

HARTMAN CLUTCH INSTRUCTION SHEET

THE FOLLOWING INFORMATION WILL ENABLE YOUR HARTMAN CLUTCH TO ACHIEVE ITS MAXIMUM PERFORMANCE AND RELIABILITY.

SHOE POSITIONING: ALL HUB & SHOE ASSEMBLIES ARE SHIPPED WITH THE SHOE PIVOT NUT AND BOLT NOT TIGHT. TIGHTEN THE NUT AND BOLT SO THAT THE PIVOT END OF EACH SHOE LEADS IN THE DIRECTION THE ENGINE TURNS WHEN RUNNING.

CLUTCH WEIGHT STARTING POINTS: THE AMOUNT OF CLUTCH WEIGHT DEPENDS UPON THE ENGINE SET-UP AND THE EXHAUST SYSTEM USED THE FOLLOWING STARTING POINTS SHOULD PUT YOU ON THE RIGHT TRACK.

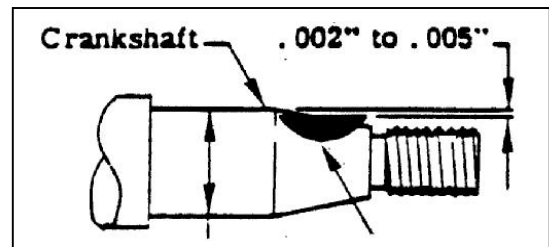
Engine Type	Regular Clutch	Clutch w/Instant Slippers	Clearance
100cc Stock Mac	1	3	.010
125cc Stock Mac	3	5	.010
100cc Stock Yamaha	1	3	.025
100cc Controlled Stock	2	3	.025
100cc Modified	1	4	.025
135cc Modified	4	5	.010

All Weight in Plates per Shoe

PUT ON THE DESIRED AMOUNT OF WEIGHT PER SHOE AND THREAD THE RETAINING NUT ON AND TIGHTEN. DO NOT USE A NUT UNDER THE PLATES OR WASHERS. THE STUD HOLE THREAD DOES NOT RUN ALL THE WAY THROUGH SO THE WEIGHT STUD TIGHTENS WHEN IT RUNS OUT OF THREAD.

INSTALLATION ON KEYED SHAFTS:

INSTALL THE KEY PER THE DIAGRAM. WHEN ASSEMBLED THE CLUTCH SHOULD HAVE .015-.060 END PLAY. ADJUST BY USING 1033, 1049 WASHERS BETWEEN DRUM AND CRANK. TORQUE THE CLUTCH NUT TO 260-300 INCH POUNDS – NO TIGHTER!



INSTALLATION ON YAMAHA KT-100: INSTALL THE KEY IN HUB AND BE SURE KEY IS SEATED ALL THE WAY INTO THE KEY SLOT. THEN INSTALL BEARING SUPPORT TUBE ONTO THE CRANK WITH THE INTERNAL RADIUS END TOWARDS THE ENGINE. (SEE FIGURE 1). NEXT INSTALL CLUTCH HUB WITH SHOES INTO THE DRUM WITH A 1049 STEEL WASHER BETWEEN THE DRUM AND HUB. THEN TURN THE DRUM UPRIGHT AND FILL THE CLUTCH HALF FULL OF HARTMAN CLUTCH OIL. NEXT INSTALL THE BEARING WITH THE LOADING GROOVES IN THE BEARING RACES TOWARDS THE CLUTCH COVER. NEXT INSTALL THE O-RING AND DISASSEMBLE THE COVER TO THE DRUM USING THE NUT RING AND EIGHT COVER SCREWS.

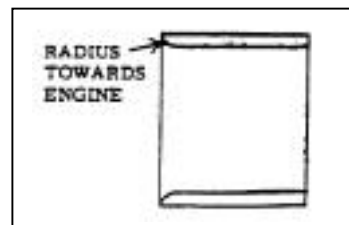


FIGURE 1

NEXT WITH THE 1012 WASHER IN THE CRANKSHAFT POCKET OF THE HUB INSTALL THE CLUTCH ASSEMBLY ON THE CRANK AND INSTALL THE CLUTCH RETAINING BOLT AND RETAINING WASHER. THEN TORQUE THE BOLT TO 200 IN. LB. AND BEND THE EDGES OF THE RETAINING WASHER OVER THE FLATS OF-THE HUB AND RETAINING BOLT.

COVER BEARING INSTALLATION AND CLEARANCE: THE BEARING SHOULD BE INSTALLED WITH THE LOADING GROOVES IN THE BEARING RACES TOWARDS THE CLUTCH COVER. ON ALL THE CLOSED MODEL CLUTCHES (1029),. THE COVER BEARING SHOULD HAVE A MINIMUM OF. 005 END PLAY BETWEEN THE NUT HEX AND THE HUB SHOULDER. IF IT DOESN'T, INSTALL A P/N 1012 WASHER UNDER THE NUT OR MACHINE. 025" OFF OF THE SHOULDER ON THE CLUTCH HUB.

CLUTCH OIL: THE CLUTCH OIL LEVEL (STATIC POSITION) SHOULD BE TANGENT TO- THE BOTTOM OF THE CRANK OR EXTENSION SHAFT. WITH THE OIL AT THIS LEVEL THE FILLER HOLE WILL BE IN 3:30 – 4:00 O'CLOCK POSITION. THE HARTMAN CLUTCH OIL IS A COOLING MEDIUM ONLY. THE ADDITION OF ANY SLIPPING AGENTS, OR SLIPPIER OIL CAN LEAD TO GLAZING OF THE CONTACT SURFACES.

CLUTCH ADJUSTMENT: NEW CLUTCH LINING AND DRUMS REQUIRE BREAKING-IN JUST LIKE PISTONS, BEARINGS, ETC. THE LINING IS "BROKEN IN" WHEN ALL THE SURFACE IS CONTACTING THE DRUM. THIS CAN BE DETERMINED BY VISUAL INSPECTION. THE CLUTCH WILL SLIP MORE UNTIL THE LINING IS COMPLETELY BROKEN-IN. IF AT ANY TIME THE CLUTCH IS OVERSLIPPING, RETURN IMMEDIATELY TO THE PITS IN ORDER TO AVOID ANY PERMANENT DAMAGE TO THE CLUTCH. ADD MORE WEIGHT FOR LESS SLIP AND TAKE OFF WEIGHT FOR MORE SLIP. ADD OR SUBTRACT WEIGHT EVENLY OFF EACH SHOE. SLIP ENGINES AT THE DESIRED RPM USING THE TABLE BELOW.

<u>Engine Type</u>	<u>RPM Range</u>
100cc Stock Mac	8, 400 - 8, 800
125cc Stock Mac	8, 500 - 9. 000
100cc Stock Yamaha	8, 300 - 9, 200
100cc Controlled stock	8, 800 - 9, 200
100cc Modified	9, 400 - 9,.8 00
135cc Modified	9, 000 - 9 400

CLUTCH LINING: WOVEN LINING IS BLACK IN COLOR AND SHOULD BE USED ON STOCK MACS AND STOCK YAMAHA'S. WOVEN LINING WILL NOT TAKE OVERSLIPPING FOR LONG PERIODS OF TIME WITHOUT FALLING APART. MAKE SURE YOU ARE SLIPPING THE CLUTCH IN THE DESIRED RPM RANGE OR DAMAGE WILL RESULT TO THE LINING. PINK LINING IS PINK IN COLOR OR LIGHT BROWN AND HAS THREE X'S CUT IN THE SURFACE OF THE LINING. THIS LINING CAN BE USED ON ALL ENGINE APPLICATIONS BUT IS RESERVED FOR THE HIGHER HORSEPOWER ENGINES. IF THE LINING IS OVERSLIPPED FOR A PERIOD OF TIME IT WILL GLAZE OVER AND REQUIRE MORE WEIGHT TO BE ADDED TO THE SHOES. THE GLAZE CAN BE REMOVED BY RUNNING A COARSE FILE OR ROUGH SANDPAPER OVER THE SURFACE OF THE LINING UNTIL THE SHINE HAS BEEN REMOVED. THE LINING WILL THEN WORK IN THE SAME MANNER AS IT DID WHEN NEW.