

## R.G.M MOTORS A.T.10 SYNCHROFLEX BELT DRIVE KIT (DOMMIE 050140).

Congratulations on choosing our A.T. 10 Aluminium hard anodised belt drive system. The only system available for Dommies featuring hard anodising on both clutch drum and pulley with the superior polyurethane A.T. 10 belt. fitted carefully a long and trouble free life can be expected. In the event of spares being required all parts are available separately. Here is a list of features that ensure our belt drive is the superior dommie belt drive.

### WHY FIT A BELT DRIVE?

Drive belt technology has progressed enormously over the last twenty years it is certainly a fact that any designer working today whose chief aims were performance and noise reduction would specify a belt drive rather than a chain.

Whilst the many different designs of primary transmissions used on British motorcycles, and the many different types of belt drive kits on the market make direct comparisons difficult, typically you should find that a belt drive kit offers greater efficiency (upto 98%) and a very noticeable reduction in noise and vibration. Reduced weight. Complete elimination of clutch slip and of course complete absence of oil leaks (due to the elimination of oil) Improved gear tooth life (due to the elimination of high frequency shock loads which a traditional drive chain transmits, and the increased rotational speed of the gearbox, effectively dividing the loads through a greater number of teeth). Our belt drives have been fitted to machines as diverse as Vincent twins, Puma racing outfits, vintage racing sunbeams, pre 65 trials bikes and of course Nortons in all shapes and sizes. from plodding trials bikes to supercharged drag machines, all using essentially the same basic components. On many occasions special builders have returned again and again and specified our belt drives.

### Contents:

Belt drive clutch drum. 27mm wide engine pulley, with inner keeper plate fitted.

980mm x 27mm wide drive belt. Clutch lock washer, fitting instructions

Outer keeper plate.

### Additional parts required for alternator models.

3x special studs to space stator off.

3x 5/16 nuts and washers for above.

1x short rotor nut.

1x rotor star washer.

NOTE. Dommie, Atlas, Manx and Inter use large taper pulley.

E.S.2, 16H, MODEL 50, BIG 4, 500T, MODEL 18, ETC use small taper pulley.

### INSTRUCTIONS

1. Remove footrest, brake pedal, outer primary chaincase, alternator if fitted and existing primary transmission.
2. Offer the drive pulley up to crankshaft, check that there is clearance between the back of the pulley and the crankcase/chaincase. Very little clearance is required, approx. .040".
3. Dismantle the original clutch, clean and check all components replace any suspect components and build clutch using belt drive drum, lightly grease rollers with high temperature grease.
4. Fit clutch minus plates to gearbox mainshaft and fit drive belt.
5. Build and assemble clutch as if it were a standard clutch.
6. Fit outer keeper plate.

7. If alternator model, fit special studs to alternator housing, fit rotor, fit stator, check there is a minimum of .008" clearance all round between the rotor and stator.
8. Check tension on all disturbed nuts, ie, crankshaft and gearbox mainshaft. Adjust clutch springs as normal to give even lift.

### INSTRUCTIONS (GENERAL).

#### CLUTCH ALIGNMENT

If you are using a modified commando type clutch centre to fit a diaphragm spring type belt drive kit (ie based on Commando clutch) Then the clutch centre should be engaged on all six different spline positions on the mainshaft to find

the one position that runs most true ie.

With the least amount of wobble

BELT TENSION Belt tension is not as critical as people sometimes think. If you aim for minimum Free play of 5/8 inch up and down movement, (this is actual FREE PLAY, not total up and down movement). When static there should be no pull on the bearings. Total up and down movement will depend on gearbox wear, how hard you pull, etc., but expect at least

an inch. Remember check when hot and if possible examine belt when under load to make sure it is not trying to climb over the outer keeper plate. (a rolling road is ideal). Alternatively check belt tension by rotating belt firmly between finger thumb, 70 to 80 degrees of rotation each way being correct. Essentially the aim is to have the belt fairly tight whilst still

maintaining free play on the bearings. In certain conditions, very hot climates or excessive stop-starting, a small additional amount of free play may be necessary to allow for expansion. To test for this, check for free play when hot.

#### SHAFT ALIGNMENT.

Perhaps the most important aspect of fitting a belt drive is shaft alignment, where as on a chain driven motorcycle any small discrepancies in shaft alignment will merely result in a small reduction in transmission efficiency, with a corresponding increase in heat generation and wear. If a belt drive is fitted onto shafts that do not run parallel then the belt is thrust firmly towards the lesser diameter. In practice this always equates to the belt trying to move outwards away from the engine hence the heavy outer keeper plate. As obviously the crankshaft is fixed we turn our attention to the gearbox mainshaft alignment, when tensioning this in the conventional manner the box is tensioned from the right hand side, the tendency here is to allow the box to pull back more on this side. this undesirable effect can be countered in one of two ways, either when tensioning the box use rear wheel adjusters to pull the box back squarely, or preferably use our item 141/142 which with the drilling of one 3/8 inch hole will allow the gearbox to be tensioned from both sides. The aim is to actually have the gearbox shaft pointing away from the crankshaft slightly so that under power the mainshaft flexure and the small amounts of play in the relevant bearing/brushes combine to achieve optimum position. As a guide the belt should feel slightly tighter on the outside edge, and when fired up and ticking over the belt should ideally not be running against the outer keeper plate. Your belt drive should now be ready to run, we recommend for maximum advantage and to transmit maximum power the unit should run dry. However if you expect to be using your motorcycle in hot climates, or you are using it in competition events and you retain the enclosed primary chaincase it would be worthwhile arranging the passage of some cool air through the chaincase, the exact details of which can safely be left to the preferences of the individual owner. Now is the time to see if all your effort has been worthwhile, testing the unit you should experience no clutch slip under any conditions, smoother running, quieter running, and the super light weight design should produce a small increase in acceleration and on top speed depending on final gearing used.

SHOULD YOU ENCOUNTER ANY TECHNICAL DIFFICULTIES CONTACT  
R.G.M. MOTORS.