

## Wilhelm Raceworks X-Pipe Exhaust Installation Instructions

### Parts List:

- Front bank catalytic converter
- Rear bank catalytic converter
- X-Pipe
- Muffler section
- 6x V-band clamp
- 6x M8x1.25 nuts for v-band clamps
- 6x M8x1.25 self locking nuts for v-band clamps
- 1x M8x1.25x16 JIS flanged bolt

### Center Exit version only:

- Muffler support bar assembly (center exit muffler only)
- 2x M8x1.25x16 JIS flanged bolt (for muffler support bar)

### Notes:

Excessive engine movement breaks exhaust systems, and clearance around this system is quite tight in some areas! Polyurethane front and rear motor mount inserts are highly recommended.

Due to tight clearances, installation is a bit tricky. Be patient and take your time. Email [alex@wilhelmraceworks.com](mailto:alex@wilhelmraceworks.com) if you need assistance.

### Tips on V-Band clamps:

- Be careful to fully align the flanges and ensure that the lip/groove in the face of the clamp is fully seated before tightening the clamp.
- You may wish to install the clamps with the non-locking nuts initially, and then either add the lock nuts as a double nut, or remove the non-locking nuts one at a time and replace them with the locking nuts. This makes it easier to get everything aligned without having to use a wrench on the nuts for initial tightening.

### Installation:

1. Install catalytic converters first. Front bank has a straight exit, rear bank has an angled exit. Install the clamps just snug, you need to be able to rotate the catalytic converters to install the X-pipe. You may wish to point the bolt on the clamp down between the cross member and the CV joint, and access it with a socket / long extension.
2. Install rear bank o2 sensors at this time (it will be hard to access after the x-pipe is installed). Note that the wire for this sensor will pass somewhat close to the header, you may wish to add additional heat shielding to this wire.
3. Rotate the rear bank catalytic converter up to provide clearance for X-pipe. Install X-pipe from the front, slipping it over the cross member, and connect to front bank catalytic converter.
4. Rotate rear bank catalytic converter down and align with flange on X-pipe and install clamp.
5. Install M8x1.25x16 bolt through x-pipe support bracket into oil pan.
6. Tighten all v-band clamps, starting with the header to catalytic converter clamps, followed by the catalytic converter to x-pipe clamps.
7. Center exit system only – Install muffler support bar to stock exhaust hanger bolt holes using M8x1.25x16 bolts. Rubber exhaust hangers should be on the rear side of the bar.
8. Install muffler. Ensure exhaust tips are level side to side before tightening v-band clamps.

Thank you for your purchase!