Mile Marker

Installation & Operator's Manual

 PE5000
 77-50120W (STEEL CABLE)

 5,000 lbs.
 77-53120W (SYNTHETIC ROPE)

SAFETY WARNINGS





ALWAYS WEAR GLOVES









READ INSTRUCTIONS

ALWAYS USE WINCH STRAP

PINCH HAZARD

DO NOT USE WINCH TO TRANSPORT PEOPLE

DO NOT USE WINCH TO HOIST

- 1. LEARN TO USE YOUR MILE MARKER WINCH: After winch has been installed, take some time and practice using it so you will be familiar with ALL OPERATIONS. Periodically check the winch installation to ensure that all bolts are tight. To ensure proper operation, carefully inspect for any damaged parts before operating the winch.
- 2. KEEP WINCHING AREA CLEAR: Do not allow people to remain in the area during winching operations. Do not step over a taut steel cable/ synthetic rope or allow anyone else to do so. Due to the possibility of steel cable/synthetic rope failure stand clear of any possible pathway. A snapped steel cable/synthetic rope could cause winch failure, injury or death. Keep proper footing and balance at all times. Do not reach over or across the winch and/or pulling steel cable/synthetic rope while the winch is in operation.
- 3. INSPECT STEEL CABLE/SYNTHETIC ROPE AND EQUIPMENT FREQUENTLY: The steel cable/synthetic rope should be inspected for damage that could reduce it's breaking strength. A frayed steel cable/synthetic rope with broken strands should be replaced immediately. Always replace the steel cable/synthetic rope with a steel cable/synthetic rope that is rated to sustain the load that the winch is capable of pulling. Any substitute must be identical in strength, quality, lay and stranding to the Mile Marker steel cable/synthetic rope originally supplied.
- 4. WORKING AREA CONDITIONS: Keep the working area well lit. Do not use this winch in the presence of flammable gases or liquids.
- 5. KEEP CHILDREN AWAY: Keep children away from working area. Never let children operate the winch.
- 6. DRESS PROPERLY: Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non conductive clothes and non skid footwear is the only type of clothing you should be using when operating the winch. Wear restrictive hair covering to contain long hair.
- 7. USE LEATHER GLOVES: When handling or rewinding steel cable/synthetic rope always use hand protection to eliminate the possibility of cuts caused by burrs & slivers from broken strands.
- 8. DRUM: Always make sure that there are at least 5 complete turns of steel cable/synthetic rope left on the drum before winching.
- 9. KEEP HANDS AND FINGERS CLEAR OF STEEL CABLE/SYNTHETIC ROPE AND HOOK WHEN OPERATING WINCH: Do not put your finger through the hook when reeling in the last few feet. If your finger should become trapped in the hook, you could lose your finger. Do not guide a steel cable/ synthetic rope under tension onto the drum with your hand.
- 10. DO NOT HOOK THE STEEL CABLE/SYNTHETIC ROPE BACK ONTO ITSELF: Hooking the steel cable/synthetic rope back onto itself creates an excessive strain that could break individual strands; this, weakens the entire steel cable/synthetic rope.
- 11. KEEP PULLING DURATIONS AS SHORT AS POSSIBLE: The winch is designed for intermittent use and cannot be used in constant duty applications. Do not pull more than one minute at or near rated load. If the motor becomes too hot to touch, stop and let it cool off for a few minutes. If the motor stalls, cut off the power immediately.
- 12. DO NOT OVERLOAD: For your safety and efficient performance, always use this winch at or under its rated capacity for your safety and for better performance. Do not use inappropriate attachments in an attempt to exceed its rated capacity.
- 13. AVOID CONTINUOUS PULLS FROM EXTREME ANGLES: This will cause the steel cable/synthetic rope to pile up at one end of the drum. The steel cable/synthetic rope should be as straight as possible to the direction of the object.
- 14. DO NOT OPERATE THE WINCH WITHOUT THE FAIRLEAD FITTED: Operator injury or winch damage can result if a fairlead is not installed.
- 15. STAY ALERT: Watch what you are doing. Use your common sense. Do not use this winch when you are tired, stressed or when under the influence of drugs, alcohol or medication.
- 16. DISCONNECT SWITCH: Unplug switch when not in use.
- 17. REPLACEMENT PARTS & ACCESSORIES: When servicing, use only identical replacement parts. Usage of any other parts will void the warranty. Approved accessories are available from your local distributor.
- 18. DO NOT force clutch. Rotate drum to align gears for freespool.

PRECAUTIONS

- 1. Keeps hands and body away from roller/hawse fairlead (steel cable/synthetic rope intake slot) when operating.
- 2. Secure vehicle in position before using winch.
- 3. Do not exceed winch load weight capacity.
- 4. Be certain winch is properly bolted to a structure (or vehicle) that can hold the winch load.
- 5. Always use proper couplings when connecting winch steel cable/synthetic rope hook to load.
- 6. Do not lift items vertically. The winch was designed for horizontal use only.
- 7. Do not overload the winch. It will do the job better at the load it was intended.
- 8. Do not use inappropriate attachments to extend the length of the steel cable/synthetic rope.
- 9. Do not lift people or hoist loads over people.
- 10. Do not come in between the winch and the load when operating.
- 11. Do not apply load to winch when steel cable/synthetic rope is fully extended. Keep at least 5 full turns of steel cable/synthetic rope on the drum.
- 12. After moving an item with the winch, secure the item. Do not rely on the winch to hold it for an extended period.
- 13. Examine winch before using. Components may be affected by exposure to everyday weathering, chemicals, salts, and rust.
- 14. Do not fully extend steel cable/synthetic rope while under load. Keep 5 COMPLETE TURNS of steel cable/synthetic rope around the winch drum.
- 15. When loading a boat into a trailer without reel or side hull rollers, make sure the trailer is submerged in the water when the boat is loaded by the winch. Attempting to drag the boat on to the trailer while on land can cause winch failure and possible injury.
- 16. Do not operate winch if steel cable/synthetic rope shows any signs of weakening, is knotted or kinked.
- 17. Winch does not have a locking mechanism. Secure load after moving.
- 18. Do not cross over or under the steel cable/synthetic rope while it is in process of loading.
- 19. Do not move vehicle with steel cable/synthetic rope extended and attached to load to pull it. The steel cable/synthetic rope could snap.
- 20. Apply blocks (such as a wheel choke) to vehicle when parked on an incline.
- 21. Respool steel cable/synthetic rope properly.

GETTING STARTED

Mounting Options

When installing a winch, your installation may vary from the manual diagrams and instructions included here due to physical vehicle differences. Always disconnect the battery from the vehicle to before starting installation. If you choose not to use an ATV/UTV mounting kit you may be required to drill holes in a structural support on the ATV/UTV. Be sure the location will be strong enough to support the rated pulling force of the winch.

NOTE: DO NOT DRILL INTO OR NEAR WIRING OR GAS TANK

Winch Mounting



- Mounting points that can be used in this installation:
- (A) Winch and mount
- (B) Under seat control box mounting
- (C) Handlebar pendant mount
- (D) Remote pendant receiver location

NOTE: Mile Marker recommends the use of its mounting systems for proper winch installation and optimum winch performance. However, when not using Mile Marker mounting system, ensure that the mounting platform is strong enough to meet the maximum rated load of the winch in use. Your winch should be aligned and secured to a solid part of the vehicle (front or rear) where the full rated load will be evenly distributed.

CAUTION: It is essential that the mounting surface be flat and the winch is mounted such that the three major sections (gear housing end, drum and motor end) are in proper alignment.

- 1. Install the mounting kit or prepare a flat and secure location on the ATV/UTV for the winch. The winch mount kit has instructions for the intended ATV/UTV.
- 2. Position the winch over the mount and check for operation of the clutch lever to frame clearance. Check for tire to winch clearance. If ok, continue on to the next step.
- 3. Secure the winch to the mounting bracket or surface chosen with the correct hardware.

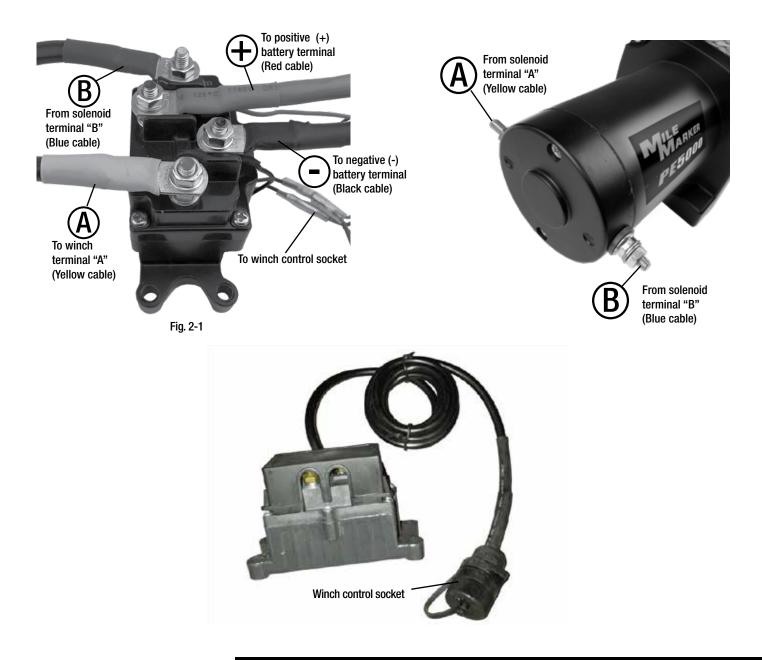
NOTE: Make sure the winch mounting bolts and winch hardware has been checked for proper torque. Sometimes it may be necessary to remove the steel cable/synthetic rope from the winch drum to install the mounting hardware or fairlead. All Mile Marker mounting systems come fairlead ready. If you are using any other mounting platforms, drill two holes for the fairlead installation. Position the holes such that the fairlead opening hole stretches from the circumference of the drum to the end of the maximum permissible layers on the drum in the direction steel cable/synthetic rope is being rolled.

WIRING INSTRUCTIONS

NOTE: Be sure to mount control box in a location that: does not interfere with any vehicle's moving/functioning parts, and use electrical cables with similar specifications as that provided by Mile Marker if a substitution is required.

CAUTION: Battery cables should not be drawn taut, leave some slack for cable movement. Ensure that they are routed properly with out any interference with the vehicular components that could potentially damage the cable or cause electrical short. Long battery cable runs may have significant voltage drops that may cause the winch motor controller to not operate properly.

DO NOT CONNECT POWER CABLES TO BATTERY UNTIL FINAL STEP OF INSTALLATION



WINCH OPERATION

Function Testing

After checking all connections in accordance to installation instructions prior, connect power cables to vehicle's battery. Attach black cable to negative (-) battery terminal and secure, followed by attaching the red cable to positive (+) battery terminal.

- 1. Before testing the winch, turn the clutch handle to the "Freespool" position. Always wear leather gloves when handling steel cable/synthetic rope. Using the winch strap, pull about two feet of steel cable/synthetic rope off the drum, and place the clutch handle in the "Engaged" position (Fig. 3-1).
- 2. Toggle the rocker switch "IN" button to retrieve line (Fig 3-2). The steel cable/synthetic rope will spool in on drum.

NOTE: If steel cable/synthetic rope is spooled "OUT" while pressing the "IN" function, please refer to Fig. 2-1 (on page 5), and switch power cables to opposite studs on motor.

3. Toggle the rocker switch "OUT" button to power out winch steel cable/synthetic rope (Fig. 3-2). Winch steel cable/synthetic rope will spool out off of drum.

NOTE: The "OUT" function is for intermittent use only, as you are powering drum against the brake, and can damage internal mechanism.

4. If any of the above functions are not working properly, recheck all connections in accordance with wiring Instructions in this manual, or refer to troubleshooting section in the back of manual.

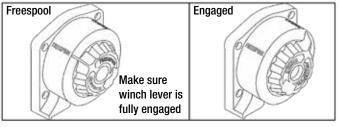


Fig. 3-1



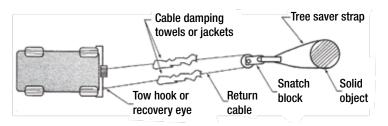
Fig. 3-2

WINCHING TIPS & TECHNIQUES

Winching Tips and Use of a Snatch Block

- •Use tow hooks, recovery eyes or clevis mounts for attachment of a tow strap or winch steel cable/synthetic rope. NOTE: Do not use a ball and/or ball mount as an anchor point for tow strap or winch steel cable/synthetic rope. Severe personal injury or death could occur.
- •Always heed all winch manufacturer's recommendations, cautions, and warnings.
- Attach return steel cable/synthetic rope to tow hook or recovery eye when using a snatch block. Always use a clevis to secure snatch block to strap, or severe damage could occur to persons and vehicle.

NOTE: Do not attach return steel cable/synthetic rope to winch mount. This may overload winch mount and/or front receiver.

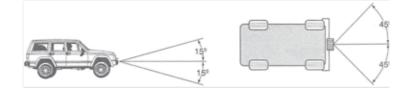


Rating

For maximum line pull rating, winch cable direction must not exceed:

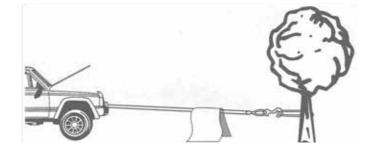
- 1. 15° angle up or down from horizontal
- 2. 45° angle left or right from straight ahead

CAUTION: Exceeding the maximum line pull rating may overload winch, mount, and/or front mounted receiver



Safety Tips

- •DO NOT DISENGAGE CLUTCH LEVER WHEN THERE IS A LOAD ON THE WINCH. Mile Marker electric winches utilize an automatic load holding brake, therefore no adjustment to clutch is needed to maintain load.
- •Store the remote control cord in a safe place when not in use to prevent use by children or other unauthorized persons who could injure themselves or others or damage the controls.
- •Do not operate winch under the influence of drugs, alcohol, or medication.
- •Isolate winch before putting hands in or around the fairlead or steel cable/synthetic rope drum.
- •DO NOT OVERLOAD YOUR WINCH. Do not maintain power to the winch if the drum stops. Overloads can damage the vehicle, winch or winch steel cable/synthetic rope and create unstable operating conditions.
- •It is recommended to lay a dampener over the steel cable/synthetic rope about halfway along to the hook attachment. If a steel cable/ synthetic rope failure should occur, the weight of the dampener will help prevent the broken steel cable/synthetic rope from whipping. Remember to move the dampener as winching proceeds, but halt winching when doing so. Partially raising the hood of the vehicle will also give a measure of protection to its occupants from broken steel cable/synthetic rope, consistent with sufficient forward visibility for the operator.



Self Recovery

- 1. Always attempt to get the steel cable/synthetic rope as straight as possible to the direction of the vehicle. It is acceptable to start a pull at an angle if it is obvious that the vehicle will turn towards the hook anchoring point. Turning the steering wheel will assist the process. It is recommended that the driver is in the vehicle.
- 2. Make sure hand brake and foot brake are free and that the transmission is in neutral.
- 3. When the driver's attempt to regain vehicle traction is successful, he or she should be careful not to overrun the steel cable/synthetic rope and risk the possibility of it being trapped under the vehicle.
- 4. DO NOT move your vehicle in reverse to assist the winch. The combination of the winch and vehicle pulling together could overload the steel cable/synthetic rope and winch itself.
- 5. DO NOT connect steel cable/synthetic rope or hook back to winch mount.

Use of a Pulley Block or Snatch Block

Vehicle self recovery using the pulley block attached to the anchor point for direct pull. In this instance the vehicle becomes the "load" and the actual pulling power on the vehicle will be double at half winch steel cable/synthetic rope speed. Do not connect steel cable/synthetic rope or hook back to winch mount.

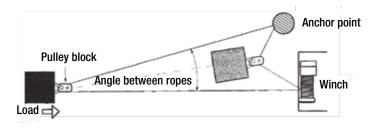


Direct pull on load using the winch vehicles as the anchor with pulley block attached to the load. The most important aid to successful winching is the pulley block, which can be used to increase the pulling power of the winch of for indirect pulls. Pulley blocks can be used in two modes. First mode is attached to the load and second is secured to an anchor point.



Indirect pull necessitated by obstructions or soft ground. Attach pulley block to load using a suitable anchor point.

NOTE: The angled direction taken by the load and subsequent angle of steel cable/synthetic rope feed back on the winch drum (extreme example shown). There may be unavoidable circumstances requiring this mode, though in general it is not recommended unless applied in stages by moving the anchor point or vehicle to avoid the sharp angled rewind on the winch drum. The actual load pulling power and steel cable/synthetic rope speed will depreciate with any increased angle between the steel cable/synthetic rope. The anchor point, when used must be secure, using a tree, another vehicle or any firm structure to which a pulley block can be used to your advantage.



Use of a Nylon Sling and Shackle

A shackle should always be used when attaching winch hooks to nylon slings. NOTE: The shackle must pass through both eyes of the sling. The safe working load of the nylon sling is based on the use of both eye ends. Do not use the cable or hook to connect directly to the nylon sling.

Use of Gloves

When handling or rewinding the steel cable/synthetic rope always use leather gloves to reduce the possibility of cuts that can be caused by burrs or broken strands. Inspect steel cable/synthetic rope and equipment frequently. The steel cable/synthetic rope should be replaced immediately if there are any evident signs of fraying, burrs, or broken strands. Replace the steel cable/synthetic rope with a Mile Marker recommended replacement part and make sure the steel cable/synthetic rope is rated to sustain any load the winch is capable of pulling. Substitutes must be identical in strength, quality, lay and stranding to the Mile Marker steel cable/synthetic rope originally provided. Never hook the steel cable/synthetic rope back onto itself. Hooking the steel cable/synthetic rope back onto itself creates an unacceptable strain, breaking individual strands, which in turn weakens the entire steel cable/synthetic rope. Use a sling and avoid continuous pulls from extreme angles as this causes steel cable/synthetic rope to pile up at one end of the drum.

NOTE: For optimal winch performance, it is recommended that you use a fully charged 12V battery with at least 150 Cold Cranking Amperes. Further, it is advised to keep the engine running during the winch operation, so that the battery is being charged continuously.

Motor Temperature

ELECTRIC WINCHES ARE DESIGNED FOR INTERMITTENT USE ONLY. Do not run this winch at a high load for an extended period of time. To check the motor temperature: stop operation, secure the load, release the tension on the steel cable/synthetic rope and place your hand on the motor to check temperature. If you feel the motor is warm to the touch, let it cool off for a few minutes. If the motor is laboring, stop sooner and more often to check the motor temperature. Using a double line with a snatch block will reduce the load on the winch to about half. The lower the amp load on the winch the longer it will take to heat up the motor.

Spooling Under Load

Spooling Under Load: Always ensure that steel cable/synthetic rope passes between drum & mounting surface. Always wind the steel cable/ synthetic rope as evenly and tight as possible. Avoid shock loading the winch when spooling in. If this is done you can cause a hazardous condition that can break the steel cable/synthetic rope or damage the winch. Avoid pulling at an angle for an extended period. This will stack the steel cable/synthetic rope up on side of the spool and cause serious damage to the winch. You may have to reposition the steel cable/ synthetic rope a few times to allow the winch to pull in a straight line.

Rigging

Spool out as much steel cable/synthetic rope as possible to the farthest object available. Keep the steel cable/synthetic rope in as straight a line as you can. Spool the line back on the winch as evenly as possible when retrieving the steel cable/synthetic rope. Natural anchors like trees, stumps and rocks are the better choices. Always use a tree saver wherever possible. Only connect the steel cable/synthetic rope to an object that will be able to resist the pulling power of the winch being used.

WINCH MAINTENANCE

- •All moving parts within the electric winch have been lubricated using high temperature lithium grease at the factory. No further internal lubrication is required for the life of the winch.
- •If using steel cable, lubricate the steel cable periodically using light penetrating oil.
- •Electrical connections may corrode over a period of time due to environmental changes. This may result in reduced performance of the winch or even possible electrical shorting. Hence, always clean the electrical connections before and after using the winch.
- •After every use of the winch, inspect the steel cable/synthetic rope for damages such as kinks, broken strands etc. When damaged, replace the steel cable/synthetic rope immediately.

TROUBLESHOOTING

Symptom	Possible Cause	Suggested Remedy	
	Safety switch is OFF	Turn safety switch ON	
	Switch assembly not connected properly	Insert switch assembly firmly to the connector	
	Loose battery cable	Tighten nuts on cable connectors	
Motor does not turn on	- Connection - Solenoid malfunctioning	Tap solenoid to free contact, applying 12 volts to coil terminal directly. An audible clicking will occur when activating.	
	Defective switch assembly	Replace switch assembly	
	Defective motor	Check for voltage at armature port with switch pressed. If voltage is present, replace motor.	
	Water has entered motor	Drain and dry. Run in short bursts without load until completely dry.	
Motor runs too hot	Long period of operation	Let winch cool down periodically	
Motor runs slowly or	Battery runs down	Recharge battery by running vehicle engine	
without normal power	Insufficient current or voltage	Clean, tighten or replace the connector	
Motor runs but cable drum does not turn	Clutch not engaged	Turn clutch gear to IN/ENGAGED position - if that does not work, ask a qualified technician to check and repair	
Motor runs in one	Defective or stuck solenoid	Tap solenoid to free contacts. Repair or replace solenoid.	
direction only	Defective switch assembly	Replace switch assembly	

PARTS BREAKDOWN & ASSEMBLY

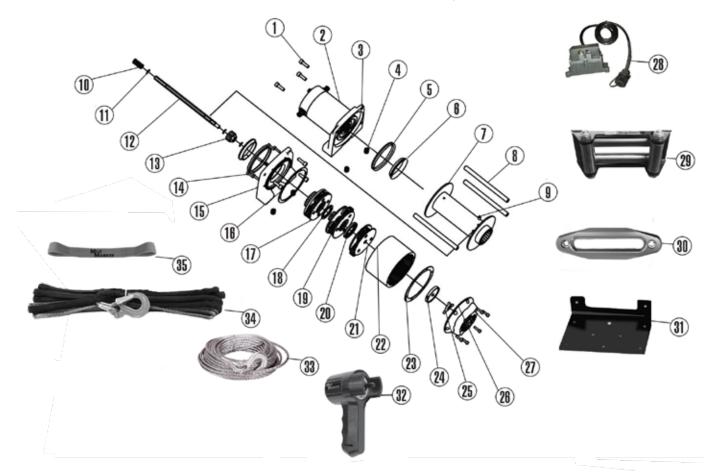
PE5000

ITEM	QTY	PART#	DESCRIPTION
1	4	77-50120W-01	Screw M6 x20
2	1	77-50120W-02	Motor
3	1	77-50120W-03	Motor Base
4	4	77-50120W-04	Sheath Trap
5	2	77-50120W-05	Seal Ring
6	2	77-50120W-06	Oil less Bearing
7	1	77-50120W-07	Drum
8	3	77-50120W-08	Tie Bar
9	1	77-50120W-09	Screw
10	1	77-50120W-10	Spline Spring
11	1	77-50120W-11	Clip
12	1	77-50120W-12	Drive Shaft
13	1	77-50120W-13	Joint Gear
14	2	77-50120W-14	Screw M4 x 12
15	1	77-50120W-15	Gearbox Base
16	1	77-50120W-16	Seal
17	1	77-50120W-17	Planetary Gear 3
18	1	77-50120W-18	Washer

ITEM	QTY	PART#	DESCRIPTION
19	1	77-50120W-19	Planetary Gear 2
20	1	77-50120W-20	Washer
21	1	77-50120W-21	Planetary Gear 1
22	1	77-50120W-22	Gearbox Housing Assembly
23	1	77-50120W-23	Seal
24	1	77-50120W-24	Sliding Bearing
25	1	77-50120W-25	Fork Pin
26	1	77-50120W-26	Gearbox End Cover
27	1	77-50120W-27	Clutch Knob
28	1	77-50105-37	Solenoid
29*	1	WH5	Roller Fairlead
30**	1	19-52005	Hawse Fairlead
31	1	77-50120W-30	Mounting Plate
32	1	77-50141W-50	Handheld Remote Control
33*	1	77-50120W-34	Steel Cable with Hook
34**	1	19-52316-50	Synthetic Rope with Hook
35	1	77-50120W-35	Hand Saving Belt

* Included with part number 77-50120W

** Included with part number 77-53120W





Mile Marker/Selectro hubs and Conversion Kits Limited Warranty

Mile Marker Industries warrants directly to the first purchaser that part numbers 427, 428, and all Selectro models will be free from defect in material and workmanship appearing under normal use and service for a period of one year.

Mile Marker Industries warrants directly to the first purchaser that part numbers 426, 438, and 460 will be free from defect in material and workmanship appearing under normal use and service for a period of two years.

Mile Marker Industries warrants directly to the first purchaser that part numbers 104, 302, 423, 430, 435, 436, 449SS, 457, 459SS, 466, 470, 481, 490 and 549 will be free from defect in material and workmanship appearing under normal use and service for as long as said purchaser owns the Premium Locking Hubs.

Mile Marker Industries warrants directly to the first purchaser that all Mile Marker Conversion Kits will be free from defect in material and workmanship appearing under normal use and service for a period of one year.

Warranty registration must be submitted at milemarker.com/warranty within thirty days of purchase by the end user. If you discover a hidden defect, Mile Marker will, as its option, repair or replace the product or necessary replacement parts at no charge to you, provided you remove the product from the vehicle and return it prepaid to Mile Marker Industries. If the product was purchased in the United States, the owner must contact our warranty department to get a Return Goods Authorization (RGA) number before returning the product. If the product was purchased outside the United States, the owner must return the product to the original place of purchase.

Mile Marker Industries Hydraulic Winch Limited Warranty

Mile Marker Industries warrants each winch when used in normal service against factory defects in materials and workmanship to the original commercial and recreational purchaser for the period of five years. New cable assemblies are warranted against defects in workmanship and materials when received by the retail purchaser. There is no applicable warranty for cable assemblies after initial use. Excluded from this warranty are the finish of the winch and any condition Mile Marker determines to have been caused by misuse or abnormal use. Warranty registration must be submitted at milemarker.com/warranty within thirty days by the end user. Warranty submissions must reference winch serial number to be valid. Warranty will only be valid for the original purchaser of the winch and installed on the vehicle for which it was originally registered. The owner will be responsible for removing the winch and returning it to Mile Marker freight prepaid unless a determination is made that replacement parts can be sent out which will remedy the problem. Mile Marker will repair or replace any or all winch parts, which after inspection determines to be defective. If the product was purchased in the United States, the owner must contact our warranty department to get a Return Goods Authorization (RGA) number before returning the product. If the product was purchased outside the United States, the owner must return the product to the original place of purchase.

Mile Marker Industries Electric Winch Limited Two Year Warranty

Mile Marker, Industries offers a limited two year warranty to the original retail purchaser for each new Mile Marker electric winch, used as a recreational recovery winch only, against manufacturing defects in workmanship and materials on all mechanical components. Electrical components consisting of motors, solenoids, wiring, wire connectors and associated parts have a limited one year warranty. New cable assemblies are warranted against defects in workmanship and materials when received by the retail purchaser. There is no applicable warranty for cable assemblies after initial use. Excluded from this warranty are the finish of the winch and any condition Mile Marker determines to have been caused by misuse or abnormal use. Warranty registration must be submitted at milemarker.com/warranty within thirty days by the end user. Warranty submissions must reference winch serial number to be valid. Warranty will only be valid for the original purchaser of the winch and installed on the vehicle for which it was originally registered. The owner will be responsible for removing the winch and returning it to Mile Marker freight prepaid unless a determination is made that replacement parts can be sent out which will remedy the problem. Mile Marker will repair or replace any or all winch parts, which after inspection determines to be defective. If the product was purchased in the United States, the owner must contact our warranty department to get a Return Goods Authorization (RGA) number before returning the product. If the product was purchased outside the United States, the owner must return the product to the original place of purchase.

For full warranty and general warranty procedure and policy visit milemarker.com/warranty