

## TOTAL INTAKE SYSTEM CLEANER

RED LINE TOTAL INTAKE SYSTEM CLEANER, when used as directed, provides complete intake cleaning by safely and effectively removing carbon build-up, cleaning the vehicle's upper engine and intake systems from the plenum to the catalytic converter. It helps eliminate rough engine idle, knocking, pinging and engine run-on, while reducing emissions and restoring power and performance. RECOMMENDED FOR PFI, GDI, HYBRID AND DIESEL ENGINES. CAN ALSO BE USED IN VEHICLES RUNNING E-85 FUEL.

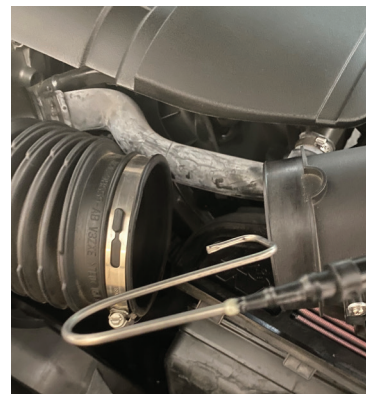
### PRODUCT / APPLICATION HIGHLIGHTS:

- Pre-charged to 40 psi
- Enters cold to prevent hydrolock in (warm) engine
- Standard s-hook applicator with 3-foot hose designed for optimal spray into intake system at/near throttle body
- Available s-hook applicator with 8-foot hose designed for in-vehicle spray and throttle control from driver's seat
- Available tapered-end applicator hose for use on positive engine vacuum port
- No additional fuel service tools required
- Can be performed in under 10 minutes

### GAS ENGINE RECOMMENDED SERVICE PROCEDURE

STANDARD S-HOOK APPLICATOR WITH 3-FOOT HOSE OR AVAILABLE S-HOOK APPLICATOR WITH 8-FOOT HOSE

- 1 Create access to the intake system for the s-hook applicator hose via the engine air intake system in front of the engine throttle body. For best results, this should be at or as close as possible to the engine throttle body (see images below).



#### BEST

(INTAKE HOSE AT ENGINE THROTTLE BODY)

#### ACCEPTABLE

(INTAKE NEAR ENGINE THROTTLE BODY-ONE INTAKE HOSE BEND)

#### NOTE

If Total Intake Intake Cleaner travels through too many harsh bends of the vehicles air intake hoses prior to reaching the engine throttle body, product may form into droplets/liquify before entering the throttle body and become less effective. In the unlikely event that you are unable to install s-hook applicator in a reasonable intake hose location as suggested, then recommend use of optional tapered-end applicator hose through engine positive vacuum for the cleaning process (see OPTIONAL service procedure).

- 2 Start vehicle and make sure engine is at operating temperature before performing service. Begin cleaning process by depressing the applicator spray trigger (slowly at first, allowing the engine to adjust for the air-to-fuel mixture).

#### NOTE

For best results, modulate the spray with applicator spray trigger to allow cleaner greater opportunity to soak into carbon build up for proper burn off within the intake system (depress spray trigger enough so that steady amount of product can be seen traveling through hose applicator-spray for 3-5 seconds, then 3 seconds rest; repeat throughout). In the event of a vehicle stall anytime during application, simply release spray button and repeat step 2.

Service can normally be safely performed at engine idle, depending on vehicle air intake system/throttle body size. However, the best procedure is to keep engine RPM in the 1200-1500 range during service to prevent unlikely occurrence of engine stalling. The best way to perform this is using the available s-hook applicator with 8-foot hose.

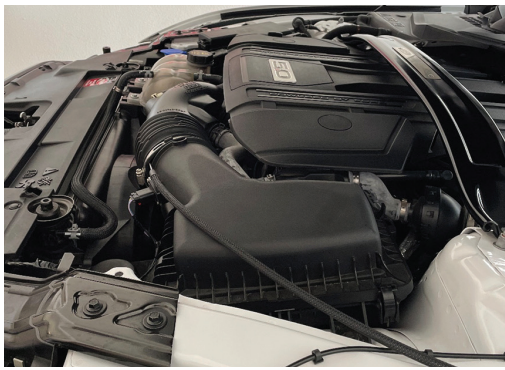
# RED LINE<sup>®</sup> SERVICE CHEMICALS

**GAS ENGINE RECOMMENDED SERVICE PROCEDURE: CONT'D**

## USE OF STANDARD S-HOOK WITH 3-FOOT HOSE



## USE OF AVAILABLE S-HOOK WITH 8-FOOT HOSE



### NOTE

It is recommended to stop spray and gradually rev engine up to 3,000 RPM once at the halfway point (4 minutes after starting service) to prevent engine loading up.

- 3 Continue spraying the Complete Intake System Cleaner into the intake system until can has emptied.
- 4 Once can is empty, allow engine to idle for 2 - 3 minutes to allow remaining cleaner to run out and gradually rev engine up to 3,000 RPM one last time. Then, shut engine off, remove s-hook hose and reassemble intake hoses. Restart engine and check for smooth idle.

### NOTE

If working with larger displacement engines (6 cyl and above) or it is believed that more deposits likely exists on the EGR valve, intake manifold or intake valves, a second cleaning is recommended.

- 5 Immediately after intake cleaning, use a fuel tank additive to clean fuel system as directed.

### NOTE

If engine is believed to have a high amount of carbon build up prior to service, it is recommended to change engine oil/filter post service due to potential of intake cleaner/residual carbon burn off getting into the engine crankcase during service (piston or ring blow by).

## **GAS ENGINE OPTIONAL SERVICE PROCEDURE:** TAPERED-END APPLICATOR HOSE

- 1 Create access to the intake system via a positive vacuum port. This should be as close as possible to the engine throttle body.
- 2 Start vehicle and make sure engine is at operating temperature before performing service. Begin cleaning process by depressing the applicator spray trigger (slowly at first, allowing the engine to adjust for the air-to-fuel mixture).

### **NOTE**

Applicator spray trigger has a locking feature available if you chose, however this can reduce overall effectiveness of intake cleaning. If vehicle stalls anytime during application, simply release spray trigger and repeat step 2.

- 3 Spray the Intake System Cleaner into the intake system via the spray hose/trigger. For best results, modulate the spray with applicator spray trigger to allow cleaner greater opportunity to soak into carbon build up for proper burn off within the intake system (depress spray trigger enough so that steady amount of product can be seen traveling through hose applicator-spray for 3-5 seconds, then 3 seconds rest; repeat throughout). Service can normally be safely performed at engine idle. However, the best procedure is to keep engine RPM in the 1200-1500 range during service to prevent unlikely occurrence of engine stalling. It is recommended to stop spray and gradually rev engine up to 3,000 RPM once at the halfway point (4 minutes after starting service) to prevent engine loading up.
- 4 Once can is empty, allow engine to idle for 2 - 3 minutes to allow remaining cleaner to run out and gradually rev engine up to 3,000 RPM one last time. Then, shut engine off, remove applicator hose and reinstall vacuum hose. Restart engine and check for smooth idle.

### **NOTE**

- 5 If working with larger displacement engines (6 cyl and above) or it is believed that more deposits likely exists on the EGR valve, intake manifold or intake valves, a second cleaning is recommended.

Immediately after intake cleaning, use a fuel tank additive to clean fuel system as directed.

### **NOTE**

If engine is believed to have a high amount of carbon build up prior to service, it is recommended to change engine oil/filter post service due to potential of intake cleaner/residual carbon burn off getting into the engine crankcase during service (piston or ring blow by).