

NEEDLE ROLLER CLUTCH PUSHROD CONVERSION

DETAILS AND FITTING INSTRUCTIONS.

The purpose of the needle roller conversion is to reduce clutch drag, whilst at the same time helping to eliminate oil contamination which causes both slip and drag.

Clutch drag is reduced in two ways.

Firstly the needle roller bearing reduces friction between the clutch and pushrod.

Secondly the flat area of the mushroom and adjuster assists the clutch pressure plate to lift squarely.

Oil contamination. There can be a problem with clutches becoming contaminated with gearbox oil. This is pumped along the mainshaft by the clutch pushrod, segmenting the pushrod helps to eliminate this.

CONTENTS. (FIT IN THIS ORDER)

1 SHORT CLUTCH PUSHROD

1 1/4 1/4 ROLLER (THIS IS USED AS A PACKING PIECE AND WILL NOT BE NECESSARY ON MACHINES FITTED WITH A SHORTER GEARBOX MAINSHAFT)

1 1/4 BALL BEARING

1 HARDENED STEEL/GROUND MUSHROOM PUSHER

1 NEEDLE ROLLER

1 NEEDLE ROLLER THRUST WASHER

1 SPECIAL CLUTCH ADJUSTER

INSTRUCTIONS.

1 IT IS NECESSARY TO HAVE THE BACK OF THE MUSHROOM AS CLOSE TO THE GEARBOX MAINSHAFT AS POSSIBLE, SHORTEN THE PUSHROD OR REMOVE THE 1/4 1/4 ROLLER IF THERE IS EXCESSIVE CLEARANCE (i.e. NOT ENOUGH SPACE, SEE BELOW)

2 THERE MUST BE A MINIMUM OF APPROX 3/8" BETWEEN THE GEARBOX MAINSHAFT AND THE INNER FACE OF THE CLUTCH PRESSURE PLATE. THE EXACT AMOUNT AVAILABLE DEPENDS ON THE THICKNESS OF THE CLUTCH PLATE STACK. THE AMOUNT REQUIRED CAN BE REDUCED TO AROUND 1/4" BY REMOVING THE THRUST WASHER AND RUNNING THE BEARING DIRECTLY AGAINST THE ADJUSTER, THIS WILL ACCELERATE BEARING WEAR BUT WE CAN SUPPLY NEW NEEDLE ROLLERS FOR £2.70 INC.

REMOVE OUTER CHAINCASE AND CLUTCH OUTER PLATE (THE ONE CARRYING THE ADJUSTER) AND CLUTCH PUSHROD

INSERT SHORT PUSHROD INTO MAINSHAFT

FOLLOWED BY 1/4 1/4 ROLLER

FOLLOWED BY 1/4 1/4 BALL

FOLLOWED BY MUSHROOM

FIT NEW ADJUSTER, SECURE THRUST WASHER AND NEEDLE ROLLER TO ADJUSTER WITH A LITTLE COPPER SLIP OR HIGH MELTING POINT GREASE, (JUST A SMEAR).

ASSEMBLE CLUTCH AND ADJUST AS STANDARD.

NOTE! CAUTION!

COMMANDO OWNERS WILL HAVE TO USE ONE OF THE NUTS FROM THEIR CLUTCH COMPRESSOR TO JOIN THE COMPRESSOR TO THE ADJUSTER, WE HAVE TRIED THIS OUT SEVERAL TIMES WITHOUT MISHAP, BUT PLEASE BE CAREFUL.