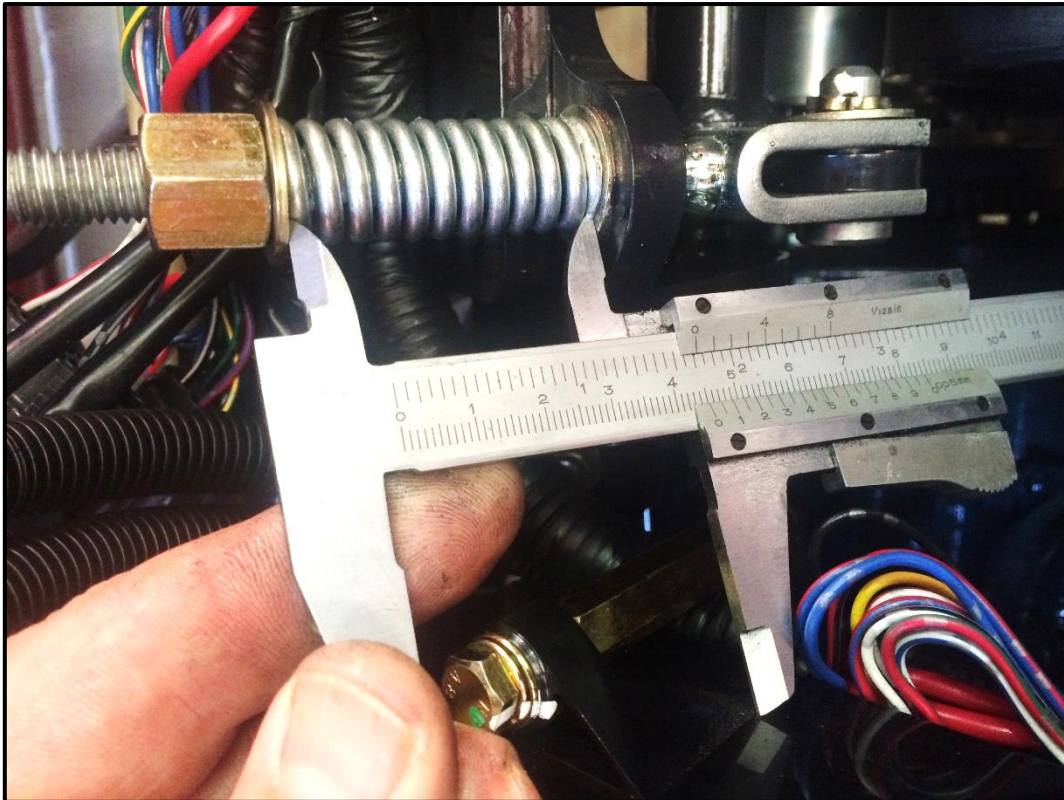


BARONESS

Quality on Demand

Technical Information Leaflet

TIL: 040



LM315GC

Adjust Electromagnetic Clutch Clearance

Tensioning Engine/Gearbox Drive Belts

The Baroness LM315GC uses an Electro-Magnetic Clutch to switch the drive to the cutting reels on and off.

So that the flexible drive cables are not shock loaded during clutch engagement, the electromagnetic clutch does not engage instantly but instead engages gently by receiving a series of brief electronic feed pulses from the controller.

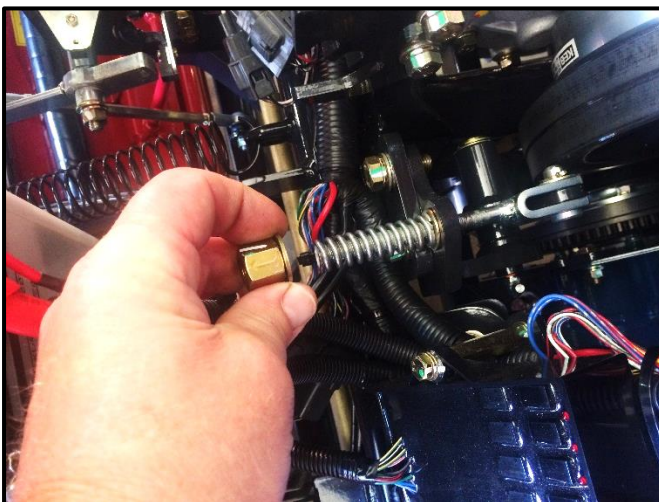
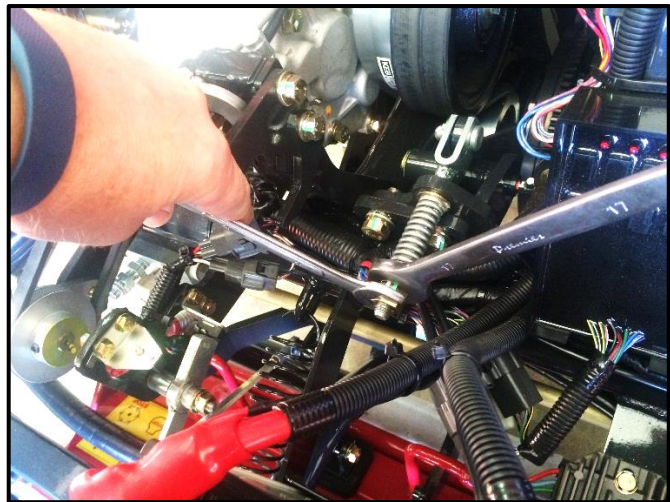
If the clutch is not adjusted correctly then these electronic pulses will become ineffective which will cause the clutch to engage harshly which could then damage the drive cables. A sure sign that the clutch is not adjusted correctly is that the drive cables will thrash around when the reels are first engaged.

The electromagnetic clutch should be adjusted/serviced annually, or after every 500 hours of use, whichever comes first.

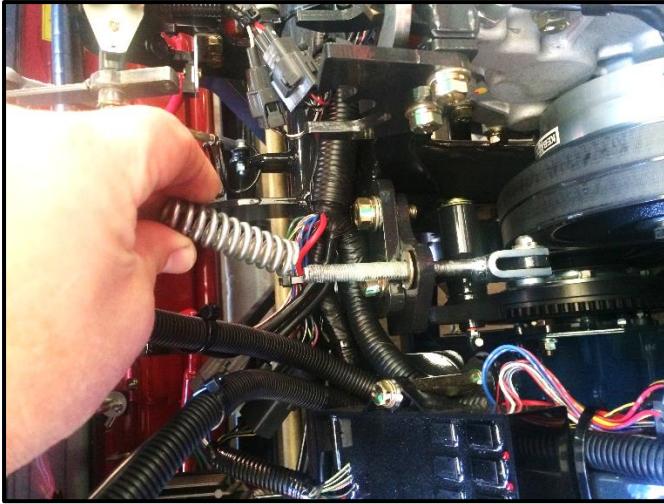
Locate the engine drive belt tensioning system which is located under the operator's seat.

Using 2 x 17mm spanners, undo the locking nut (outer nut) on the threaded belt tensioning shaft as shown.

Remove the locking nut from the threaded tension adjuster rod.

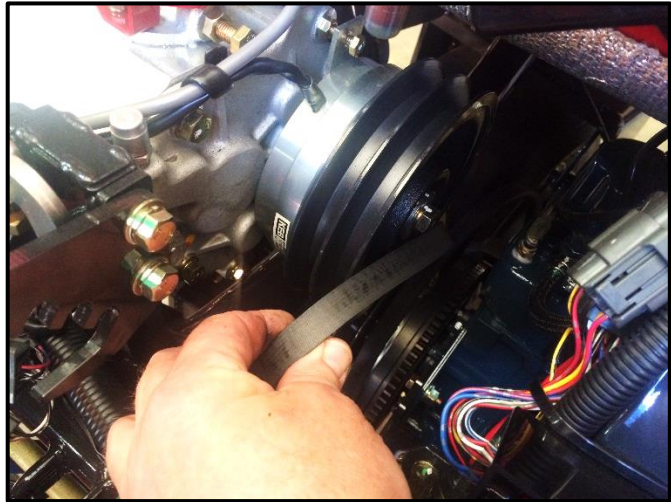


Remove the spring tensioning nut from the threaded tension adjuster rod.



Remove the tensioning spring and its associated washers from the threaded adjuster rod.

With the belt tension now loose, remove the two drive belts from the top pulley, leaving them on the bottom pulley out of the way.

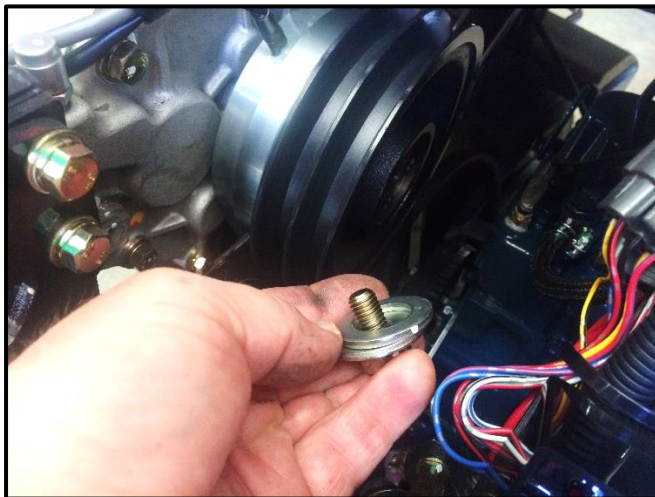
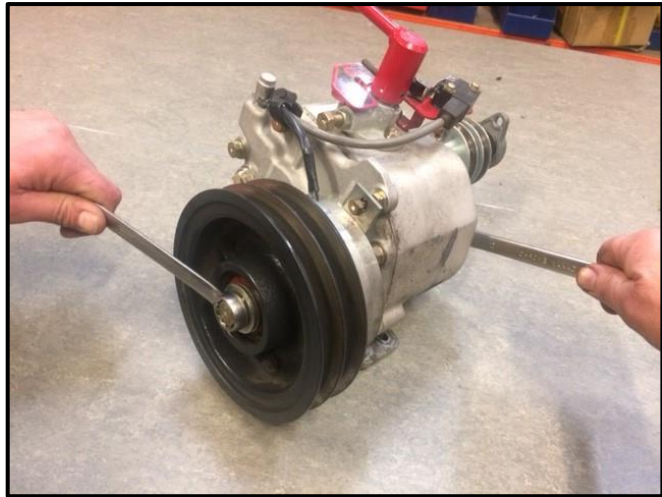


Locate the pulley shaft stub on the opposite side of the gearbox to the clutch.

This has 2 flats on it which can be held with a 17mm spanner to stop the shaft from rotating.

Whilst using a 17mm spanner to stop the gearbox shaft from rotating, undo the pulley bolt using another 17mm spanner as shown.

Note: Gearbox shown removed to make it easier to show in these instructions but this is not necessary as the task can be completed with it in situ.



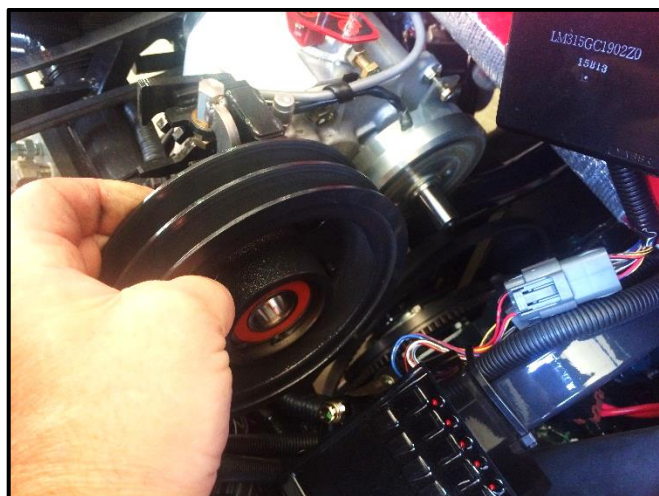
Remove the retaining bolt and associated washers.

Note: Be aware that there is also a larger diameter spacer washer over the gearbox shaft that also needs to be removed.

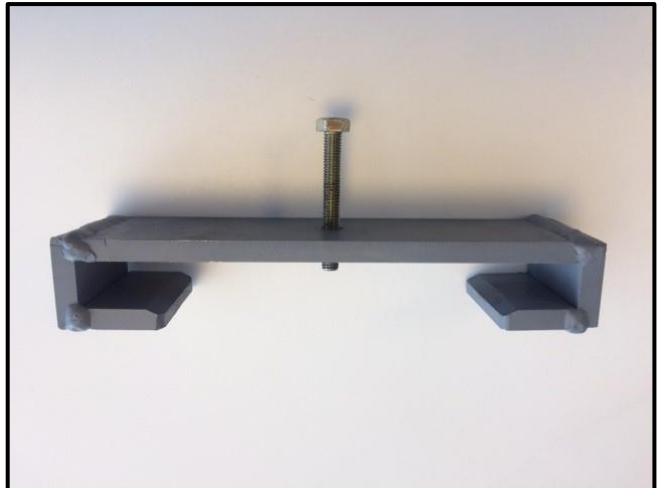
Remove the pulley assembly from the gearbox shaft as shown.

Note: If the clutch has not been adjusted in a while, the pulley bearings can stick on the shaft. If this is the case then you will need to use a puller to remove the pulley assembly.

Never be tempted to use a lever or hammer to remove the pulley as this could break the gearbox shaft.



If you do not have a suitable puller then it is quite easy to make one as shown.



Once the drive pulley is removed you will see the clutch pressure plate.

This will most probably have a step worn on it. This is normal and nothing to worry about, but this wear step is the reason why we cannot measure the gap between the 2 clutch surfaces using a feeler gauge.

With the drive pulley removed you will see a series of shims fitted over the gearbox shaft as shown. These are what is used to adjust the clutch.

Removing shims will close the gap, adding shims will increase the gap.





Before adjusting the clutch, clean the clutch shaft using some fine abrasive paper.

Also clean the surface of the bearings inside the drive pulley using some fine abrasive paper.

Apply a very small smear of grease to both surfaces. Do not apply too much as this must not get onto the clutch surface.

Once the clutch shaft has been cleaned you can now proceed to adjusting the clutch:

Remove one thin shim from the clutch shaft.

Then replace the pulley assembly.



Rotate the pulley by hand.

If it rotates freely you will need to remove the pulley and then remove another thin shim. Keep repeating this process until the pulley starts to bind when it is rotated by hand.

When it starts to bind, add one thin shim. This should make the pulley spin freely again with minimal gap, which is the correct adjustment that we are looking for.



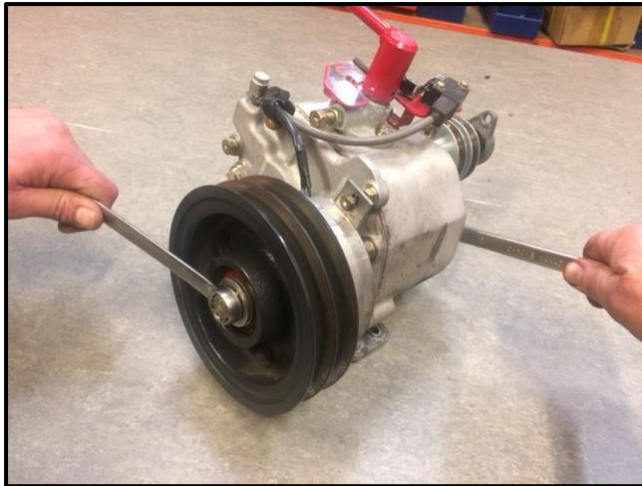
Store all removed shims on the outside of the drive pulley on the clutch shaft for future use.

It is very important that this is done because this is needed to complete the clutch adjustment process as it moves the pulley along the gearbox shaft and closes the gap between the clutch surfaces.

Fit the large spacer washer on the outside of the drive pulley on the clutch shaft.

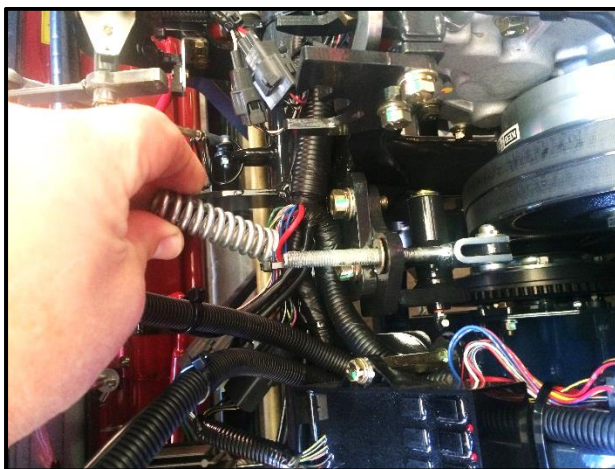
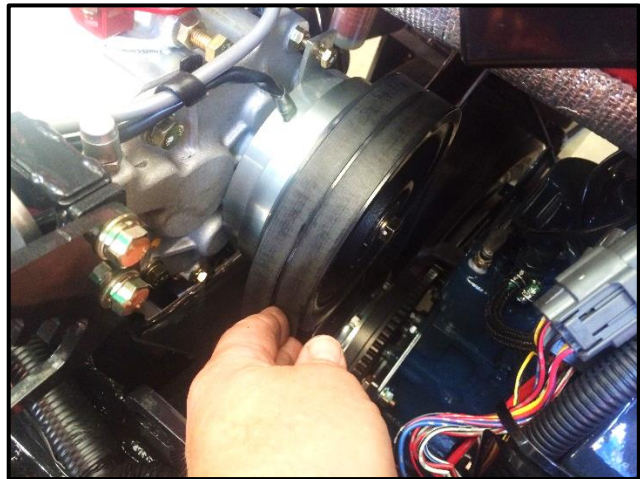


Refit the pulley retaining screw and washers to the clutch shaft as shown.



Holding the back end of the clutch shaft with a 17mm spanner, tighten the pulley bolt using another 17mm spanner.

Refit both drive belts onto the top and bottom pulleys.



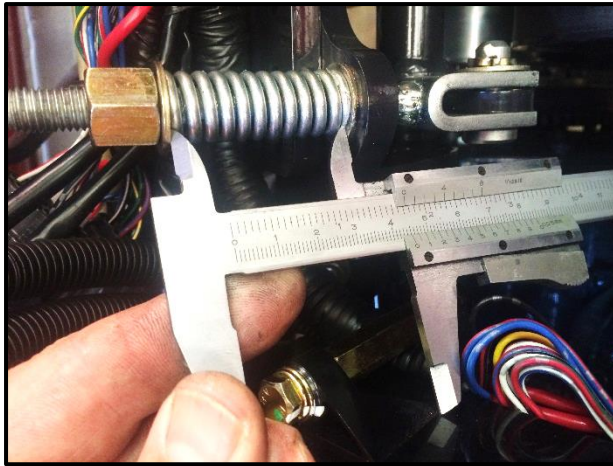
Reassemble the tension spring mechanism in the following order:

Washer

Spring

Washer

Adjuster Nut



Tighten the adjusting nut until the tension spring reaches a length of 45mm.

Refit the tension adjuster locking nut and lock it to the adjuster nut using 2 x 17mm spanners.

Run the machine and check that the idler tension pulley runs square and central to the drive belts.

Adjust if necessary and retest.

