

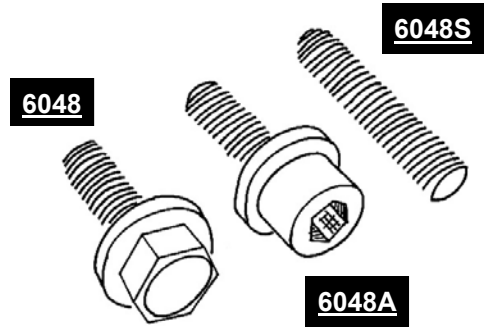
Manifold Bolt Notes

Opel owners have become aware over the years of important issues related to the mounting of their manifold assemblies.

Heat-cycling and corrosion has affected threads on most original bolts, and when they can no longer hold properly, critical vacuum leaks commonly develop.

Factory bolts became harder to find, and some replacements did not include the important thick washer (needed to properly secure the manifolds in place with typical crush-style gaskets).

In response, Opel GT Source produced a special line of new bolts, featuring a choice of an original 15mm hex-head or an 8mm allen-head. These exclusive designs include a floating washer of the same thickness and diameter of the original, for an optimal fit. *Installation tips follow here.*



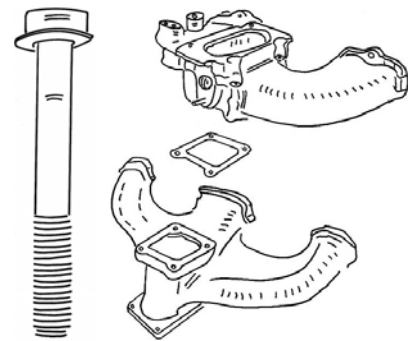
Manifold Hardware Lineup

Original Style Bolt #6048
Allen Head Style Bolt #6048A
Special Mount Stud Kit #6048S

Removal of Original Manifold

You can use an ordinary socket wrench, combined with use of a 15mm “obstruction wrench” in tight areas, to remove the existing six (6) bolts that hold the manifold assembly to the side of the cylinder head.

If you intend to separate the original intake manifold from the combined assembly, pre-lubricate bolts with a penetrating spray (WD40, Liquid Wrench, PB Blaster, Kroil, etc), and turn the bolt heads with a special 8mm Serrated Bit tool, being cautious not to strip them. *See our “header notes” also if applicable.*



Use proper tools and procedures if manifolds are to be separated

Preparing Surfaces and Bolt Holes

Test each of the 6 bolt holes in the side of the cylinder head, by first threading a new bolt into it. For best results (and most accurate torquing), clean out each hole with a 9mm x 1.25 “thread chaser” type tap.

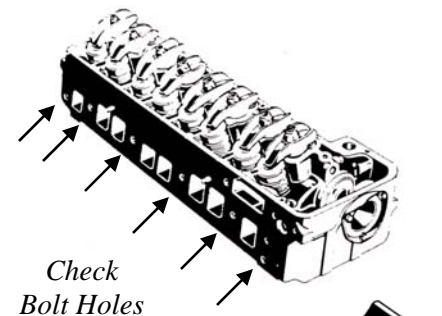
Verify even fitment of the manifold faces where they will contact the cylinder head, and also verify there is a comparable thickness where attaching bolts will hold intake and exhaust manifolds to the head (if necessary consider adding a shim manufactured from a thin washer).

Use a sharp blade or gasket scraper on mating surfaces of the manifold assembly and cylinder head, to make sure they are flat and clean.

Loosely mount the gasket on the side of the head (using 2 dowel pins), then line up the manifolds on those pins for re-assembly.

Reinstall bolts carefully, starting with the 2 center bolts, by finger-threading them counter-clockwise until the first thread is seated, then turning them in clockwise (also by hand). It is normal for bolts to feel loose here, until they are fully torqued. (“Anti-seize” may be used here to lubricate the threads if desired).

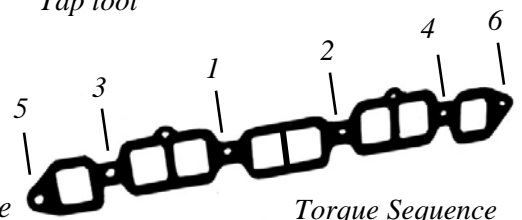
The factory torque specification is 33 foot pounds, and the proper tightening sequence is to start with the two inside bolts, then work outward in a cross-wise fashion. *See “header notes” also if applicable*



“Thread Chaser”
Tap tool



Anti-Seize



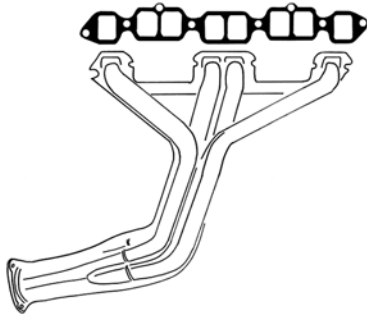
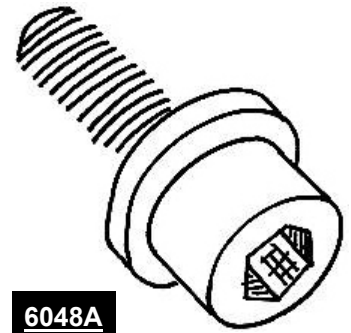
Torque Sequence

Specialty Bolt Notes

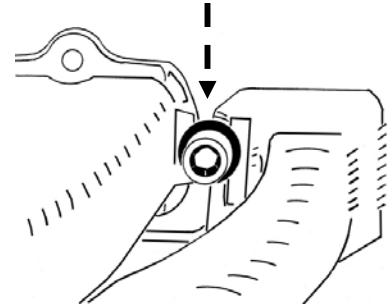
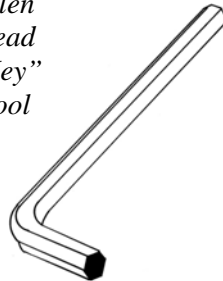
An increasingly popular use for our #6048A Allen-Head bolts is installation with a set of custom Exhaust Headers from Opel GT Source.

As shown, they allow installers to better work around the curves of the pipes, while retaining the securing advantages of the original washer.

An ordinary 8mm hex-head bit can be fit onto a socket wrench, or an 8mm allen-wrench key can be used. In some cases, it may be advisable to cut down the head of a 8mm wrench if needed in very tight areas.



Allen
Head
"Key"
Tool



Header exhaust manifolds provide greater flow at higher speeds. A "crush-fit" style gasket is also recommended for optimal sealing at the manifold.

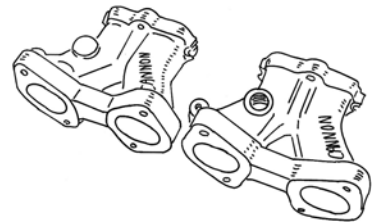
Common Header installation, illustrated. above Allen head tool provides greater access, Thicker Washer secures assembly

Side Draft Manifolds

Special Bolts are most advantageous when dealing with tight situations such as side-draft manifolds.

The tight curves often found in Opel-specific aftermarket designs make proper torquing of original style bolts difficult (if not impossible) when using a socket or wrench. The smaller Allen key allows better access in these tight areas.

(This feature is also shared with some fuel injection manifolds and some modern customized assemblies such as throttle bodies).



Opel side-draft manifolds are often very short!



Studs

These are special-order parts, that are cut to lengths ranging from 50 to 80mm. These are offered as a convenience item, after clients informed us that hardened bolts of odd metric stock can be hard to find at reasonable prices domestically.

These are most popular when exotic hardware is custom-installed, or where quick changes are wanted (such as on a race track).

While we don't have a recommendation for accompanying hardware, our clients have specified products from ARP such as a metric nut (#300-8342) and a washer (#200-8712). ARP can be reached by phone at 800-848-1320.

