

Money Handling Worldwide

KOBELL AF8760C SERIES – DRIVE SYSTEM WITH A TOOTHED BELT OPTION

(Dated: 1st November, 2005)

Introduction:

In response to customer feedback, we have decided to offer the ongoing opportunity for customers to upgrade their existing AF8760C Series Currency Counters to incorporate a toothed Drive Belt Assembly as a replacement for the original dual O Ring Belts. Subsequent production units will already include this upgrade and the Serial Number will have a **T** at the end to aid identification.

The upgrade task itself can be carried out with a small, easily available set of common hand tools and involves a minimum of customer downtime. Indeed, given correct facilities, this task can easily be completed on-site in customer's premises.

SAFETY WARNING:

Please ensure that you have disconnected the Currency Counter from the domestic mains supply voltage before commencing this upgrade procedure.

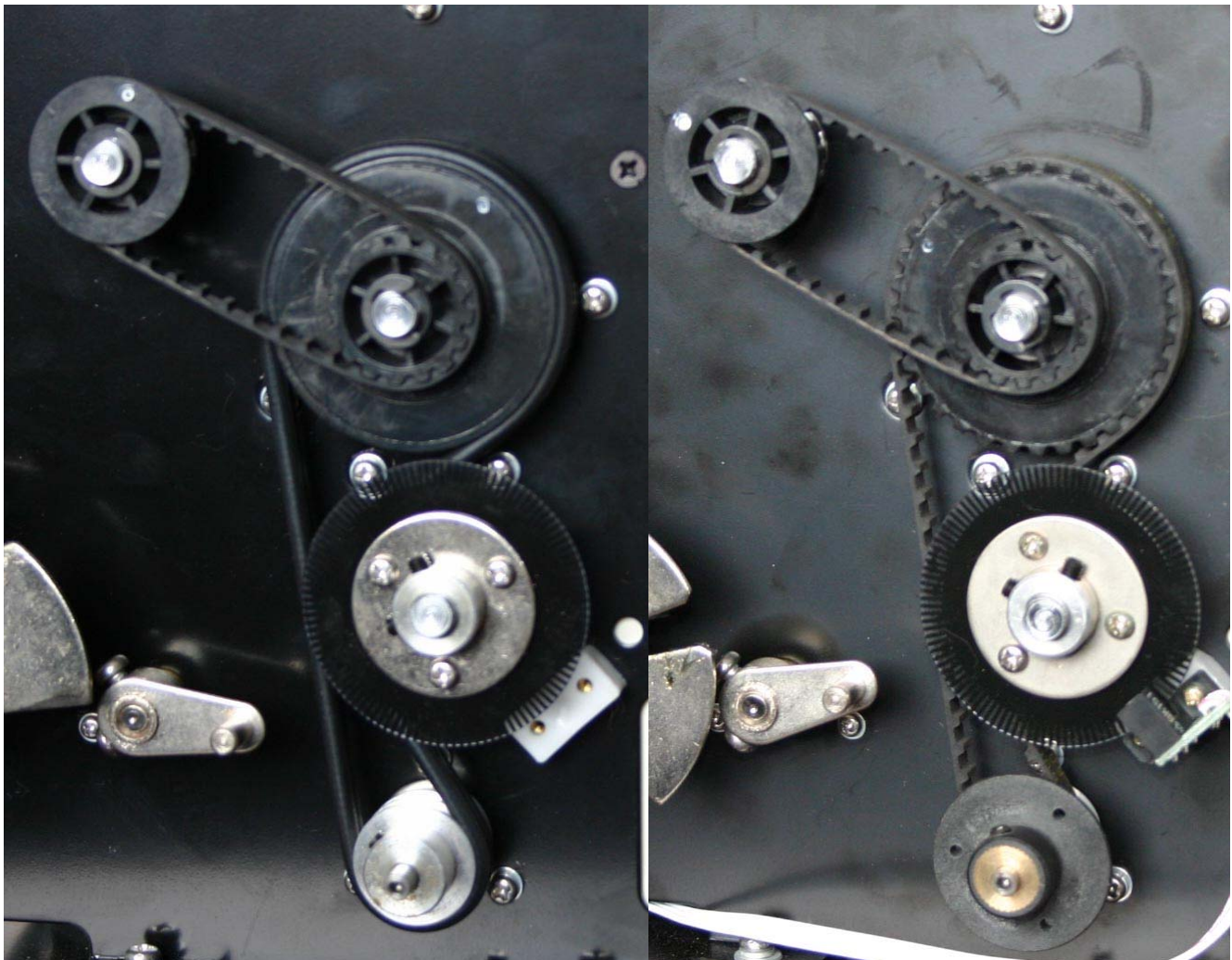
Necessary Tools Required:

- Medium sized cross-point Screwdriver
- Small, needle-nosed Pliers
- Small flat blade Screwdriver
- 2mm Allen Key
- Indelible black ink fine point Marker Pen

NOTES:

1. The Part Numbers identified below are reproduced from the machine Maintenance Manual, Version 1.0 - Initial Issue.
 2. This procedure assumes that you will retain all of the removed redundant parts as supporting spares for other like machines.
-

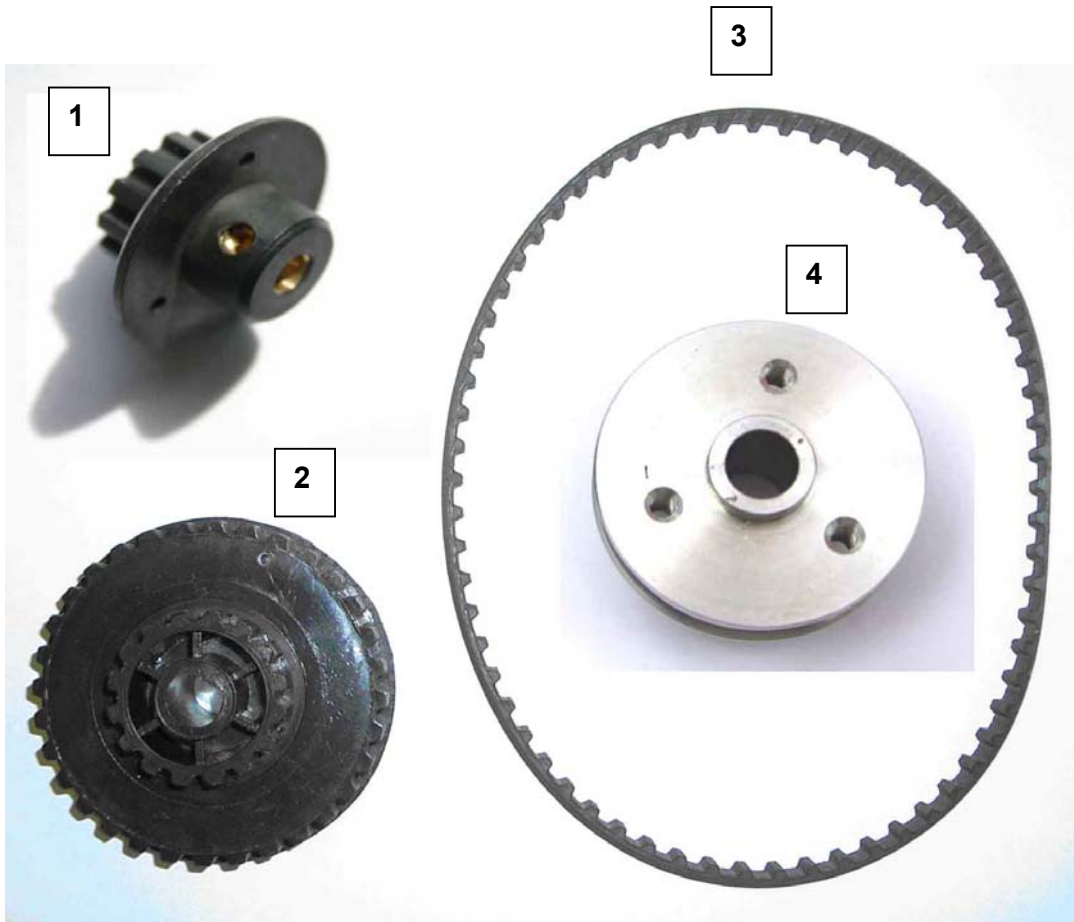
Illustrations:



Before and After - The original double O Belt (left) and the optional Toothed Belt (right) Drive Systems compared

Kobell Technical Documentation:

This document is proprietary and cannot be reproduced or distributed without the express permission of Kobell Limited.



The Necessary Component Parts (4 pieces)

Replacement Parts Listing

<u>Item</u>	<u>Part N°</u>	<u>Description</u>	<u>Quantity /Unit</u>	<u>Unit Price GBP £</u>	<u>Remarks</u>
1	60M18065-T	Toothed Main Motor Pulley	1	2.00	
2	60P20036-T	Toothed Feed Roller Pulley	1	0.80	
3	60P06017-T	Toothed Belt (130XL)	1	0.50	
4	60M19072-T	Transfer Roller Pulley	1	2.00	
<i>Items 1 to 4 (inclusive)</i>	<i>60C Kit #1</i>	<i>60C Toothed Belt Upgrade Kit #1 (4 pieces)</i>	<i>1 Kit</i>	<i>5.00</i>	<i>All 4 pieces inclusive</i>

Upgrade Procedure:

- 1. Ensure that the unit is disconnected from the domestic mains supply.**
2. Place the Currency Counter upon a suitable workbench.
3. Using a cross-point Screwdriver, slacken the two (2) Screws that clamp and secure the base of the Right Cover (Part Number 60P01003) to the Bottom Plate (60M23108).
4. Remove and retain the Right Cover.
5. Remove and retain the Timing Belt (60P06016).
6. Remove both of the existing drive system O Belts (60P06017).
7. Identify the double grooved Feed Roller Pulley (60P20036). Using the Pliers, or a flat blade Screwdriver, carefully remove and retain the locking C-Ring (60M20084).
8. Remove the original Feed Roller Pulley from the end of the Feed Roller Shaft. Ensure that the Wave Washers (60M20083), originally placed upon the end of the Feed Roller Shaft, are all retained in position.
9. Manually rotate the Feed Roller Shaft so that the flat spot on the Shaft is uppermost and horizontal. This will aid the alignment process in the next stage.
10. Offer up and fit the new Toothed Feed Roller Pulley (Item 2) onto the Feed Roller Shaft and observe the 'D' shaped locking area, within the locating hole of the Pulley, which engages with the Feed Roller Shaft flat spot. The smaller row of toothed projections on the Feed Roller Pulley must be facing outwards.
11. Push the new Feed Roller Pulley fully home and refit the C-Ring that you removed earlier at Stage 7.
12. Identify the Encoder Disk (60P19030) and the double grooved Transfer Roller Pulley (60M19072) Assembly. Whilst being careful not to damage the Encoder Sensor Assembly (60E19024), carefully remove the Encoder Disk/Transfer Roller assemblies using the cross-point Screwdriver and the 2mm Allen Key. (There are two (2) Allen Screws used to secure the Transfer Roller Pulley to the Transfer Roller Shaft). Carefully remove and retain the 3 Screws (60M19075), the Pressure Disk (60M19073) and the Encoder Disk.
13. Manually rotate the Transfer Roller Shaft so that the flat spot on the Shaft is uppermost and horizontal. As before, this will aid the alignment process in the next stage.
14. Push the new, single grooved, Transfer Roller Pulley (Item 4) onto the Transfer Roller Shaft and reassemble it, ensuring that one (1) of the locking Allen Screw engages firmly with the flat spot on the Shaft and that the full extent of the Transfer Roller Shaft is extended towards you during the rebuild process. Rebuild the Assembly to refit the Encoder Disk, the Pressure Disk and the 3 Screws removed at Stage 12. The Encoder Disk must be installed furthest from the machine, but trapped by the Pressure Disk as before – Please see the 'After' photograph on page 2.
15. Carry out vertical alignment checks to ensure that the Optical Encoder Disk is running true between the two (2) 'posts' of the Optical Encoder Sensor and that the single groove on the new Transfer Roller Pulley aligns with the larger diameter (outer) toothed track on the new Feed Roller Pulley. Adjust as necessary.

Kobell Technical Documentation:

This document is proprietary and cannot be reproduced or distributed without the express permission of Kobell Limited.

16. Identify the double grooved metal Motor Pulley (60M18065). Using the 2mm Allen Screw, remove the item from the Main Motor Shaft.
17. Manually rotate the Main Motor Shaft so that the flat spot on the Shaft is uppermost and horizontal. This will aid the alignment process in the next stage.
18. With the toothed track towards the machine, push the new Toothed Main Motor Pulley (Item 1) onto the Main Motor Shaft.
19. Carefully align the toothed track on the new Main Motor Pulley with the other new assemblies and, using the 2mm Allen Key, lock the new Pulley onto the flat spot on the Main Motor Shaft. Tighten the remaining 2mm Allen Screw on the new Main Motor Pulley. Recheck the vertical alignment of the new drive system and readjust, as necessary, to ensure that all the new components are accurately aligned.
20. Take the new Timing Belt (130XL) (Item 3) and fit it around the new drive components. It is recommended that you start the process by putting the lower loop around the Toothed Main Motor Pulley; then feed the right hand side of the Belt around the left hand surface of the Encoder Assembly (behind the Optical Encoder Disk); finally feeding the Belt around the larger toothed track on the Toothed Feed Roller Pulley – Please see the photograph below for guidance.



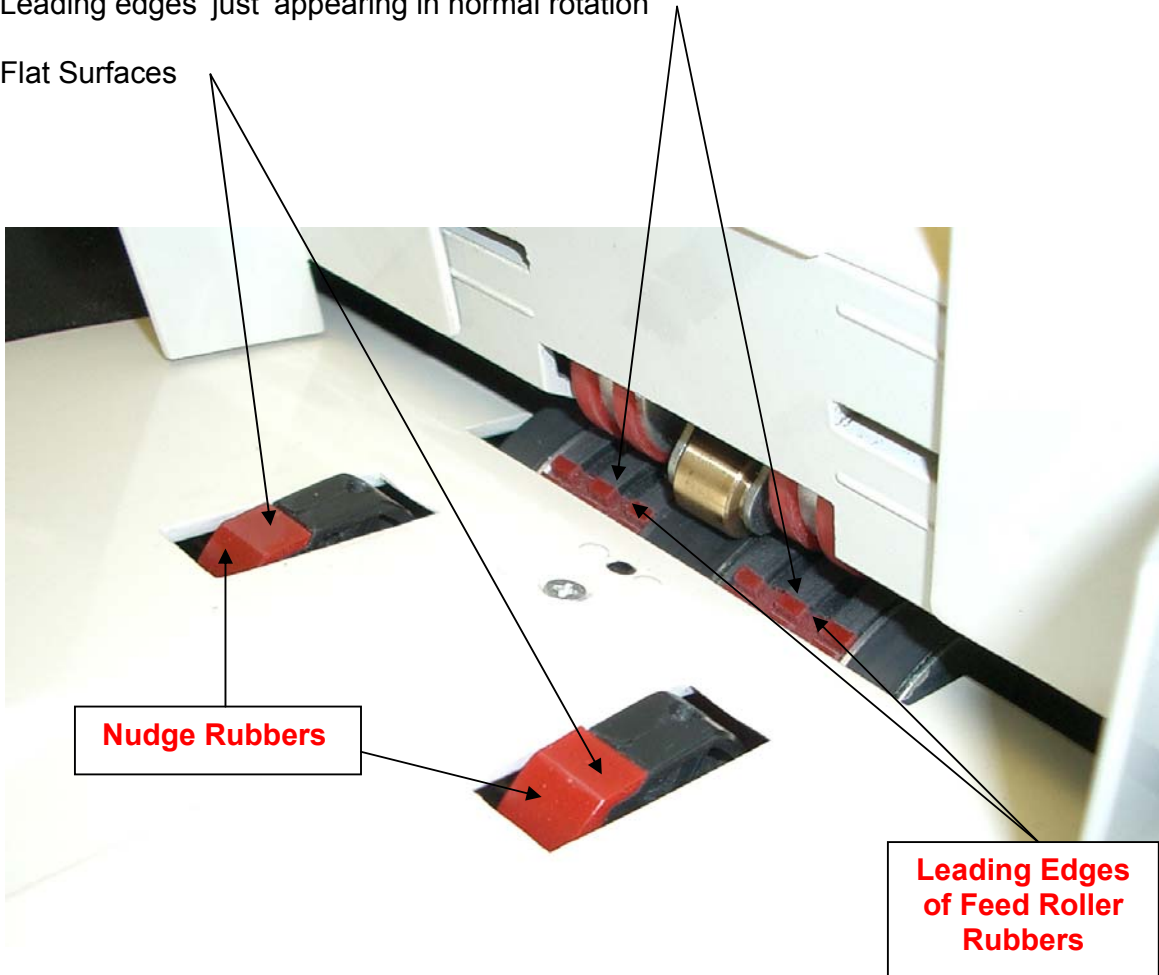
The Toothed Belt path with the Optical Encoder Disk Assembly removed to ease viewing

21. Once you have fitted the Toothed Timing Belt to the machine, manually rotate the Toothed Feed Roller Pulley whilst checking the vertical alignment and smooth running of the Drive Belt. Adjust as necessary.
22. Refit the Timing Belt, originally removed at Item 5. When refitting the 76XL Belt, pay particular attention to the alignment relationship between the red coloured Nudge Rubbers (60P22042) and the leading edge of the Feed Roller Rubbers (60P20035). The correct reassembly alignment is achieved when the flat spots of the red Nudge Rubbers/Kick Rollers (60P22043), is parallel to the flat surface of the Hopper Cover (60P01004) and the leading edge of both red coloured Feed Roller Rubbers (60P20035) is just appearing in the document feed path into the machine – Please see the photograph overleaf for guidance.

Reassembly Alignment Points:

#1. Leading edges 'just' appearing in normal rotation

#2. Flat Surfaces



Close-Up of Nudge Rubber and Feed Roller Rubber Alignment

23. By manually rotating the Feed Roller Pulley, ensure that the completed drive system functions correctly without binding or crimping.
24. Refit the Right Cover, originally removed at Item 4, ensuring you do not trap any wires, etc. Secure the Right Cover with the two (2) cross-point Screws that you originally loosened at Item 3.
25. **EQUIPMENT TESTING:** Test the machine drive functions thoroughly. (You may need to adjust the Optical Encoder Sensor input level onto the CPU PC Board). A slight increase to the operating noise level of the machine is normal and is to be expected.
26. **EQUIPMENT MARKING AND IDENTIFICATION:** To identify, for future reference, that the machine has been modified with a Toothed Belt Drive System, using a fine point, black ink indelible marker, carefully write the letter **T** after the machine Serial Number on the Identification Plate; the silver coloured Plate is to be found next to the Mains Socket on the rear of the unit.
27. Amend your local machine records as necessary.