

V-Twin Mfg.
45 CLUTCH HUB BEARING CONVERSION KIT
VT No. 18-0230

This is a custom application and rider safety depends on proper installation. This product should only be installed by a knowledgeable and trained motorcycle technician. V-Twin Mfg. Accepts no responsibility for improper installation.

THE 45 CLUTCH HUB BEARING CONVERSION KIT IS A SOLUTION FOR NOISY AND ERRATIC CLUTCH OPERATION CAUSED BY EXCESSIVE BALL BEARING WEAR AND GROOVING. THIS MOD SAVES THE OLD CLUTCH HUB AND CLUTCH SHELL/SPROCKET BY INSTALLING A NEW AND IMPROVED DESIGNED BEARING. GROOVED RACES NEED NOT SCRAP THE CLUTCH; HUB AND SHELL/SPROCKET. THE NEW SEARING CAN BE INSTALLED USING THE GROOVED RACES BECAUSE THE BEARING WILL ACTUALLY RIDE ON UNDAMAGED SURFACE AREAS. ACTUAL BEARING CONTACT IS INCREASED TO PROVIDE A BEARING WITH LESS FRICTION AND SMOOTHER OPERATION. THE SECRET TO THIS IMPROVED BEARING IS THAT; THE 60 BALL BEARINGS HAVE BEEN REPLACED BY ROLLER BEARINGS AND THUS THE BEARING LOAD HAS BEEN REDISTRIBUTED TO MORE BEARINGS OVER A LARGER SURFACE AREA. THIS IS, AVAILABLE AT A MODEST EXPENSE AND ONLY REQUIRES APPROXIMATELY ONE HOUR TO INSTALL. THE ADVANTAGES TO THE 45 CLUTCH HUB BEARING KIT ARE:

- 1) EASY TO INSTALL
- 2) ALLOWS THE CONTINUED USE OF GROOVED CLUTCH HUB AND SHELL SPROCKET WITHOUT THE NEED TO REPLACE THE WORN CLUTCH COMPONENTS
- 3) REPLACEMENT OF THE ORIGINAL LOW EFFICIENCY STOCK BALL BEARING ASSEMBLY WITH A NEW MORE EFFICIENT ROLLER BEARING
- 4) INCREASE IN COMPONENT RELIABILITY AND USEFUL LIFESPAN OF THE 45 ENGINE CLUTCH ROTATING MECHANISM
- 5) CLUTCH APPLICATION AND RELEASE IS MORE EFFECTIVE RESULTING IN BETTER CLUTCH ACTION

45 CLUTCH HUB BEARING CONVERSION KIT

DIRECTIONS: READ THE ENTIRE SET OF INSTRUCTIONS AND VERIFY THE CONTENTS OF THE CONVERSION KIT PRIOR TO PROCEEDING WITH THE INSTALLATION. REFER A FACTORY MANUAL OR A SUITABLE MAINTENANCE MANUAL FOR ADDITIONAL INFORMATION, SPECIFICATIONS AND ILLUSTRATIONS.

KIT CONTENTS:

QUANTITY	PART NAME
58	ROLLER BEARINGS
12A	POLYSEAL
3	EXTERNAL SNAP RINGS

45 CLUTCH HUB BEARING CONVERSION INSTRUCTIONS

DISASSEMBLY:

- 1) DISCONNECT THE HOT BATTERY LEAD FROM THE BATTERY TO PREVENT ACCIDENTAL STARTER ENGAGEMENT DURING THE DISASSEMBLY OR ASSEMBLY PROCESS.
 - 2) REMOVE THE PRIMARY COVER.
 - 3) LOOSEN THE PRIMARY CHAIN ADJUSTER.
 - 4) REMOVE CLUTCH ADJUSTING NUT. COMPRESS THE RETAINER SPRINGS AND PRESSURE PLATE. USING A LARGE WASHER UNDER THE ADJUSTING NUT. REMOVE THREE NUTS FROM THE STUDS. REMOVE THE (STILL COMPRESSED) PRESSURE PLATE/RETAINER/SPRING ASSEMBLY, SET ASIDE UNTIL RE-ASSEMBLY.
- NOTE #1:** OBSERVE THE ORDER, DIRECTION AND QUANTITY OF FRICTION PLATES WITH RESPECT TO STEEL PLATES AND CLUTCH SHELL/SPROCKET.
- 5) REMOVE THREE FRICTION DISCS AND TWO STEEL DISCS.
 - 6) REMOVE CONICAL SPRINGS FROM THE STUDS.
 - 7) LOOSEN THE PRIMARY CHAIN SO THE CLUTCH SHELL/SPROCKET WILL BE ALLOWED TO ROTATE ABOUT THE CLUTCH HUB WITHOUT APPLYING TENSION TO THE PRIMARY CHAIN. POSITION/ROTATE THE CLUTCH SHELL/SPROCKET SO THAT THE SLACK PRIMARY CHAIN IS POSITIONED; 1/2 ON THE TOP HALF AND, 1/2 ON THE BOTTOM HALF OF THE CHAIN. REMOVE THE CLUTCH SHELL; BEARING COVER PLATE, BEARING RETAINER, AND BALL BEARINGS.
 - 8) REMOVE THE CLUTCH SHELL/SPROCKET TO MAKE IT EASIER TO INSPECT AND CLEAN CLUTCH COMPONENTS.

NOTE#2: THERE ARE 60 BALL BEARINGS RESTRAINED BY THE RETAINER. IF ANY OF THESE BALLS ARE DROPPED INTO THE MECHANISM AND NOT RECOVERED A LOOSE METAL BALL COULD CAUSE DAMAGE TO ENGINE AND/OR TRANSMISSION AND COMPONENTS.

9) CLEAN AND INSPECT THE CLUTCH; HUB AND SPROCKET RACES.

A-INSPECT FOR NICKS OR HIGH SPOTS,

B-USE A FINE STONE TO REMOVE ANY RAISED OR UPSET MATERIAL AT ALL HIGH SPOTS.

NOTE#3:THE FOLLOWING ARE PERFORMED TO THOROUGHLY "CLEAN" THE CLUTCH FRICTION SURFACES. IF THERE IS NO NEED TO CLEAN OR RE-USE OLD CLUTCH PLATES THE FOLLOWING INSTRUCTIONS NEED NOT BE PERFORMED, IOA, IOB, 10C, 10D.

10) TO INSURE THE FRICTION AND STEEL DISCS ARE IN GOOD CONDITION;

A-CLEAN THE FRICTION DISCS OF ANY OIL OR GREASE.

B-CLEAN THE STEEL DISCS BY LIGHTLY SANDING WITH A MEDIUM GRADE EMERY CLOTH.

C-CLEAN THE FRICTION SURFACE OF THE CLUTCH HUB.

D-CLEAN THE BACKSIDE OF THE CLUTCH SPROCKET.

11) WRAP THE PRIMARY CHAIN AROUND THE CLUTCH SPROCKET WHILE PLACING THE CLUTCH SPROCKET IN POSITION ON THE CLUTCH HUB WITHOUT THE BALL BEARINGS OR RETAINER ASSEMBLY.

12) APPLY A "VERY LIGHT FILM" OF BEARING GREASE TO EACH 45 CLUTCH HUB BEARING ROLLER. BEGIN AT THE BOTTOM OF THE CLUTCH SHELL/SPROCKET RACE AND INSTALL THE ROLLERS BETWEEN THE CLUTCH; HUB AND SPROCKET RACES. CENTER THE CLUTCH SPROCKET ABOUT THE CLUTCH HUB DURING ASSEMBLY TO ENABLE EASY INSTALLATION OF THE ROLLERS BETWEEN THE RACES.

13) AFTER ALL ROLLERS HAVE BEEN INSTALLED, CHECK TO VERIFY SMOOTH ROTATION OF THE CLUTCH SPROCKET WITHOUT ANY BINDING OR THE APPLICATION OF EXCESSIVE FORCE.

NOTE#4: IF EXCESSIVE FORCE OR BINDING OCCURS WHEN ATTEMPTING TO ROTATE THE CLUTCH SPROCKET ASSEMBLY, REMOVE THE CLUTCH SPROCKET AND HONE THE BEARING OUTER RACE SURFACE TO INCREASE THE CLEARANCE BETWEEN THE RACES AND THE NEW ROLLERS. THE BINDING OR EXCESS FRICTION SHOULD BE ELIMINATED WITH MINIMUM HONING, THE REMOVAL OF APPROXIMATELY .0001" -.0005" SHOULD ALLOW THE BEARING FREE AND SMOOTH OPERATION.

14) INSTALL POLYSEAL (AND THE THREE EXTERNAL SNAP RINGS. INSERT THE SNAP RINGS ONTO THREE OF THE TEN STUDS. (SPACE THE SNAP RINGS EVENLY ABOUT TEN STUDS.) SECURE THE SNAP RINGS INTO THE GROOVES MACHINED IN EACH NEAR THE CLUTCH HUB.

NOTE#5: DO NOT REINSTALL THE STOCK BEARING COVER PLATE.

15) INSTALL CLUTCH STEEL DISCS AND FRICTION DISCS AS DESCRIBED IN THE MAINTENANCE MANUAL.

16) INSTALL THE COMPRESSED PRESSURE PLATE/SPRINGS/AND RETAINER (PREVIOUSLY SET ASIDE). INSTALL THREE NUTS ON STUDS

17) REMOVE LARGE WASHER AND NUT FROM THE PRESSURE PLATE ASSEMBLY, REINSTALL THE ADJUSTING NUT WITHOUT THE WASHER. ADJUST CLUTCH PUSHROD. AS DESCRIBED IN THE MAINTENANCE MANUAL.

18) TIGHTEN AND ADJUST THE PRIMARY CHAIN AS DESCRIBED IN THE MAINTENANCE MANUAL.

19) REPLACE THE PRIMARY COVER.

20) REINSTALL THE BATTERY CABLE.

21) TAKE A TEST RIDE TO VERIFY THE CLUTCH IS ADJUSTED PROPERLY AND READY FOR NORMAL RIDING ACTIVITY.