

SECTION II

REVISION 00



TigerTail Tow System: Disassembly & Assembly Manual

TigerTail Tow Systems are built for the most extreme applications. In some cases, service will be required. This manual is intended to minimize downtime and provide service procedures that are safe and informative.



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SECTION II



TigerTail Tow System: Disassembly & Assembly Manual

REMOVE/REPLACE tow system SPOOL/SHAFT/COLLARS

INCLUDES ALL WORK COVERED IN SECTION I

SCOPE OF WORK ADDRESSES:

- CRACKED/BROKEN SPOOL HOUSING
- BENT/BROKEN SHAFT
- LOAD RING INSPECTION
- SHAFT SEAL REPLACEMENT

RECOMMENDED TOOLS/SUPPLIES/GEAR:

- Painters (masking) tape; rubber band
- Seal puller; Side cutters; 8" zip ties (2)
- 3/8" wrench or nut driver; super glue
- 5/32" Allen wrench; 3/4" wrench (torque wrench)
- Small flat blade screwdriver; Safety Glasses
- Hammer and brass punch; 6" caliper (veneer)
- Shop vise; Shop or paper towels
- Service Tool: Seal/shaft driver (as required)

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Remove the TigerTail from the ATV. Note: If the application has a receiver mount—remove pin and leave mount attached to TigerTail. Removing the TigerTail from the mount may be easier and quicker with other type mounts.



Secure the TigerTail to work area. If you have a receiver style mount—removal is not necessary. If you do not—remove TigerTail from mount and secure to work area.



Secure the spool from rotating using masking tape or equivalent by applying the tape to the short (non-spring housing) side of the TigerTail ensuring the tape contacts both ends of the base plate and around the spool. Several wraps may be necessary.



REMOVE/REPLACE tow system SPOOL/SHAFT/COLLARS

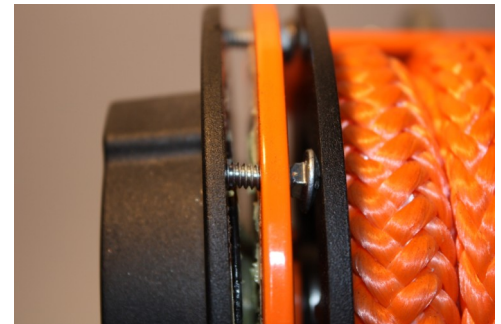
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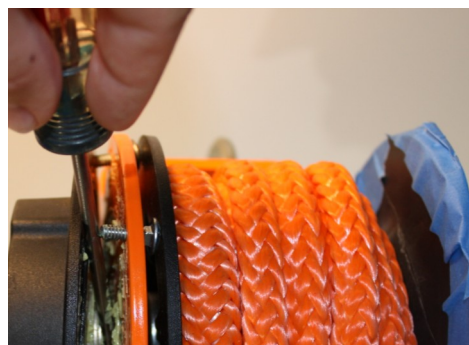
NOTE: To ensure safe removal, it is recommended that an additional technician assists with the removal of the housing. Remove the lock nuts (6). Be sure to secure spring housing while removing the last nut. Housing is under spring tension and must be held in place.



One technician should firmly grip the housing with both hands. To assist in a clean release of spring tension, the second technician should push all six machine screws toward spool to minimize the distance that the housing has to be from baseplate. Gradually pull housing off of fasteners (maintaining a firm grip) and allow the tension (3-4 rotations) in the spring to unwind slowly.



While one technician securely holds the spring housing, the second technician should insert a small flat screw driver or equivalent to pry the spring off of the shaft. NOTE: Make sure to keep the spring completely within the spring housing at all times. Failure to do so could result in serious bodily harm and/or damage to the surrounding room and contents.

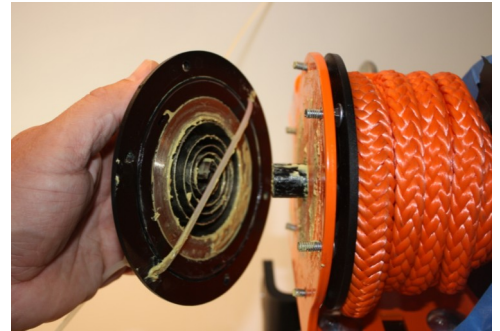
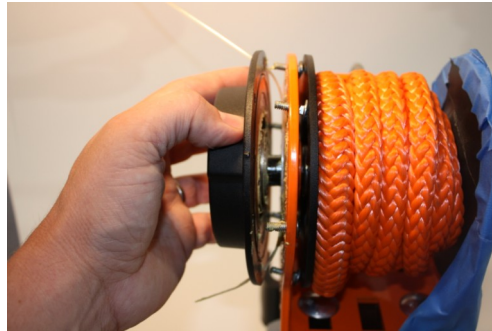


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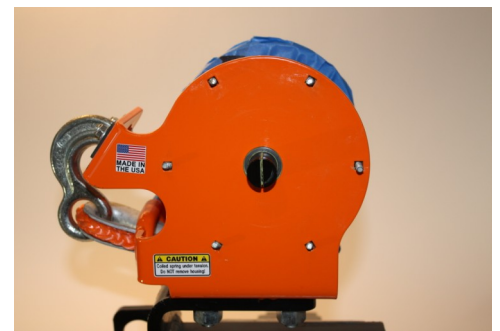
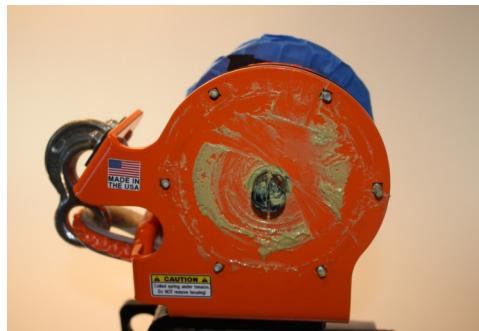
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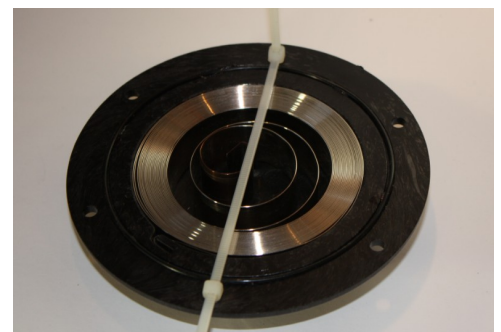
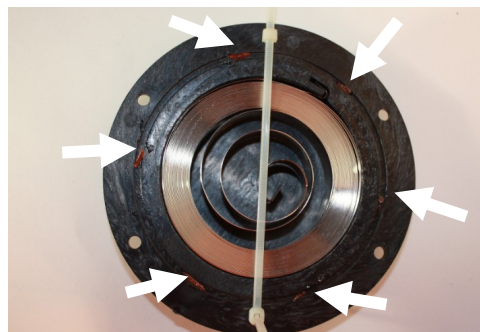
Before fully removing the spring housing, insert zip tie into a bolt hole on the spring housing and between the spring and the base plate. Insert another zip tie through the opposite side bolt hole and attach the two together. Tighten to remove slack. Remove spring housing with spring intact from the shaft.



Thoroughly clean base plate surface. Inspect and clean spring/spring housing. If spring is damaged or can't be fully cleaned—purchase new spring and spring housing. (p/n 41027-00). Clean and inspect o-ring for damage, replace if necessary (p/n 41024-00). Clean o-ring groove in spring housing.



Put one fluid ounce of grease into spring housing (select grease based on the expected temperature range of operation). Install o-ring into o-ring groove. NOTE: Placing a small amount of grease in a few locations to retain the o-ring will ensure that the o-ring does not fall out of groove during assembly.

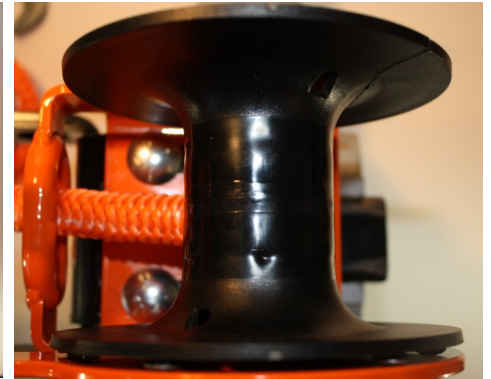


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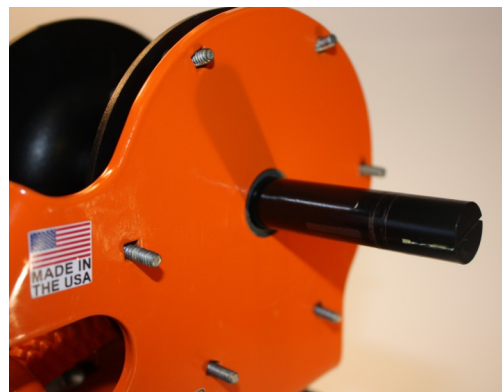
Remove tape and unwind rope off of spool. Locate both access holes in the spool.



Loosen the collars with a 5/32" Allen Wrench. Place a rubber band around the six bolts or put the nuts back on to keep them from falling out once spool is removed. Shaft can only be removed in direction as illustrated. Press or drive pin out with a brass punch. Depending on method, the tow system may need to be set on the spring housing side for more stability. Be careful not to cut or damage rope during shaft removal.



Drive shaft completely out. Remove spool and collars. Collars may no longer be attached to spool, which is ok. Clean spool with warm water and a mild detergent (do not use harsh chemicals or parts cleaner), purchase a replacement spool if cracked or broken (p/n 41019-00). Clean and inspect shaft, purchase a replacement shaft if bent or broken (AT p/n 40701-02; UT p/n 60805-00). Clean and inspect collars—replace if needed (p/n 41021-00)



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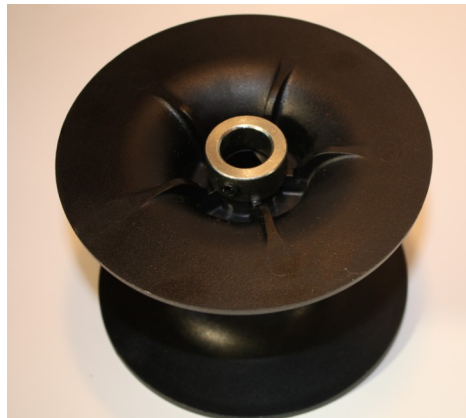
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Clean and inspect seal. Remove the seal if damaged, clean the seal bore, and order replacement (1.25" OD seal p/n 41023-00; 1.5" OD seal p/n 41022-00). Inspect load bearing surface and seal bore for damage and wear. Replace baseplate if bearing surface diameter exceeds .760" (AT p/n is 90612-05, UT p/n is 60802-04). NOTE: Seal installation should occur after shaft is installed to minimize damage during shaft installation as referenced in future steps.



Glue the shaft collars to the spool if no longer attached, this simplifies and decreases assembly time. Note: Make sure the set screws are aligned with the access holes on the spool and are aligned (concentric) with the spool bore. Place the spool in the base plate.



Align and install the shaft using a shaft press tool. Ensure rope is fed THROUGH FAIRLEAD and is aligned correctly in spool before installing shaft.

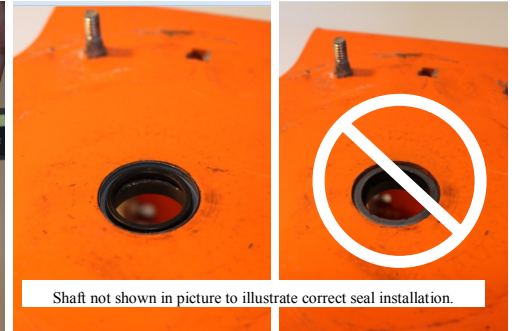


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Installed shaft length should measure .750" +/- .003". Measurement should be taken while the shaft is at its shortest length—as a result of end play (this is to ensure slot does not contact seal lip and leak). Lightly grease shaft and seal lip. Install seal as illustrated. Make sure that all previous steps are completed and spring housing is clean.



Tighten lock collars and begin to wind rope on spool. Make sure to wind rope very tightly and uniformly as illustrated. Rope should be feeding onto the spool from the bottom side and total revolutions should be in the 15-16 range for the AT, 13-14 for the UT.



Continue winding rope as illustrated. Once rope is fully wound on spool, place hook in the lock position.

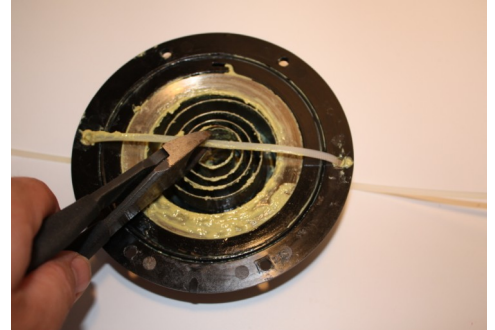


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Secure spool to baseplate with tape. Make sure that all previous steps are completed and spring housing is clean and ready to be replaced. Remove rubber band or locknuts. Organize lock nuts and necessary tools to prepare for reinstalling spring housing. Remove zip tie carefully.



Identify shaft slot and spring flat. Align spring flat with shaft slot. Once spring flat is aligned with shaft slot, slide housing as far as possible towards base plate without engaging the screws.



Rotate (less than a full turn) housing counter-clockwise until the text on spring housing is right side up and horizontal (parallel to base). Starting location may be different than illustrated. Rotate housing 3 additional counter clockwise turns.



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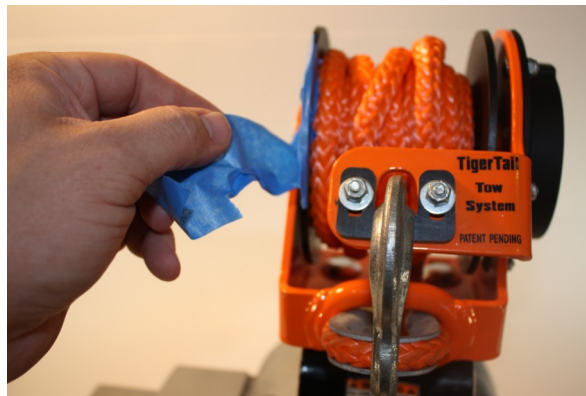
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Ensure that o-ring is still in place. Align the six fasteners with the holes in the spring housing. Secure spring housing to base plate with 6 lock nuts.



Remove tape from spool. Remove hook from lock position and fully cycle (pull the rope all the way out – then let it slowly wind back up). Do this 3 times to ensure proper operation and spring lube dispersion.



Remove TigerTail from secured work area and reinstall on vehicle. If the TigerTail was removed from the mount, the fasteners that are used to secure the TigerTail to the mount should be tightened to 78 ft-lbs of torque (clean, dry threads).

