

# Venturi Mixer and Stepper Fuel Control Valve Assembly

## 1 AIR-FUEL MIXER AND CONTROL VALVE ASSEMBLY

The following tables provide recommended pairings of between ATB's and air-fuel mixers with the most common combination emphasized in bold. The actual application may dictate a different pairing. In some cases, there are more than one possible choice of mixer for a given throttle body. **Important:** Contact your GAC representative for confirmation on mixer sizing prior to ordering.



## 2 SELECTION CHART

### T1 ATB / MIXER COMPATIBILITY MATRIX

| Mixer P/N  | MIXER TYPE       |                  | T1 ATB SIZE (mm) |    |    |    |
|------------|------------------|------------------|------------------|----|----|----|
|            | Throat Size (in) | Throat Size (mm) | 25               | 30 | 35 | 40 |
| MXSB20-STM | 0.6250           | 15.88            | X                |    |    |    |
| MXSB22-STM | 0.6875           | 17.46            | X                |    |    |    |
| MXSB24-STM | 0.7500           | 19.05            | X                | X  |    |    |
| MXSB26-STM | 0.8125           | 20.64            |                  | X  | X  |    |
| MXSB28-STM | 0.8750           | 22.23            |                  | X  | X  | X  |
| MXSB30-STM | 0.9375           | 23.81            |                  |    | X  | X  |

### T2 ATB / MIXER COMPATIBILITY MATRIX

| Mixer P/N  | MIXER TYPE       |                  | T2 ATB SIZE (mm) |    |    |
|------------|------------------|------------------|------------------|----|----|
|            | Throat Size (in) | Throat Size (mm) | 45               | 55 | 65 |
| MXMB40-STM | 1.2500           | 31.75            | X                |    |    |
| MXMB44-STM | 1.3750           | 34.92            | X                | X  |    |
| MXMB46-STM | 1.4375           | 36.51            |                  | X  | X  |
| MXMB48-STM | 1.5000           | 38.10            |                  | X  | X  |
| MXMB50-STM | 1.5625           | 39.68            |                  |    | X  |

### NOTE

MXSB (small-bore) and MXMB (medium-bore) mixers, ## represent the venturi mixer throat size and is provided in 32nds of an inch. For example the MXSB20 has a 20/32 in. throat diameter.

### T3/T4 ATB / MIXER COMPATIBILITY MATRIX

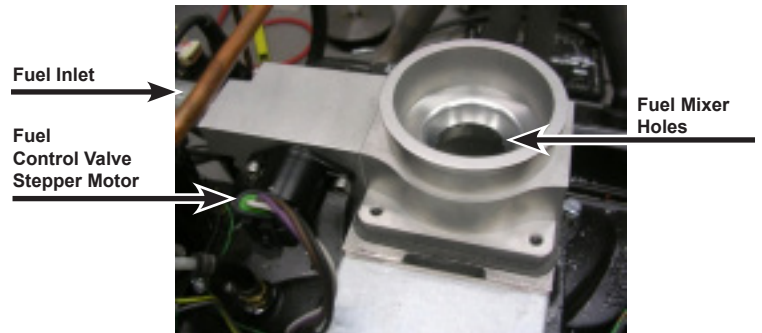
| Mixer P/N  | MIXER TYPE       |                  | T3/T4 ATB SIZE (mm) |    |    |
|------------|------------------|------------------|---------------------|----|----|
|            | Throat Size (in) | Throat Size (mm) | 75                  | 85 | 95 |
| MXLB75-STM | 2.141            | 54.38            | X                   | X  |    |
| MXLB85-STM | 2.600            | 66.00            | X                   | X  | X  |

### NOTE

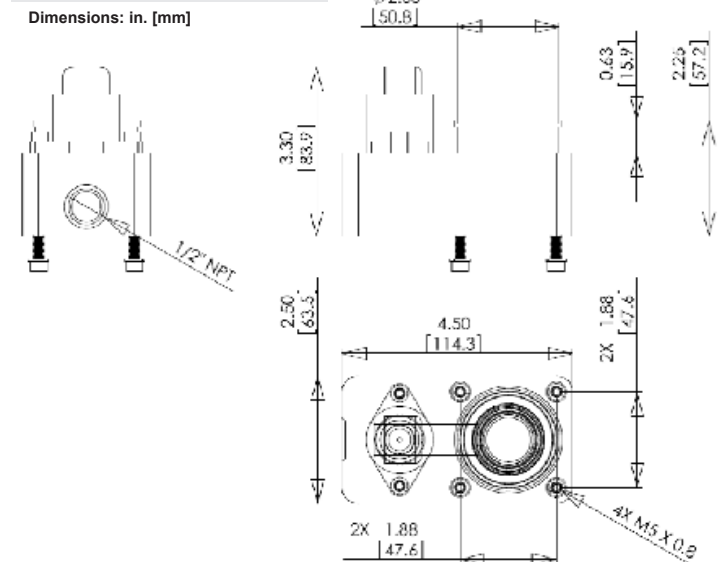
MXLB (large-bore) mixers ## represent the outer diameter mm size of the ATB unit in which the mixer is compatible. For example MLB75 is compatible with 75mm T3 ATB unit. Standard large-bore mixers come with a mixer ring that has 24 evenly spaced holes each 4mm diameter for gas flow. For example, -5 part numbers, MXLB75-5 are available with 5mm diameter holes for gas flow.

## 3 INSTALLATION

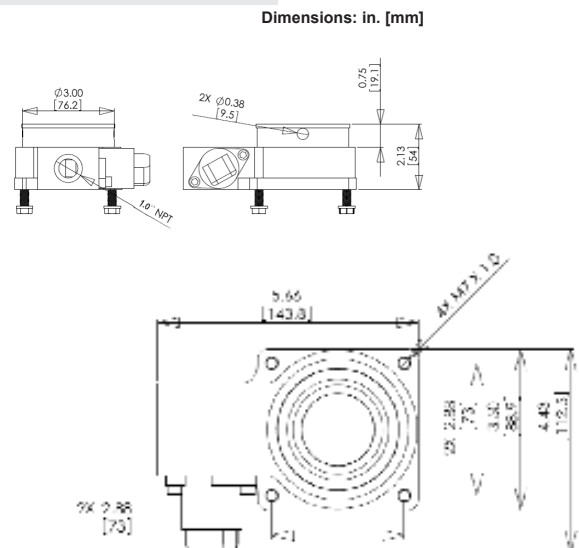
The air-fuel mixer and control valve assembly is used to adjust the air to fuel ratio to the engine to regulate how lean or rich the engine runs. The mixer and control valve comes as one combined assembly from GAC for simplified installation. The following figure is an example of a mixer / valve assembly mounted on top of an ATB.



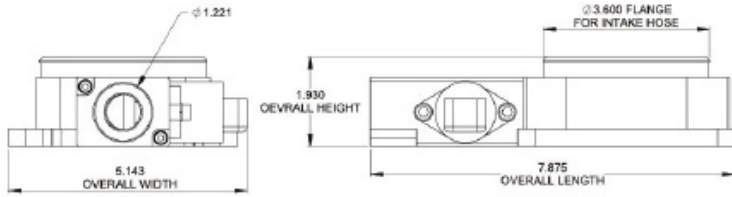
### MXSB - Small-Bore Mixer



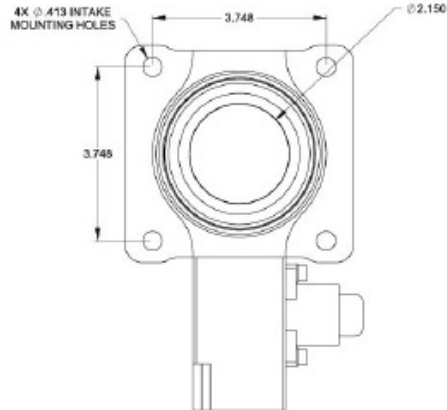
### MXMB - Medium-Bore Mixer



## MXLB - Large-Bore Mixer



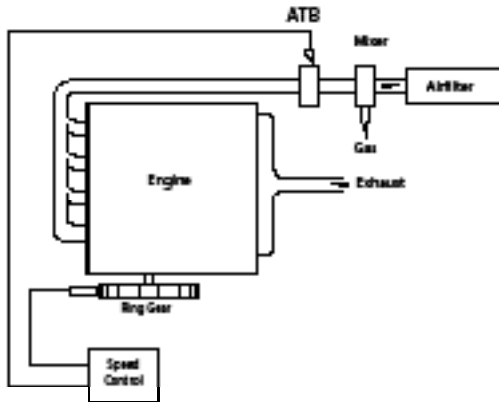
Dimensions: in. [mm]



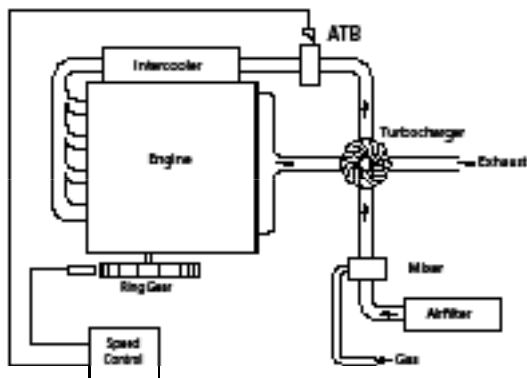
### CAUTION

The mixer must be installed before the ATB unit airflow. Never afterward! See diagrams below for mixer installation location.

## NATURALLY ASPIRATED ENGINES



## TURBO ENGINES:



## INSTALLATION PROCEDURE FOR NATURALLY ASPIRATED ENGINES

1. Clean the mounting area to the ATB from debris including old gaskets or previously applied sealants if present.
2. Install the integral mixer / valve assembly on top of the ATB (with or without adapter plate) using the supplied gasket or an approved sealant. Ensure the mixer assembly is aligned to the desired orientation prior to seating it on top of the ATB.
3. Insert the four bolts into the mixer / valve assembly, install the nuts, and torque to 1-1.8 lb.-ft. [1.36-2.44 N•m]. Ensure the assembly is not over-torqued and that the torque is applied evenly and gradually.

## INSTALLATION PROCEDURE FOR TURBO CHARGED ENGINES

1. Clean the mounting area to the flange of the turbocharger inlet (or adapter) including the air filter connection from debris including old gaskets or previously applied sealants if present.
2. Install the integral fuel mixer/control valve assembly (with adapter plate) using the supplied gasket or approved sealant. Ensure the mixer assembly is aligned to the desired orientation prior to seating it to the flange and that the fuel inlet is horizontal.
3. Insert the four bolts into the mixer / valve assembly, install the nuts, and torque to 1-1.8 lb.-ft. [1.36-2.44 N•m]. Ensure the assembly is not over-torqued and that the torque is applied evenly and gradually.