided upon request.

CONDITIONS OF SALE

When placing an order with Pierce Arrow Inc., the terms and conditions provided for payment, shipping, delivery and claims create an agreement between the purchaser and Pierce Arrow Inc. The agreement is to be performed in Clay County, Texas.

RETURNS: No returns are accepted without prior authorization. All items must be returned in their entirety. Please contact a sales representative for authorization. Upon authorization, returns must be shipped freight prepaid and may be subject to a 15% restocking fee. Please do not send returns COD. No returns will be accepted later than 30 days from the date of invoice.

DAMAGED GOODS: Pierce Arrow Inc. is not responsible for, and has no liability for:

- Damage arising during shipment
- Any change or defect due to accident, misuse or any use for which the equipment was not intended, improper or unauthorized repair, failure to provide regular maintenance, and deterioration due to weather or road conditions.

CLAIMS: Claims for breakage or damages during shipment must be made to the carrier at the time of delivery. If a signature is required, you must notify the driver and sign that there was damage. You must notify Pierce Arrow Inc. of the damage promptly so that a claim can be filed.



Thank you for choosing PIERCE!

We strive for 100% customer satisfaction. We are committed to excellent customer service because we are *pulling for you*.

SHARE YOUR FEEDBACK

Are you 100% satisfied?

- **If YES:** Please leave us a review on Google at www.piercearrowinc.com
- **If NO:** Call us at 800-658-6301 or let us know how we can help at www.piercearrowinc.com/contact-us

LEARN MORE ABOUT PIERCE PRODUCTS

We'd be happy to send you a catalog. Or call our team today with further questions. Check out our resource library to access Pierce specification sheets, wiring diagrams, and manuals.

<https://www.piercearrowinc.com/documents/>

KEEP IN CONTACT

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Henrietta, Texas 76365	Fax: (940) 538-4382

www.piercearrowinc.com
www.youtube.com/piercearrowinc

Contact us – call, email, fax, telegraph, morse code.
Our sales team and technical service reps are ready and here to help you.

Open Monday – Friday 8 a.m. – 5 p.m. CST.

SHIPPING INFORMATION

All orders placed over the weekend will ship the following Monday unless it's a holiday.
Orders placed during holidays will ship when we return for work.