SyncPRO™ Carb Tuner

Meeting the demands of the professional motorcycle mechanic and the enthusiast alike, Motion Pro introduces the new SyncPRO™ Carburetor Tuner. The SyncPRO™ is the only non-mercury, fluid filled carburetor synchronizer on the market today. As environmental regulations ban the use of mercury in more and more states, a non-mercury alternative needed to be developed. Motion Pro filled that need by developing an easy to use precision tuner that's also safe and environmentally friendly.

Why is it important to synchronize your carburetors or throttle bodies? For the best performance of your motorcycle's engine, each carb must be balanced with the others by adjusting how much of the air/fuel mixture enters the cylinders. This is important for proper throttle response and power output, reducing vibration, and maintaining operating temperature and fuel efficiency.

Frequently Asked Questions:

Q: Can the SyncPRO™ fluid be replaced?
A: Yes, replacement SyncPRO™ fluid is available by ordering **PN 08-0415** SyncPRO™ Fluid Refill.

Q: Can the SyncPRO™ fluid be used in place of mercury in the earlier style mercury manometers?
A: No. The SyncPRO™ fluid will not work in place of mercury, or vice-versa. While the SyncPRO™ and older mercury units look similar, they are functionally different, and will not work with alternate manometer fluids.

Q: Is the SyncPRO™ manometer fluid toxic?
A: No. The fluid contains propylene glycol, and both the fluid and vapors are non-toxic. While we don't recommend drinking it, doing so would cause little more than a bad taste in your mouth, and consuming very large quantities of it could cause adverse effects.
Please contact Motion Pro for a copy of the MSDS.

Q: Will the fluid harm my motor if it gets sucked inside?
A: No. There is very little chance of fluid being drawn into the engine, but if it does occur, the nature and quantity of fluid would not cause any damage.

Q: Will the SyncPRO™ work on outboard motors and snowmobiles?
A: Yes, it will work on most multi cylinder engines.

Q: Do I need to synchronize my fuel injected engine?
A: Yes, virtually all four stroke fuel injected applications with multiple throttle bodies require synchronization. Check your service manual to verify this.

Q: Does the SyncPRO™ come with vacuum adapters to fit my vehicle?
A: It comes with 5mm adapters which fit most Honda and Suzuki models Optional 6mm short and long adapters (**PNs 08-0168** and **08-0040**) are available separately, and most Kawasaki models don't require adapters.

Other Motion Pro tools to make synchronizing and tuning your carbs even easier!

Auxiliary Fuel Tank: A must for tuning your motorcycle with the fuel tank removed. **PN 08-0032**

Deluxe Auxiliary Fuel Tank for EFI Systems: Can be used with fuel-injected models with an external fuel pump, and with standard carburetor type motorcycles as well. **PN 08-0189**

Standmate: A handy rolling shop stand designed to hold the Auxiliary Fuel Tanks and other items. **PN 08-0222**

Permanent Brass Hose Adapters: Can be permanently installed in place of the plugs in the vacuum port, and eliminates the need to install adapters before every carb synchronization. 5mm **PN 08-0218**, 6mm **PN 08-0219**

90 Degree ¼" Hex Driver: A gear-driven multi-bit tool designed for hard-to-reach air/fuel mixture screws on multi-cylinder engines. **PN 08-0229**

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Motion Pro® 08-0411 SyncPRO™ Carb Tuner Instructions

Thank you for purchasing the Motion Pro SyncPRO™ Carb Tuner. This is a precision instrument and in order to insure that it is setup and used properly please read all of the assembly and operation instructions before use.

Warning: All procedures should be performed by an experienced mechanic with proper tools and training. Failure to do so could result in great bodily injury or death. Carburetor or throttle body synchronization should be done in accordance with the factory shop manual for your vehicle. Follow all instructions and specifications in your manual.

Assembly:

1. Connect the hang hook to the SyncPRO™ and close the small loop with a pair of channel locks to prevent it from inadvertently coming off when in use (Image 1).

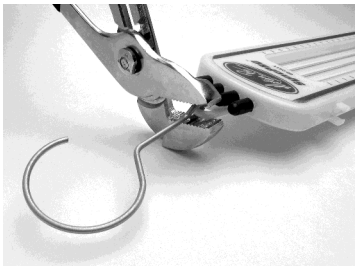

Image 1

2. Cut the long piece of vacuum hose into four equal lengths. Remove the vacuum caps on top of the clear tubes (Image 1) and attach the vacuum hoses onto the clear tubes. If the vacuum hose is difficult to install, moisten the end of the vacuum hose with a drop of water and twist into place.

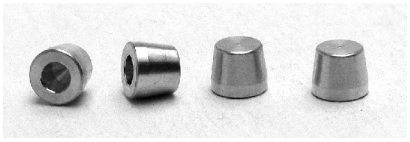

Image 2

Install a restrictor (Image 2) in the end of each vacuum hose. The tapered end of the restrictor should be inserted into the vacuum hose first (Image 3).

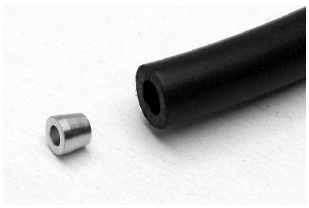

Image 3

Push the restrictor approximately 3/8" into the vacuum hose with one of the barbs on the calibration manifold (Image 4 & 5).

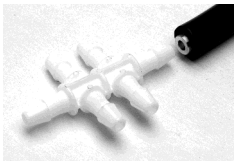

Image 4

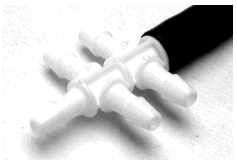

Image 5

The restrictors should now be located on the ends of the vacuum hoses that will be connected to the intake manifold or carburetors.

3. Remove the rubber plugs from the bottom of the SyncPRO™ and store the manifold adaptors and vacuum caps in the body of the SyncPRO™ (Image 6).

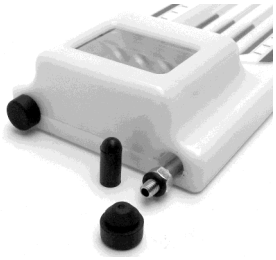

Image 6

4. Cover one of the six ports on the calibration manifold with a vacuum cap. Then plug the calibration manifold into the short vacuum hose and attach it to the side of the SyncPRO™ (Image 7).

Image 7

Calibration and Use:

Caution: Engine speeds exceeding 3,500 RPM and/or rapid throttle closure can cause the SyncPRO™ fluid to be sucked into the engine.

Follow all instructions and specifications in your factory shop manual. Carburetor or throttle body synchronization should be done in accordance with the factory shop manual for your vehicle.

Always use this tool in a well-ventilated area with plenty of fresh air. Use an exhaust collector or ventilation fan to remove exhaust fumes whenever possible. Utilize a fan to cool the engine when the engine is running.

1. Always use the SyncPRO™ in an upright position. The handle bar end is usually a convenient location.

2. Bring the engine to its normal operating temperature and then shut it off.

3. Remove or raise the fuel tank. For non-fuel injected bikes you can use Motion Pro's Auxiliary Tank (P/N 08-0032) during synchronization. For fuel injected models with external fuel pumps you can use Motion Pro's Deluxe Auxiliary Tank (P/N 08-0189).

4. Attach the short piece of vacuum hose with the calibration manifold to cylinder No. 1 and then attach all 4 vacuum hoses from the SyncPRO™ to the calibration manifold (Image 8).

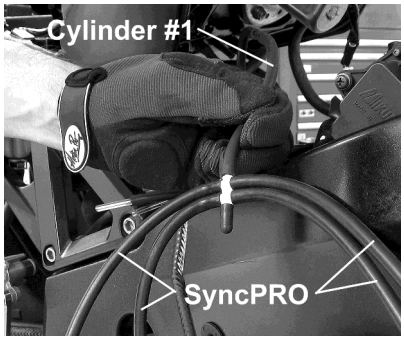

Image 8

Caution: Engine speeds exceeding 3,500 RPM and/or rapid throttle closure can cause the SyncPRO™ fluid to be sucked into the engine.

5. Start the engine and run it at idle.

6. Calibrate the SyncPRO™ with the engine running (make sure the fluid levels of all four channels are the same height) by turning the calibration screws on the SyncPRO™ clockwise to raise the fluid level and counterclockwise to lower the fluid levels (Image 9).

Image 9

7. Turn off the engine and remove the short piece of vacuum hose with the calibration manifold and attach it to the side of the SyncPRO™ for storage (Image 7).

8. Attach the vacuum hoses to each cylinder (vacuum hose No. 1 to cylinder No. 1, vacuum hose No. 2 to cylinder No. 2, etc.). If you are synchronizing a twin, the two extra vacuum hoses can be left unattached and do not need to be plugged. Use the vacuum hose adaptors on models that require them. Most Honda and Suzuki models use 5mm adaptors, while most Yamaha models use 6mm adaptors. Some Kawasaki and Yamaha models have spigots molded into the intake manifolds and do not require adaptors.

9. Start the engine and with the engine at idle, adjust the carburetor synchronizer adjustment screws so that the SyncPRO™ fluid column heights register approximately the same. Motion Pro offers several tools for carb adjustments (P/N 08-0022, 08-0119, 08-0229). If synchronization cannot be achieved, other problems may exist. Some

possibilities are low compression, intake manifold leaks, dirty air filters, worn carburetor bodies, worn throttle slides or possibly a restricted exhaust system.

10. Disconnect the synchronizer, remove the vacuum hose adaptors (if applicable) and replace any plugs, caps or hoses that were removed. Reinstall the fuel tank.

Caution: Engine and exhaust systems can get very hot. Care should be taken when connecting and disconnecting fuel lines to prevent gas from spilling onto hot engine and exhaust components

Tips:

- To check the intake manifolds for air leaks, run the engine at idle and spray a fine mist of water on the manifolds. Any drop in idle speed indicates an intake manifold air leak.
- Troubleshooting guides are also available in manuals from Clymer Publications for your specific model.

Storage:

- Store in an upright or horizontal position at or above 32º F (0º C).

FAQs:

Q: Can the SyncPRO™ fluid be replaced?
A: Replacement SyncPRO™ fluid is available by ordering MP P/N 08-0415 SyncPRO™ Fluid Refill.

Q: What do the lines on the scale represent?
A: They are reference lines only, used to facilitate in calibrating the SyncPRO™ and synchronizing the carburetors/throttle bodies. They do not represent specific vacuum values (i.e. cm Hg, in Hg, psi, etc).

Q: Will the synchronizer work on outboard motors and snowmobiles?
A: Yes, it will work on most multi cylinder engines.

Q: Do I need to synchronize my fuel injected engine?
A: Virtually all four stroke fuel injected applications with multiple throttle bodies require synchronization. Check the service manual to verify this.

Q: My shop manual gives a specific value or range that the vacuum should be at. Do I adjust the carbs to this value?
A: While some manufacturers specify a value (height of mercury Hg, psi, etc.) for the vacuum at idle, with very few exceptions, the purpose of synchronization is to adjust all intake tracts to equal values in order to achieve a smooth idle. The exception to equal vacuum values at idle occurs when the intake tracts are not of equal length and the manufacturer has specified a specific differential between cylinders to account for the difference in the intake tracts. If this is the case a mercury manometer or digital vacuum synchronizer like our 08-0194 SynchroMate is recommended.

Q: Gaps have formed in the SyncPRO™ fluid columns. What can I do to correct this?
A: Hold the SyncPRO™ near the hang hook and give it a good shake like a thermometer. That should condense the fluid column again. Make sure to recalibrate the SyncPRO™ before using it again.

Q: Why is the fluid column oscillating so much?
A: Check to make sure the restrictors are installed in the ends of the vacuum hoses. If a restrictor is missing or located near the SyncPRO™ end of the vacuum hose it will cause excessive fluid oscillation.

Q: One or more fluid columns are not responsive.
A: This can be caused by a blocked restrictor. Remove the restrictor from the vacuum hose and use carburetor cleaner and compressed air to clean the small orifice. You should be able to see through the restrictor if you hold it up to a light source.

SyncPRO™ Fluid contains propylene glycol and is not “toxic” as defined by the regulations of the Consumer Product Safety Commission at 16 CFR 1550.3 (c) (2), it is not for human consumption. KEEP OUT OF THE REACH OF CHILDREN. DO NOT store in opened or unlabeled containers. Contact Motion Pro for a copy of the MSDS.