



YOSHIMURA

RESEARCH&DEVELOPMENT OF AMERICA, INC.

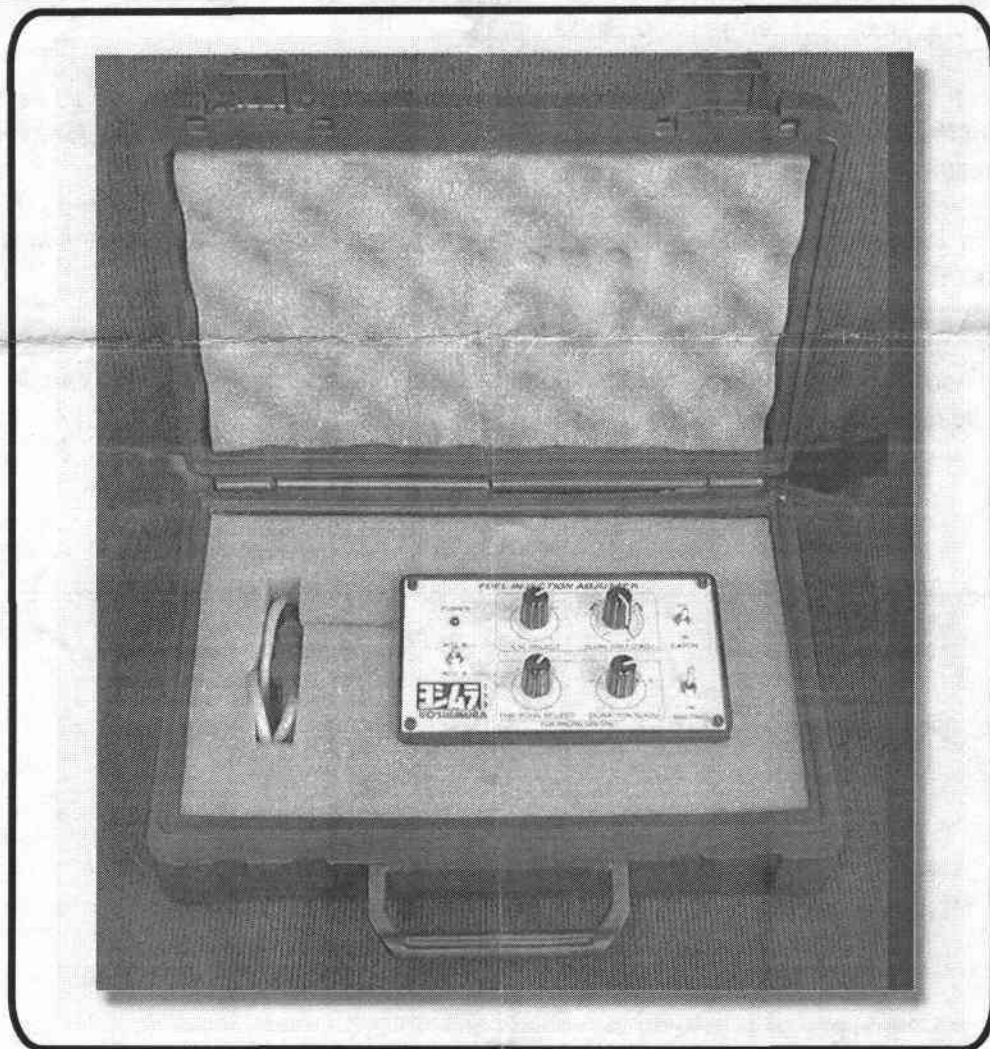
5420 DANIELS STREET STE A, CHINO CA. 91786 · (800)634-9166 · (909)628-4722 · FACSIMILE (909)591-2198

www.yoshimura-rd.com

Yoshimura Advanced Fuel Management System R-421 Adjuster Box

SUZUKI

**'01-03 GSX-R600 01-02 GSX-R1000
'98-03 GSX-R750 99-03 GSX-R1300R
'97-03 TL1000R/S**



Part List:

NO.	DESCRIPTION	QTY	PART #
1	Yoshimura EFI Adjuster Box	1	R-421B
2	Plastic Carrying Case for R-421	1	R-421C
3	Label for Case	1	R0421S
4	Yoshimura Stickers	2	17020C

Note: Review operating instructions thoroughly before using the tool.

The YAFMS adjuster box adjusts both stages of the Suzuki two-stage fuel injection system:

Adjust - A portion: affects the fuel circuit from idle to 3000 rpm, any throttle position.

Adjust - B portion: affects the fuel circuit from 3000 rpm to full throttle, sectioned between "Low", "Medium", and "High" adjustments by throttle position.

1. Connect the adjuster box cable to the seven-pin male connector plug on the OEM harness. You will have to remove the waterproof cap on the OEM plug before connecting the cable. The plug is located on the motorcycle's wire harness next to the electronic control module, under the rider seat on the left hand side of the motorcycle, newer motorcycles (01 GSX-R600/1000 -00-02 GSX-R750) may have the connector located in the trunk on the left side behind the plastic tray adjacent to the rear sub-frame. When finished tuning, be sure to replace the waterproof cap on the OEM male plug.
2. Always confirm the ignition switch is "OFF" on the motorcycle and that the "CATCH" toggle switch located at the upper right of the adjuster box is in the "OFF" position PRIOR to connecting the cable (See Fig 1). Otherwise **DAMAGE** may result to the adjuster box.
3. Once connected select which portion of the map you wish to adjust using the "ADJ" switch located on the left hand side of the YAFMS tool.

Yoshimura recommends that all tuning/testing be done on a load step dynamometer with an exhaust gas analyzer. Please keep a log book of adjustments made to the motorcycle(s) fuel injection so changes can be monitored And the bike can be tuned in the most efficient manner.

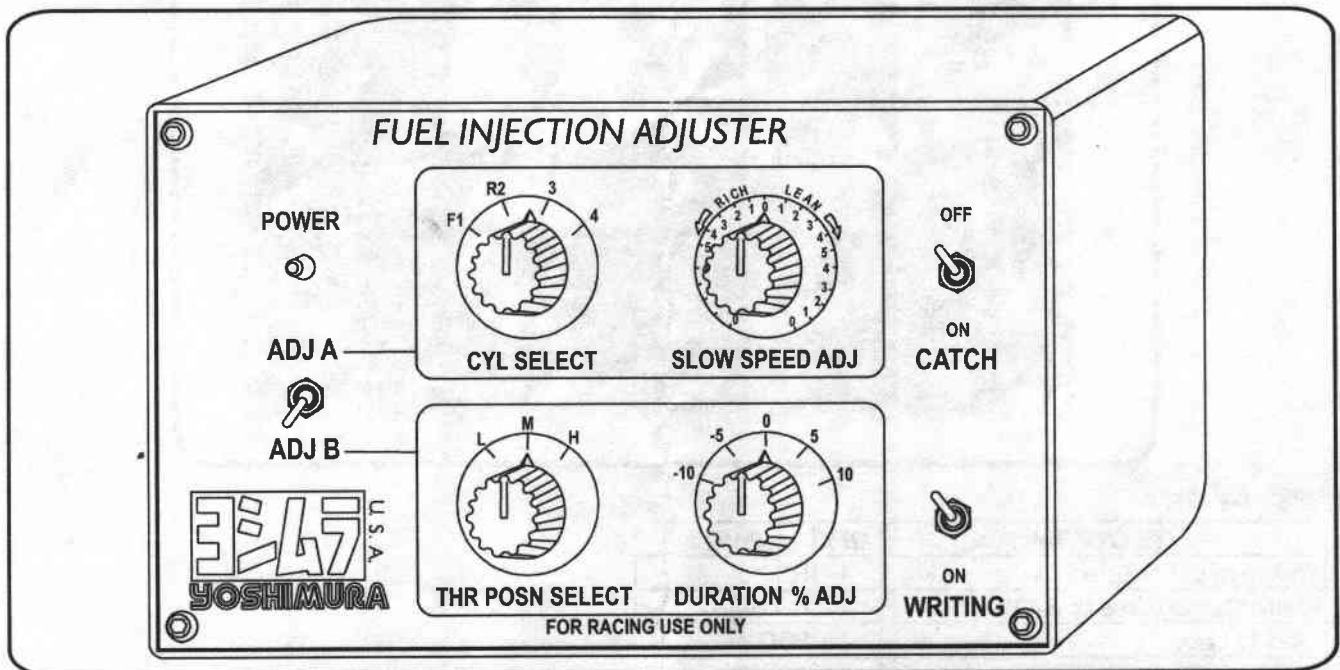


Fig. 1

The slow speed adjustments must be made to each cylinder. Please note that the adjuster knob is very sensitive. This knob affects the percent CO (carbon monoxide) emitted by the engine. CO% is an easy way to tell richness or leanness. A reasonable range is 2-3% CO for optimum mixture. Very slight movements counter-clockwise of the top center "0" on the "SLOW SPEED ADJ" knob richen and slight movement to the right lean the idle mixture. A practical range for proper mixture will be found +/- 90 deg from the "12 O'clock" position. Note that maximum richness or leanness correction occurs at the halfway point between the "12 o'clock" or "0" position and the left or right at the "5" positions. Each motorcycle reacts differently to adjustments made with the "SLOW SPEED ADJ" knob and requires fine-tuning similar to a pilot mixture screw on a carburetor.

To adjust the slow-speed stage of the number one cylinder follow the steps below:

1. Place the motorcycle ignition switch in the "OFF" position.
2. Place the "CATCH" toggle switch in the "OFF" position.
3. Attach the connector cable from the adjuster box to the OEM diagnostic plug. Shift the motorcycle into neutral. (The plug is located on the wire harness next to the electronic control module, under the rider seat on the left hand side of the motorcycle, newer motorcycles (01 GSX-R600/1000 or 00-02 GSX-R750) may have the connector located in the trunk on the left side behind the plastic tray alongside the rear sub-frame)
3. Move the "ADJ A/B" toggle switch to the "ADJ A" position.
- 4 Rotate the "CYL SELECT" knob left to the "F1" (cylinder #1) position.
5. Rotate the "SLOW SPEED ADJ" knob to the straight up "0" position. Rotate the "SLOW SPEED ADJ" knob counter clockwise (left) to richen the idle mixture. This is a sensitive adjustment; a move to "3" position to the left is a good starting point.
6. Turn the ignition key to the "On" position. **DO NOT START THE MOTORCYCLE!** You should hear the fuel pump cycling on for a few seconds as it receives power. Once the fuel pump stops confirm that the red power LED on the YAFMS is lit. If the LED is not lit check the cable plug connection, ensure that the ignition switch is in the "ON" position, and check that the handle bar kill switch is in the "run" position. When the red power LED on the YAFMS is lit proceed to the next step.
7. Move the "CATCH" toggle switch to the "ON" position.
8. Move the "WRITING" toggle switch to the "ON" position and hold it down for 4 seconds, then release it.
9. Move the "CATCH" switch to the "OFF" position. The change is saved to the ECU when the "CATCH" switch is moved to the "OFF" position.
10. For the remaining cylinders repeat the above steps, but at step "4" select "R2" (cylinder#2), "3" (cylinder#3), "4" (cylinder#4)
NOTE: The ignition switch can be left in the "On" position until all adjustments have been completed.
11. When all adjustments have been completed wait 2-3 seconds, then turn the ignition key to the "OFF" position.
12. Disconnect the adjuster box from the motorcycle when tuning is completed. Never leave the adjuster box connected to the motorcycle when starting or riding.

FOR TL1000R/S: Follow the above steps but at step "4" select "F1" for the front cylinder and "R2" for the rear cylinder.

Remember that idle circuit adjustments are made to each individual cylinder and not tuning every cylinder may result in a rough idle and/or poor off idle acceleration. To return the bike to the stock setting follow the above steps in order, at step "5" set the "SLOW SPEED ADJ" knob to the straight up "12 o'clock" or "0" position. This will return the motorcycle to the stock settings, all cylinders must be set.

IMPORTANT NOTE: If the motorcycle is equipped with an exhaust air injection system, a qualified mechanic must block off the device at the exhaust port, otherwise the motorcycle will experience backfiring when closing the throttle from the full open position. This modification is not legal for use on public roadways.

To increase or decrease the fuel injector duration from 3000 rpm to Maximum rpm, follow the steps below. Note: Adjustments made to the acceleration circuit are made to all cylinders simultaneously.

1. Place the motorcycle ignition switch in the "OFF" position.
2. Place the "CATCH" toggle switch in the "OFF" position.
3. Attach the connector cable from the adjuster box to the OEM diagnostic plug. Shift the motorcycle into neutral. (The plug is located on the wire harness next to the electronic control module, under the rider seat on the left hand side of the motorcycle, newer motorcycles (01 GSX-R600/1000 or 00-02 GSX-R750) may have the connector located in the trunk on the left side behind the plastic tray alongside the rear sub-frame)
3. Move the "ADJ A/B" toggle switch to the "ADJ B" position.
4. Select "L" (low throttle position) with the "THR POSN SELECT" knob.
5. Determine the recommended setting for the motorcycle from the table below and rotate the "DURATION % ADJ" knob to this setting.
6. Turn the ignition key to the "ON" position. DO NOT START THE MOTORCYCLE! You should hear the fuel pump cycling on for a few seconds as it receives power. Once the fuel pump stops confirm that the red power LED on the YAFMS is lit. If the LED is not lit check the cable plug connection, ensure that the ignition switch is in the on position, and check that the handle bar kill switch is in the "RUN" position. When the red power LED on the YAFMS is lit proceed to the next step.
7. Move the "CATCH" toggle switch to the "ON" position.
8. Move the "WRITING" toggle switch to the "ON" position and hold it down for 4 seconds, then release it.
9. Repeat steps 1 - 8 with the "THR POSN SELECT" knob changed to: "M" (mid throttle position) and "H" (high throttle position). NOTE: The ignition switch can be left in the "On" position until all adjustments have been completed.
10. When adjustments to the "L", "M", and "H" have been completed move the "CATCH" switch to the "OFF" position. The changes are saved to the ECU when the "CATCH" switch is moved to the "OFF" position.

Note: To return a motorcycle to the stock setting follow the above steps and set the "DURATION % ADJ" to "0". This will return the motorcycle to the factory settings.

RECOMMENDED STARTING POINT FOR ACCELERATION CIRCUITS:

<u>Model:</u>	<u>Slip-On Exhaust</u>	<u>Full System Exhaust</u>	<u>Full System & Air Filter</u>
00-03 GSX-R600	-5L, 0M, 0H	-5L, 0M, 0H	-5L, 0M, 0H
98-99 GSX-R750	+5L,+5M, 0H	+5L, +5M, 0H	+5L, +10M, +5H
00-03 GSX-R750	-5L, 0M, 0H	-5L, 0M, 0H	-5L, 0M, 0H
98-03 TL1000S	+5L, 0M, 0H	+5L, +5M, 0H	+5L, +5M, +5H
97-03 TL1000R	+5L, 0M, 0H	+5L, +5M, +5H	+5L, +10M, +5H
00-02 GSX-R1000	-5L, 0M, 0H	-5L, 0M, 0H	-5L, 0M, 0H
99-03 GSX-R1300R	+5L, +5M, 0H	+5L, +5M, +5H	+5L, +5M, +5H