Slider Clutch Installation
Harley Davidson VRod

M.T.C. Engineering's slider is designed to provide you with excellent reaction times and better E.T.'s. Once you become used to racing with our slider clutch, you will never return to the conventional hand clutch method. Slider clutches eliminate the need for the clutch lever, cable, slave cylinder, etc. The unit operates wet and is totally enclosed in the stock clutch cavity with the addition of a specially designed cover plate. This unit operates similar to the one used on top fuel motorcycles and allows you to set the stall speed and the weight required to lock up the clutch plates in accordance with the horsepower your engine produces. It does not come with oil fill caps. All MTC Sliders and components are covered under U.S. Patents.

WARNING WARNING

There are several things that need mentioning before you use this slider clutch so you will not make any mistakes.

1. The clutch releases when the engine R.P.M. drops below stall speed. If your throttle sticks open, you can not disengage the clutch.
   Turning off the ignition switch is the only way you can disengage clutch if the throttle sticks open.
2. The bike will free wheel when the R.P.M. drops below stall speed, so you can not use the engine to assist the brakes in slowing the bike.
3. Any mechanical frictional hang-up would prevent the clutch plates from disengaging.
4. Make sure the transmission is in neutral before starting the engine.
5. Make sure that you can reach ignition kill switch without removing hands from controls.
6. Make sure air gap is correct, if not install a shim kit.
7. This unit will use Suzuki Hayabusa fibers and steels, a full set is supplied with the unit, and replacement plates can be purchased separately.

1. INSTALLATION OF BASKET IN A Harley Davidson Vrod

A. Installing the clutch basket to the transmission shaft is the same as with the stock motor with one exception. The preload springs on the thin gear have been remove, so make sure they are aligned from the backing plate side before installing the basket into the engine.

B. When installing a Harley Davdison Vrod slider basket, be sure to verify case clearance around the basket, a minimum of 1/32" required. This should not be an issue but we recommend that you check it due to possible manufacturing differences in the casting process of the engine cases.

C. The three (3) piece needle bearing supplied with your unit should be installed after the factory hardened collar. Install the small ring first, then the needle bearing, then last the thrust washer.

Make sure the needle bearing faces the engine; if you see the needle bearings you have installed it incorrectly. After the thrust washer is installed any required shims to correct the air gap should be installed. See Section 2.

D. Replace the OEM inner hub with the supplied billet inner hub. Use the stock washers and nut on the input shaft. After tightening inner hub nut make sure inner hub rotates free.

E. Before installing the clutch plates, it is necessary to soak the fibers in the same oil you are using in the engine. Blot the fibers off before installation, so they are not dripping wet, just damp.

F. The Vrod has (8) steels (.079"), (3) .1515" and (6) .118" thickness fibers for a total of (9) fibers. Install friction and metal plates same as with stock procedure starting with a thick fiber then hard chrome plated steel then fiber then hard chrome plate continue till you end with thick fiber. The last thick fiber can be placed in the middle of the clutch pack. If you want the bike to cut good lights make sure the air gap is .050". If not, use a shim kit to get the correct air gap. See section 2 for basics of adjusting the air gap.

G. Place the hat assembly on the basket and tighten the twelve (12) allen head cap screws to secure it.

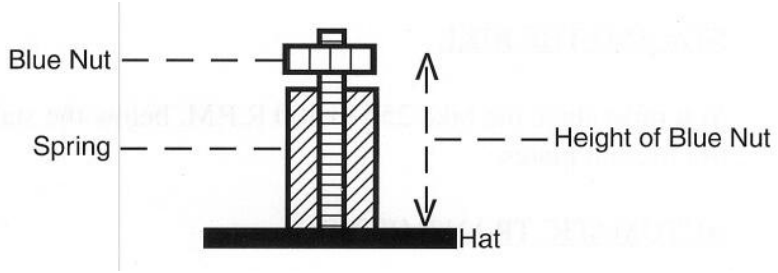
H. Install the clutch cover and supplied dome with the bearing support engaging the 'button' on the blue slider hat. Tighten all bolts evenly to make sure the hat doesn't bind up on the bearing support.

I. Before starting engine turn engine over by hand, and make sure that basket or inner hub is not binding.

2. *ADJUSTING THE SLIDER CLUTCH*

NOTE: This procedure can most easily and safely be done with the rear wheel suspended in the air. Sliders that are set up at MTC should work for a bike that runs 9.20s. Try it before you adjust it.

A. Start by setting the height of the springs at .800 thousandths. Put outside cover on engine and start engine. Put gear box in low gear and check the R.P.M. at which the rear wheel starts to turn. If the R.P.M. is too low, increase the spring pressure. Loctite blue nuts after adjusting, or use self locking nuts. They will loosen up.



B. We recommend .050" air gap for all sliders. To determine air gap subtract the step on slider hat pressure plate from stack height. This step is how far the pressure plate will protrude into the basket when installed. Example Vrod Step .032". For accuracy reasons we suggest you measure your hat step.

C. To determine stack height measure from last fiber plate to top of the basket.(not clutch tab).

D. If you have excessive air gap your slider will not react. You will not be able to cut good lights. Take the time to get it right, we have shim kits available to help you with the adjustment. Think about it, your competitor is not going to tell you why they are cutting good lights.

3. *SETTING THE LEVER ARM WEIGHTS*

A. For the average bike the weight supplied with the unit is more than enough to lock up the clutch and provide the stall speed you need to do the job. Remember the name of the game is to lock up the clutch as soon as possible without blowing away your rear tire. Also, if you change the lever arm weights, you will have to re-adjust the stall speed.

4. *PROCEDURES FOR MAKING A PASS*

1. BURNOUTS

A. You can use your 2 step button like you're leaving the starting line, or start the rear wheel spinning rapidly by quickly opening the throttle and hold the R.P.M. at least 2000 R.P.M. above the stall speed you have selected to prevent burning up the friction plates. If possible pick your body of the seat to start the burnout then sit back down. Do not allow bike to burn out of the water onto dry asphalt as this will shock the clutch plates and may break the tabs off of the friction plates.

2. STAGING THE BIKE

A. You must stage the bike 250 to 400 R.P.M. below the stall speed to prevent burning the friction plates.

3. AUTOMATIC TRANSMISSION

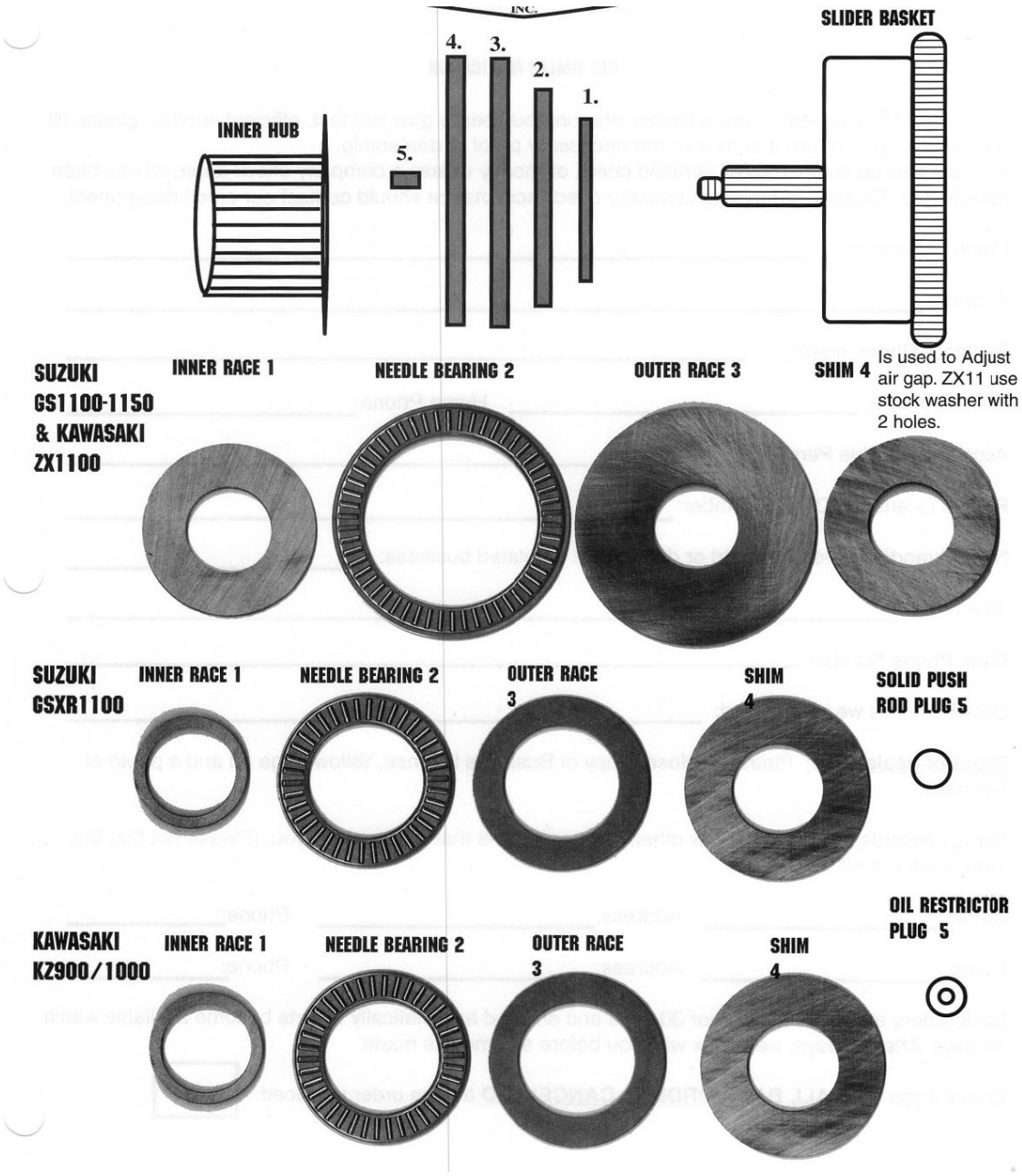
A. If you run a 123 auto do your burnout in 3rd, if you run a 5 speed auto do you burnout in 5th.

B. If you roll out of the throttle in any gear except high gear you could bend the shift shafts.

3. OILS

A. We do not recommend any oil thicker than 10w30.

B. We have not seen any problems with the clutch using synthetic such as Mobil 1 or Torco Oil.


INC.
4.
3.
2.
1.
INNER HUB
5.
SLIDER BASKET
SUZUKI
GS1100-1150
& KAWASAKI
ZX1100
INNER RACE 1
NEEDLE BEARING 2
OUTER RACE 3
SHIM 4
Is used to Adjust air gap. ZX11 use stock washer with 2 holes.
SUZUKI
GSXR1100
INNER RACE 1
NEEDLE BEARING 2
OUTER RACE 3
SHIM 4
SOLID PUSH ROD PLUG 5
KAWASAKI
KZ900/1000
INNER RACE 1
NEEDLE BEARING 2
OUTER RACE 3
SHIM 4
OIL RESTRICTOR PLUG 5