

# GUIDE TO FITTING T2 SPLIT SCREEN STEERING BOX



## SPLIT SCREEN STEERING BOX FITTING AND SET-UP INSTRUCTIONS

### General info:

- The box has been set-up on the bench prior to shipment and should require no further adjustment after installation if the instructions below are followed.
- The box has been filled with the correct amount of specific steering box lube (semi fluid grease)
- All worn parts have been replaced and other parts refurbished as required. New bearings and seals have been installed.
- The order for components under the steering wheel is:

1) Expander ring, 2) Spring, 3) Woodruff key, 4) Steering wheel, 5) Washer, 6) Nut

### Torque settings:

- Drop link 65ft lbs (88nm)
- Mounting bolts on clamp 25ft lbs (34nm)
- Steering wheel nut 40ft lbs (55nm)

### Notes for install:

Do not secure the top end of the column before the pinch bolts in the steering box bracket or the column may be out of line. With the pinch bolts on the box support bracket still loose move the box and column around until it is in the correct position. The parcel shelf bracket has slotted holes to further assist with this and the column should not be forced into an unnatural position or it will be bent and under stress. DO NOT over tighten the pinch bolts as this may cause binding on the output shaft.

### Fitting Instructions:

When fitting the steering box the association of the output shaft and pitman arm are critical, as is the length of the drag link, and if the pitman arm is not installed EXACTLY in the right position and the drag link adjusted to EXACTLY the right length you will suffer problems, both in lock to lock symmetry and play when driving straight ahead.

In order to avoid these problems please read and follow the instructions below carefully.

There is a groove punched in the end of the output shaft and a corresponding groove in the pitman arm which must be lined up. To assist with lining these up both are highlighted in white to make them obvious. Once the pitman arm is correctly attached, and before the drag link, which attaches to the pitman arm at one end and the crank on the centre pin at the other, is attached you need to set the steering box to the exact central position.

This is done by coming in 1.25 turns from full lock in either direction. (You can check that there are 1.25 turns the other side just to be 100% certain) You should feel a slight drag on the steering wheel at this point as the peg comes fully into contact with the worm. This is the only position where the peg is in full contact with the worm and there is naturally play in the box at all positions other than straight ahead. This is a design feature of the VW /ZF steering box and is nothing to do with wear in the box. At full lock in either direction there is a great deal of play!

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**Use a block or some other method of holding the steering wheel in this position so that it cannot move away from the dead centre position.**

**Now set the road wheels in the straight ahead position and attach the drag link to the centre pin crank. Carefully adjust the length of the drag link so that it is an easy fit to the pitman arm and attach. If this step is not taken and you push or pull the drag link to fit it will move the steering box, and/or wheels, away from dead centre when the road wheels are on the ground and you are driving straight ahead. This will cause play in the box, and therefore at the steering wheel, that cannot be eliminated by adjusting it. The drag link length is critical to eliminating play in the straight ahead position.**

**Any final adjustment for tracking should be completed through the adjustable track rod.**

**The steering box should not require any adjustment if the various parts of the installation were carried out correctly. The box is adjusted on the bench prior to shipment and details of adjustment in the fitting instructions are for future need as wear naturally occurs in the box over time.**

**Adjusting the box to the extent that it binds, or seizes, at any point in the lock to lock motion will cause rapid, if not immediate damage to the peg, and possibly the worm.**

**Adjustment of the box needs to be done with great caution as it is extremely fine. Even tightening the adjuster screw lock nut can take the box back out of adjustment as it pulls the adjuster screw up into the case and away from the end of the output shaft. When correctly adjusted you should be just about able to feel the slightest drag in the central position. This drag is easy to identify on the bench as the box is adjusted by hand but more difficult when you are spinning on a steering wheel which gives much more turning force and the drag will be almost imperceptible.**

**Adjustment of the steering box must be carried out in minute increments. This isn't a ¼ turn one way or the other operation and needs just a few degrees at a time. After each adjustment and tightening of the lock nut it needs re-checking to make sure it is still in spec. Incorrect adjustment will immediately cause play if too loose or rapid wear if too tight.**

## **Future adjustment:**

- **Any backlash (play in the steering wheel before movement of the wheels) that develops over time can be taken up on the adjuster screw. This is in the middle of the cover and has a lock nut on it. Remove the drag link from the pitman arm and follow the instructions provided for the initial installation.**