



MOTOR CYCLE, GENERAL PURPOSE, HARLEY - DAVIDSON MT350 TECHNICAL DESCRIPTION

Rotax 348 Clutch Friction Plate Replacement (minimum)



This is in- tended as
a walk through & Guide only to the Clutch
Friction Plates
replacement on a
Rotax 348 engine.

**This is a guide only please refer to the relevant manuals
for full details or ask professional advice if in doubt.**

**This is the writer(s) interpretation of the required steps only and
does not take any liability for the accuracy of the information
supplied in this publication and it is supplied as is.**

MT350 Clutch Friction Plates



Amendment Record

Amendment No.	Amendment	By	Date
DRAFT	N/A	Joth	21 Nov 2014
A	Torque Settings Updated Plate 34+35	Minter	12 Feb 2017

Before carrying out the Procedure ensure you have the current amendment.

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General Tools

13 MM Spanners X 2
4,5,5.5, & 6 mm Allen Keys
13mm socket
24mm socket
10mm spanner
27mm Socket
Torque Wrench 5 to 120Nm

Fluids

Lithium Grease (Lubricate Seals / O Rings)
Loctite (Medium & Strong)
Copper Slip (Apply where required)

Specialist Tools

TDC Locking Bolt M8 (P/N 241.965)
Clutch Locking Tool 132mm Dia (P/N 276.825)
M30x1.5 Extractor Lower Pulley (P/N 276.445)
Top Pulley Puller

Required Parts

8 x 2.6mm Fibre Plate M41 132mm (P/N259.905) *
1x Clutch Cover Gasket (P/N 250-381)

The parts marked * are the parts that you will need for this procedure.

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General Torque Values

Where Torque settings are not detailed the following are a guide.

M5	7-8 Nm
M6	11-14 Nm
M8	24-27 Nm
M10	51-54 Nm

Minimum Procedure

This is the minimum procedure for changing the clutch plates, see the full procedure for the oil change and seal replacement for preventative maintenance while replacing the clutch plates.

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1. Remove Panniers Support Bar.



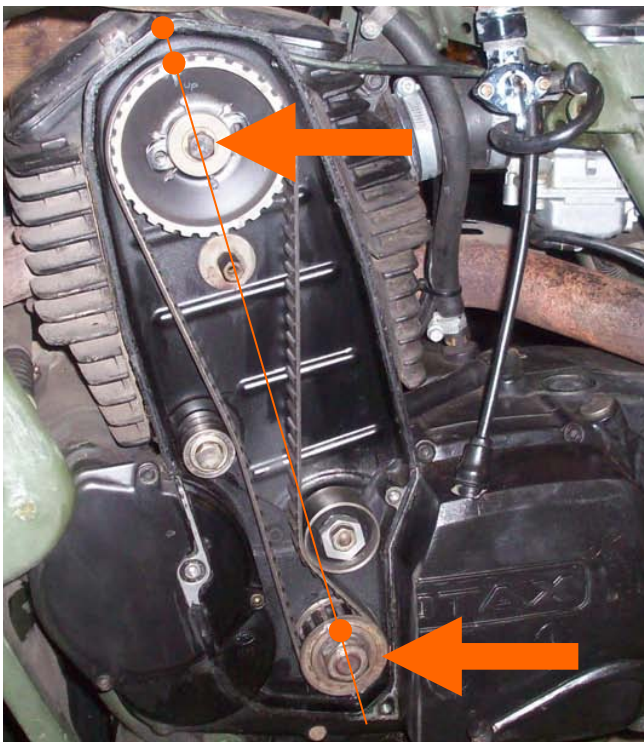
2. Remove the 4 timing cover bolts with a 5mm Allen Key. (**Note:** Screws are Different Lengths)



3. Remove the 4 bolts holding on the starter gear cover and remove the Cog & 2 washers.



4. Remove the bolt circled above using a 6mm Allen Key . Locate the V in the fly wheel through the hole using a torch and screw in the crank locking bolt (the crank locking bolt is a M8 bolt with the end of the thread tapered.)



5. Check the alignment and markings on the Pulleys and ensure they are all visible and Marked. Loosen the bolts marked with arrows.

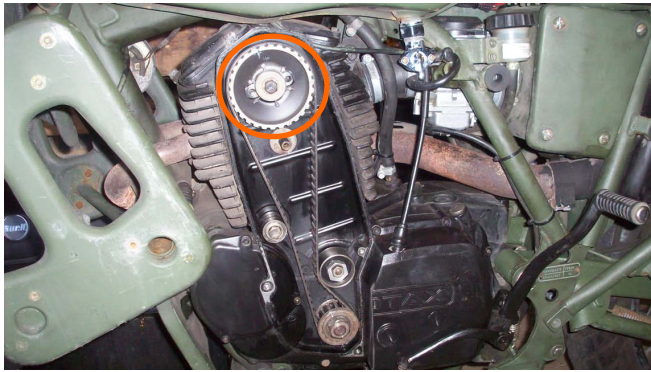


6. Remove the Timing Belt Tension bearing.

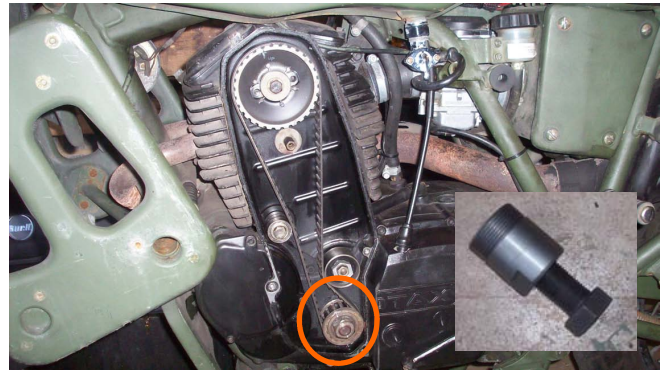


7. Remove the Timing Belt Runner Bearing.

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8. Remove the Bolt and washers on the top pulley, Remove the Belt then remove the pulley using the pulley removal tool.



9. Remove the lower pulley nut and remove the pulley using the special removal tool.



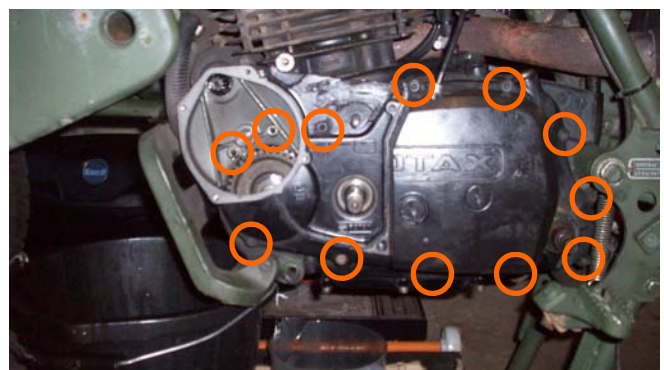
10. Remove timing belt cover stud.



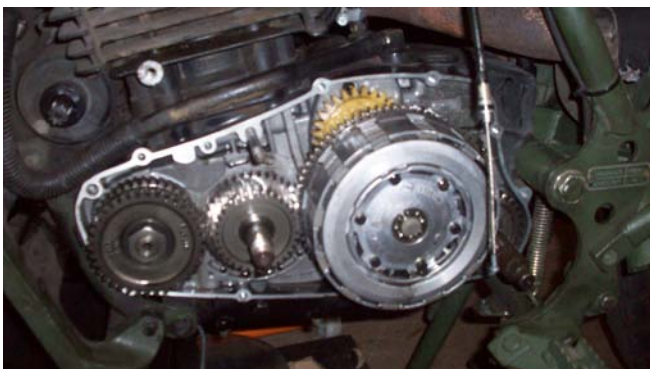
11. Remove the Timing belt back plate.



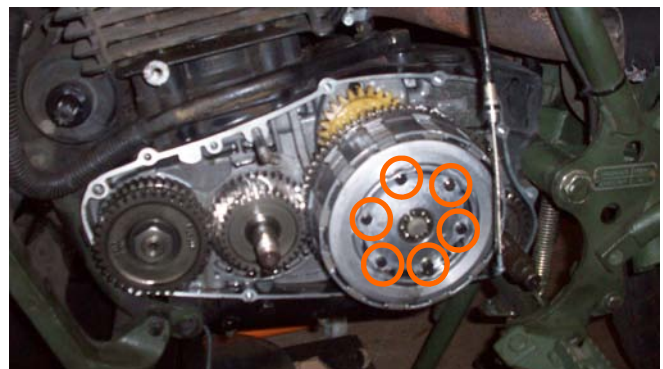
12. Remove the Gear Lever and Kick Start Lever by removing the 2 Allen Bolts. Then remove the Circlip and Washer.



13. Remove the bolts around the casing. **Make a note of which ones come from which hole as they are different lengths.**

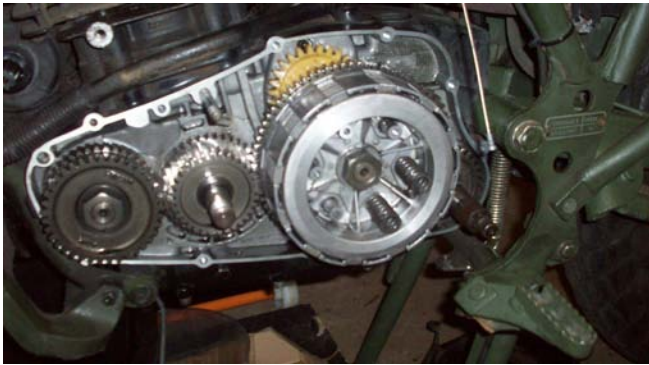


14. Remove the casing & disconnect clutch cable.

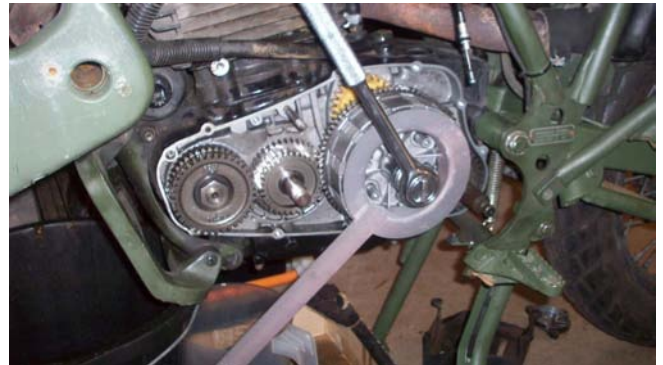


15. Remove the 6 bolts from the Clutch plate.

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16. Remove the 6 Springs.
(2 Shown in Place)



17. Remove the nut in the Centre of the clutch basket using the basket spanner. Then pull out the basket assembly.



18. Remove the Friction and steel Plates and keep them in order as one of the plain rings is a different thickness. Re assemble with the new Friction plates and plain rings as required.

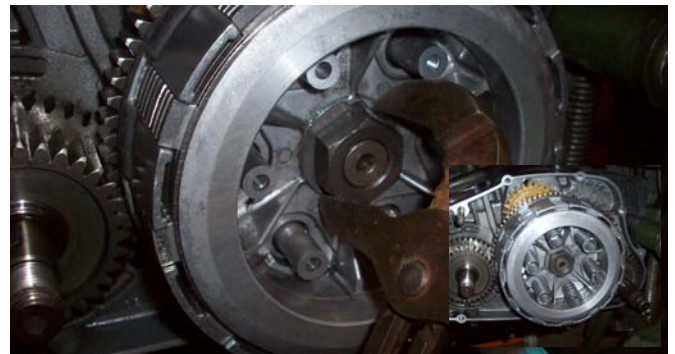
(Measure clutch plates pack - should be 31.5mm or within 3mm)



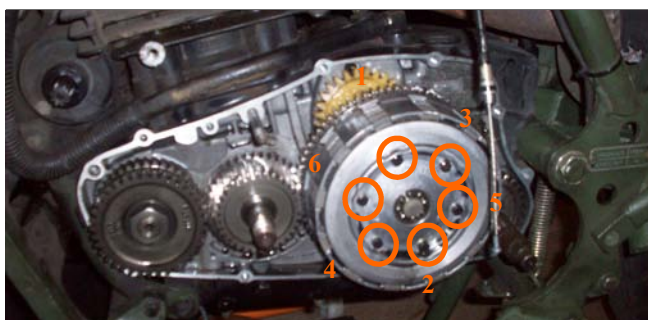
19. Check the Basket Spline's for Grooving and file down equally if required.



20. Replace the Basket and plates on the bike, then put the Clutch Hub, lock washer and the bolt on with "**Strong thread lock**" and torque up to **120 Nm**.



21. Bend back the Nut locking Washer, If bent more than twice then replace with a new washer. Check the springs which should not be less than 32mm long, refit the Springs in place.

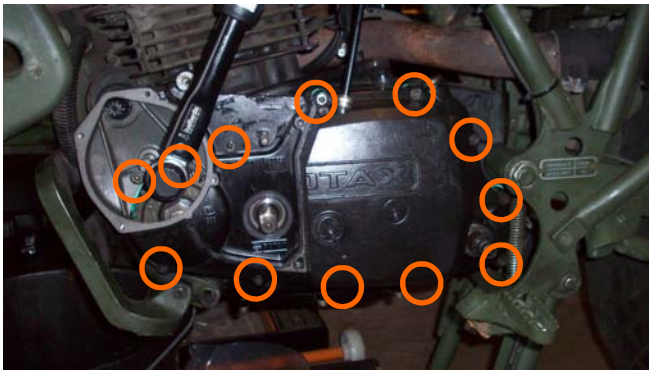


22. Replace the cover and tighten the 6 Bolts in a alternating pattern.

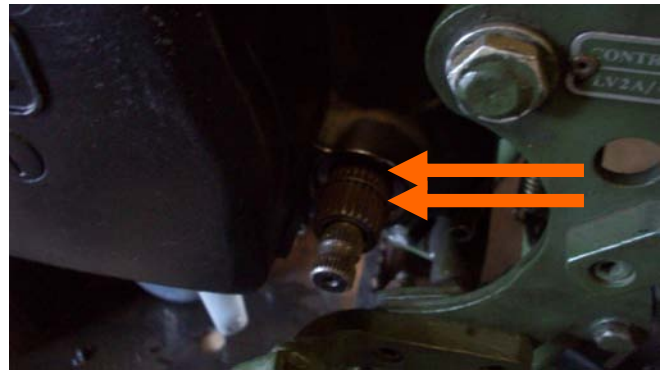
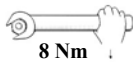


23. Put on the casing gasket.

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24. Re connect the clutch cable and refit the casing, insert the bolts and tighten each bolt to 8 Nm (Read 33 First)



25. There are 2 washers and they go on the kick shaft before the case goes on. Circlip goes on after the case.



26. Refit the O Ring to the Gear Lever. Use tape around the splines to protect the O Ring from damage when sliding the O Ring over the splines.



See Manual for Full Instructions

27. Adjust the clutch by screwing in the centre screw until it bites and then loosed 1/4 of a turn and tighten the lock nut. Check the clutch operation and then replace the cover.



28 Refit the Starter Cog first by fitting the metal washer then cog then another washer. Fit the cover and tighten up the 4 bolts.



29. Replace the lower pulley, lock washer and nut "**Strong thread lock**" on the thread and torque to 100 Nm.



30. Refit the Timing Back Plate. The back plate requires a bead of sealant between it and the casing.

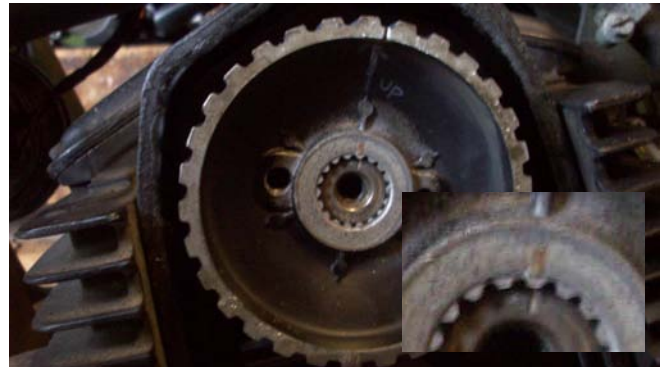


31. Install the two retaining bolts and replace the timing cover stud & Washer.

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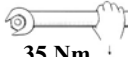


32. Install the Timing Belt Runner Bearing “**Medium thread lock**”   20 Nm on the thread and torque to 20


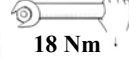


33. Refit the top Pulley and Spacers. Ensure the Two marks line up.



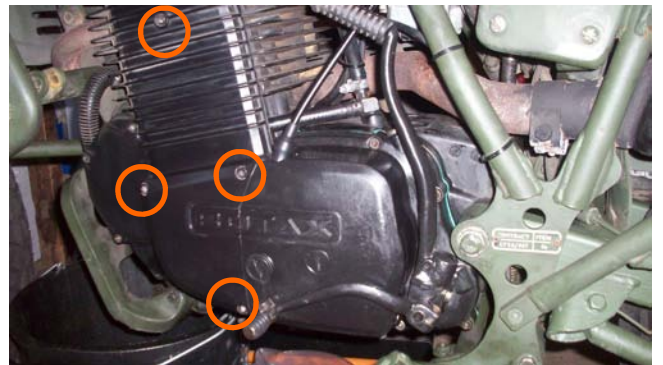
34. Install the Large Washer, Lock Washer and Nut on the Top Pulley. Note : Put the Timing belt on temporarily to assist in Torquing the Bolt.
Note: See Slide 5 for realigning the Top Pulley.   35 Nm / 26 ft-lb



35. Install the Timing Belt Tension Bearing “**Medium thread lock**”   18 Nm / 13 ft-lb on the thread and torque to 35 Nm. Ensure the belt can be twisted through 90 Deg between the Top Pulley and the Tension Bearing. (See Manual for Detailed Settings.)





36. Remove the Fly Wheel Locking Bolt and replace with the original bolt & Copper Washer.



37. Re fit the Timing Belt cover and tighten the 4 Allen bolts.



38. Replace Kick Start.  27 Nm
Replace Gear Lever.  8 Nm



39. Replace Panniers Support Bar.



END OF PROCEDURE