8274 Brake Shaft upgrade Installation Instructions

Contents:

- Brake Shaft with small cam, o ring, cap, bolt and safety washer fitted (and large cam if purchased)
- Wedge plate
- Round Gold washer
- Replacement retaining plate
- Circlip
- 2x M3 cap head bolts
- Tap
- Allen Key
- Thread Lock

Tools & Materials Required:

- Cordless Drill
- Vice Grip Pliers
- 2.5mm, 6.5mm, 3.0mm Drill Bits
- Tap wrench
- Brake or parts cleaner
- Rags
- Right angles circlip pliers
- 8mm aLlen key

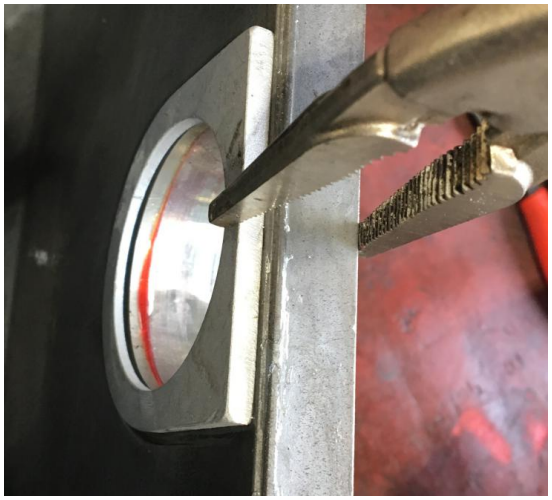
STEP1:

Disassemble the winch and remove the existing brake shaft assembly, remove all gears from the bottom housing drain oil and clean the inside of the housing.

STEP2:

NOTES FOR THIS STEP:
COVER BEARING WITH RAG/TAPE

Locate the aluminium wedge plate into the recess in the casing. Line up the hole of the casing with the hole of the plate concentrically. Ensure the top (thick) edge is flush with the top of the casing. (See images Below) Secure with vice grips. Cover the needle roller bearing with a rag or tape to ensure no swarf enters the bearing throughout the next steps.

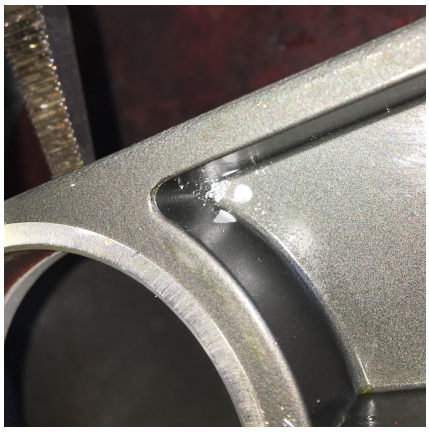


STEP3:

NOTES FOR THIS STEP:
DO NOT DRILL THROUGH THE HOUSING WITH THE 6.5MM DRILL

Use the 6.5mm drill bit to mark a centre **(DO NOT DRILL THROUGH THE HOUSING WITH THE 6.5MM DRILL)** by placing the drill bit into the corner of the housing webbing. (See Images below)



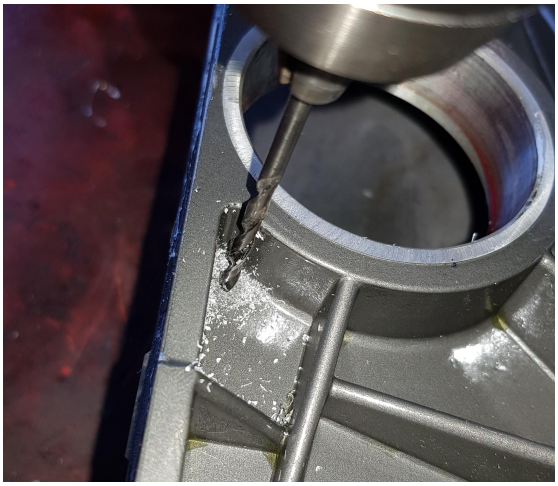


STEP4:

Use the 2.5mm drill bit and centre marks made in the previous step, drill both holes through the housing and wedge plate together taking care to ensure the plate does not move at all during the process.(See Images below)

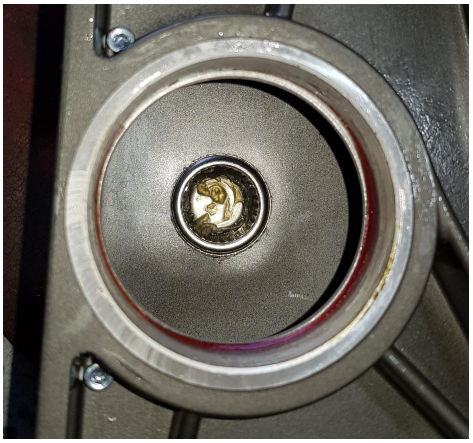
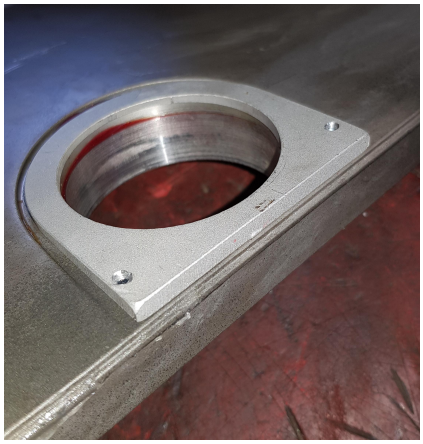

STEP5:

Remove the wedge plate and immediately mark the orientation to assist in re-assembly. Use the M3 tap and suitable lubricant, tap the 2 holes in the wedge plate. Using the 3mm Drill bit drill out the hole sin the casing to 3mm diameter. (See Images below)

STEP6:

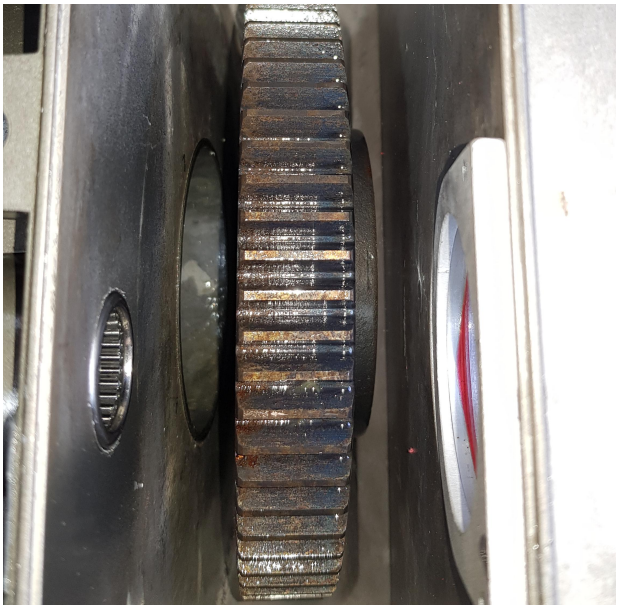
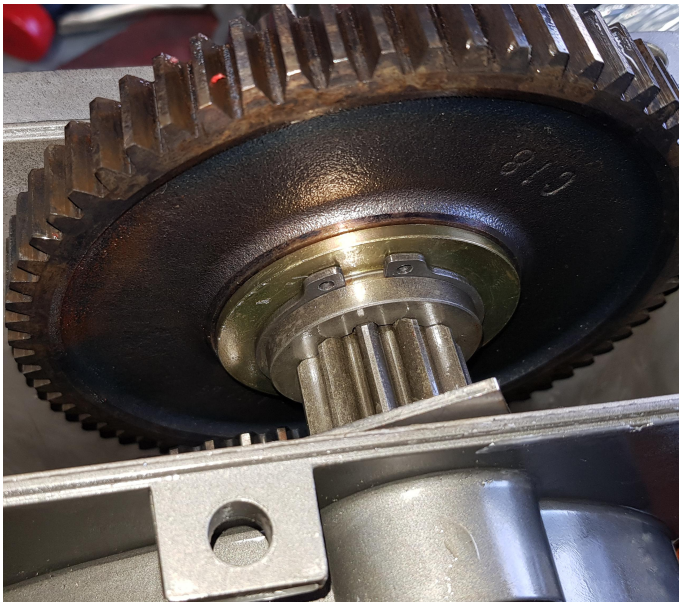
De-burr all holes and thoroughly clean all swarf and shavings from the housing and wedge plate. Using the thread-lock supplied on the M3 cap head bolts, secure the wedge plate in place. (See images below)

STEP7:

NOTES FOR THIS STEP:
AFTER FITMENT ENSURE CIRCLIP IS FULLY ENGAGED
ENSURE STEPPED WASHER HAS FLAT SIDE FACING CIRCLIP

Re-assemble the lower casing. Fit the large gear into the bottom housing with the "nose" facing toward the outside of the winch (brake ratchet side). insert the new brake shaft assembly through the hole in the casing fitting the intermediate gear ("nose" and writing on gear also facing outside of winch) along with the stepped washer (with step facing the gear) and circlip (loose) though the supplied drum retaining plate. This process is fiddly, take care not to force anything at this point. Once all fitted into the housing, align and fit the circlip into the groove in the small cam. Pay particular attention to ensure the circlip is fully engaged in the grove. (See images below)

STEP8:

Re-fit the bronze bush and seal to the brake shaft/housing flush with the outside of the casing, taking care not to damage the lip of the seal as you fit (you can wind the large cam outward partially to assist in installation of the seal. The bush should be a "snug" fit. If the bush is loose on either the internal or external face then replace with a new bush.

Re-fit the brake assembly in full including the square keys but leaving the circlip off, shim washers (if fitted from factory) should be re-fitted. Using the cap, cap head bolt and safety washer, secure the brake assembly. (a small amount of thread-lock can be used on the M10 cap head bolt if desired however excessive use may make it difficult to remove to service the brake assembly.

(See images Below)

STEP9:

Re-fit the drum and lock in the drum with the retaining plate, Re-fill the lower housing with 200-250ml of 80-90 weight gear oil. After checking all gears turn freely, reassemble the top housing (using oil resistant silicone to seal) and re-fit the winch to vehicle.

Test operation without any load prior to using the winch to recover.