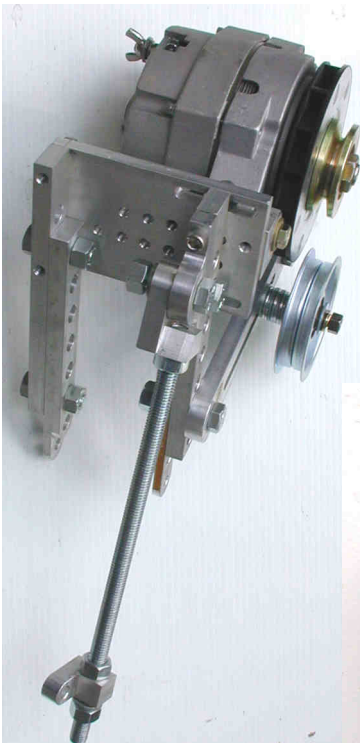
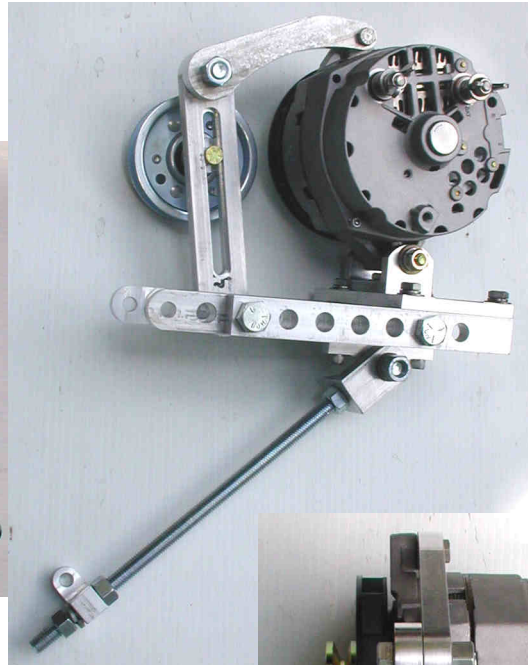
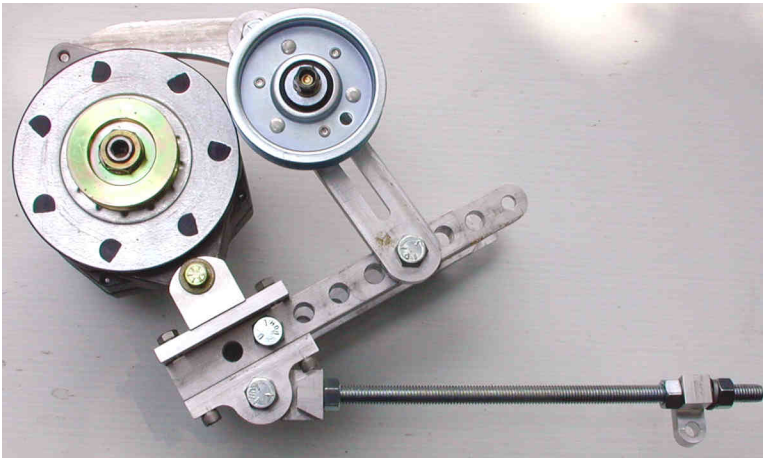


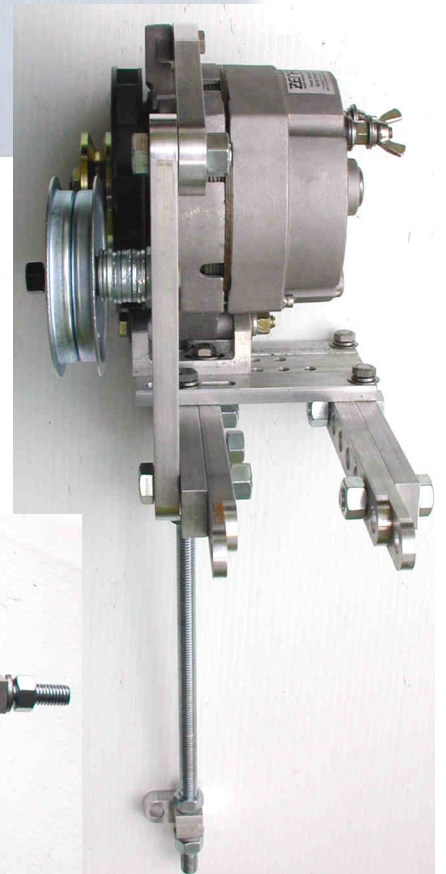
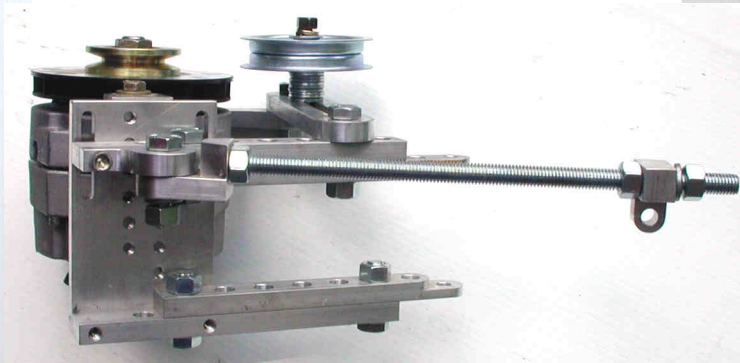


UB2

ZENA™ Universal Power Generator Mounting Bracket Assy.



General Recommendations for Field Use

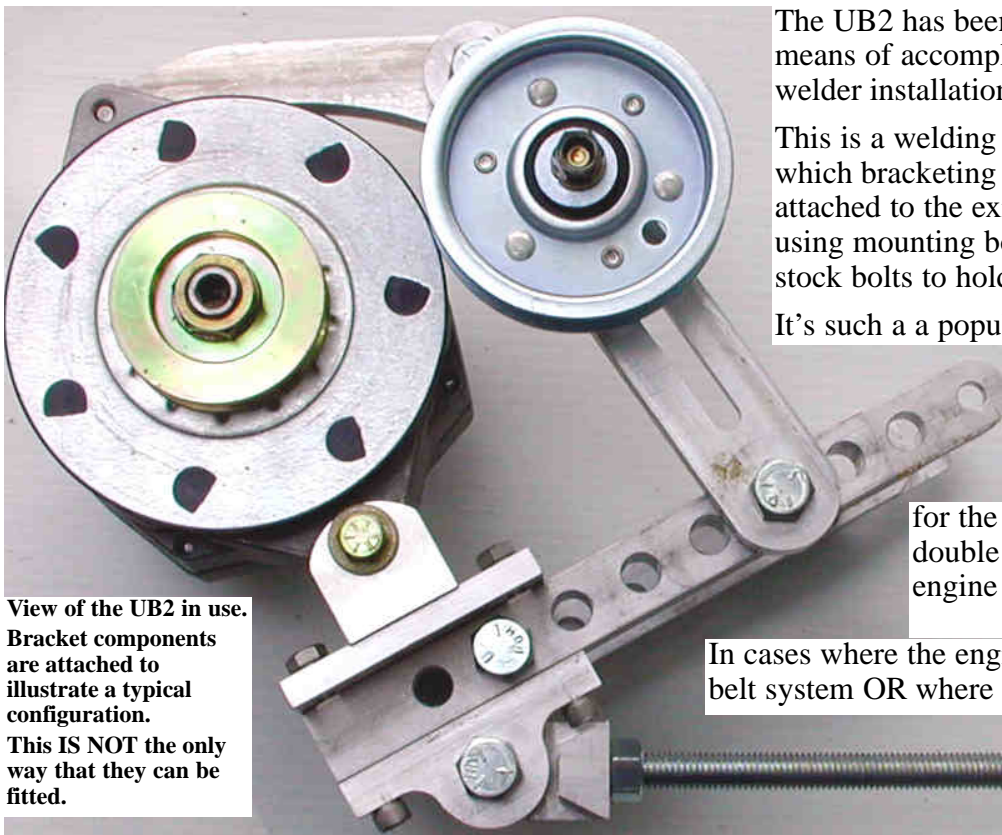


The UB2 has been designed to provide a versatile means of accomplishing what we call a piggyback welder installation.

This is a welding power generator installation in which bracketing fabricated to hold the generator is attached to the existing engine alternator bracket using mounting bolts just enough longer than the stock bolts to hold the new bracket in place.

It's such a popular installation method that, with some variation, its used in more than 50% of all vehicle installations.

In these installations, belt drive for the generator is obtained from a double pulley mounted on the existing engine alternator.



View of the UB2 in use. Bracket components are attached to illustrate a typical configuration. This IS NOT the only way that they can be fitted.

In cases where the engine is equipped with a serpentine belt system OR where only a single V-pulley is mounted

to the existing alternator, our Add-A-Pulley alternator power take off accessory kit provides a convenient method to attach the generator drive pulley to the existing alternator. The Add-A-Pulley can also provide a greater degree of control over the operating speed of the power generator. Another reason why this type of installation has much to recommend it. The only major drawback is that a unique set of brackets must be built for each different engine.

This is why we have developed the UB2.

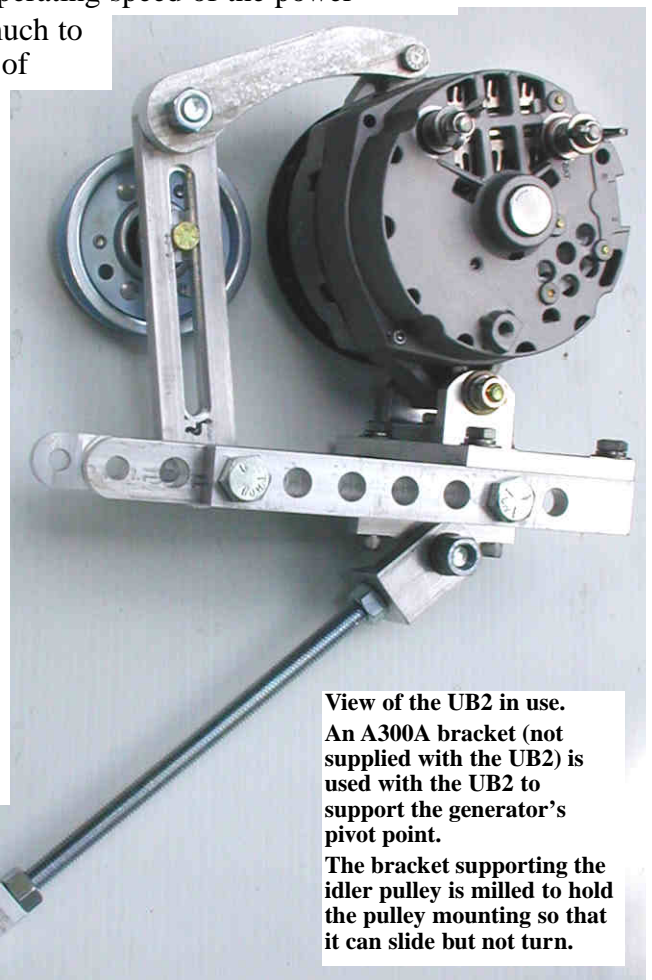
The UB2 is made up of a number of high precision aluminum bracketing components which can be made to fit together in an almost unlimited number of different combinations. We have tried to anticipate so many factors in the design of the UB2 that, in many cases, not all of the supplied components will be required to complete a given installation.

For example, you may choose not to tighten your belts with an idler pulley. Therefore the components supplied to accommodate this might be used to simply support the generator -- and, in fact they are designed to do this as well as to facilitate other mounting schemes -- including ones that we have not thought of.

In other cases, since it's not possible to anticipate all factors, additional easy to fabricate parts may be required to work with the supplied UB2 parts.

The UB2 should provide you with a great installation tool -- one which is limited only by your imagination and mechanical skills.

Let us know how it works for you!



View of the UB2 in use. An A300A bracket (not supplied with the UB2) is used with the UB2 to support the generator's pivot point.

The bracket supporting the idler pulley is milled to hold the pulley mounting so that it can slide but not turn.

The Main UB2 components -- and what to do with them!

Base Bars

The two Base Bars are used to connect the UB2 bracket assembly to the engine which will drive the power generator -- and to provide primary support for the generator assembly.

Typically, the mounting points for these bars are the existing mounting bolts for the engine's existing alternator.

However, any convenient mounting points which are in line with each other and parallel with the engine's drive shaft will work for this purpose.



NOTE: It's also possible for successful bracket attachment when the chosen mounting points ARE NOT in perfect alignment with each other. In these cases, rotation of the assembled bracket assembly will not be possible. Though with careful planning the resulting bracket assembly can be quite serviceable.

In many cases, it will be necessary to enlarge the mounting holes on the rounded end of the Base Bars. It will also be necessary, in most cases, for longer mounting bolts to be used to replace the existing alternator bolts -- to insure adequate thread engagement to insure a secure and reliable connection to the engine with appropriate washers and/or locking fasteners.

When properly mounted the base bars can be rotated to an infinite number of angular positions in relation to the engine and its existing alternator.

Base Bar Extender

The two Base Bar Extenders work with the two Base Bars to create the two parallel mounting bars which will be used to securely support and position the Generator Mounting Plate.

Each bar assembly should be connected together with two 1/2" mounting bolts. Depending on the positioning of the two bars in relation to each other, and the mounting holes selected on each bar a number of different lengths can be obtained. In addition, depending on which side of the Base Bar that the Extension Bar is fitted to the generator position can be shifted towards the front or rear of the engine. Also, in this way, the width of the finished Base Bar Assembly can be varied.



If you are using the Tensioning Bars with, or without, the idler pulley the relative front to back position of the Base Bars, when fitted together, will affect the front to rear position of the idler -- and will determine the fit of the Curved Tensioning bar End to the power generator tensioning lug.

Generator Mounting Plate

This versatile component works in conjunction with our A300A Pivot Bracket Assembly to provide a firm base for the power generator and to allow the use of the A300A to precisely adjust the front to back position of the power generator -- and, therefore, the alignment of the engine drive pulley (usually a ZENA AAPK mounted on the vehicle's stock alternator's serpentine belt pulley) with the generator's drive pulley.



In use, the UB2 Generator Mounting Plate is positioned on the end of the base bar extender using supplied bolts, washers, and lock washers.

A300A adjustment is facilitated by a machined recess on the Base Plate which exactly fits the base of the A300A preventing it from moving out of parallel alignment with engine drive components -- yet, allowing easy front to rear motion.

NOTE: The A300A is included as part of the MW150K and the MW150KB truck kits. If you did not buy one of these kits, you will need an A300A.



When the Base Plate is firmly attached to the Base Bars, the entire assembly is drawn into alignment with the engine components, but still (typically) allows rotation of the assembly into an optimal position for generator operation.

Once the UB2 position is determined, the bolts can be tightened to hold the unit in position until additional permanent supports can be attached.

Support Pivot Point

It is necessary to firmly and securely brace the UB2 assembly to the engine.

To facilitate this, a number of components are provided with the UB2 parts kit. This part is the primary component is this group -- providing an attachment point to the UB2 that can be used with the other components.



Straight Tensioning Bar/Idler Pulley Slide

This component, which may not be used in all applications, can serve a dual purpose. First, the unit, in conjunction with the tensioning bar end can be used to fix the power generator position and/or adjust the generator position to provide a means for tensioning a V-belt (or for adjusting the entire assembly to fit a given V-belt length). The second capability of this part is to provide a means for attaching an idler pulley to the bracket assembly.



Once attached, the idler pulley can be used to provide a primary belt tensioning means and/or to provide a means to insure optional belt wrap around the power generator's drive pulley. When used in this way, belt tension can be reduced somewhat -- improving belt life and reducing periodic maintenance requirements.

The Straight Tensioning Bar/Idler Pulley Slide can be positioned closer to or farther from the power generator by choosing an appropriate mounting position on the base bar assembly.

NOTE: When necessary the bolt holding the lower section of this component can serve a dual purpose -- angular adjustment for the Straight Tensioning Bar/Idler Pulley Slide and/or to fix the Base Bars together.

Curved Tensioning Bar End

Like its companion component the Straight Tensioning Bar/Idler Pulley Slide this component, may not be used in all applications. Its function is to connect the end of the Straight Tensioning Bar to the tensioning fitting on the power generator. It's curved shape can provide a close fit to the power generator -- even in cases where the power generator is "rocked" away from the engine to a fairly large degree.



NOTE: Depending on generator position, it may be necessary to use some washers to adjust the front to rear position of the Curved Tensioning Bar End to properly fit to the generator's tensioning point.

Threaded Support Rod, Pivoting Support Connector, and "L" Connector Support End

When assembled together and attached to the UB2 assembly these three parts form an adjustable "bar" which can be used to fix the UB2 bracket assembly into it's final position.



The "L" Connector is designed to act as a sort of universal joint -- typically working either directly on an existing fixing point on the engine (or its directly attached components), or with site built components.

In many installations, not all parts will be used. Also, it may be necessary to procure longer sections of threaded rod (available from most all hardware and/or industrial supply outlets).

Idler Pulley

This component, properly used, can help to significantly improve V-belt performance (drive) and belt life. The Tensioning Bar/Idler Pulley Slide has been milled to accommodate and hold the Idler Pulley's mounting bolt during positioning -- and while being tightened.



However, it's a component which can also be over used -- or mis-used. First, an idler should ALWAYS be used on the "slack" side of the generator's drive pulley (the side of the pulley where the belt ENTERS the drive pulley). If used on the outgoing side, excessive stress is placed on the V-belt and the idler assembly.

Also, too much reverse bending of V-belts can cause overheating and premature failure. If you use the Idler Pulley, take care to use it judiciously in your application.

Optional Components

The UB2 can also accommodate the use of our AIRT101 Rotary Belt Tensioner (available from our parts dept.).

The AIRT101 is a fully adjustable spring loaded belt tensioning device designed to work with an idler pulley to maintain a constant belt tension (10-30 lb.).



The use of such a device can GREATLY improve belt performance and belt life.

A Typical Automotive Application



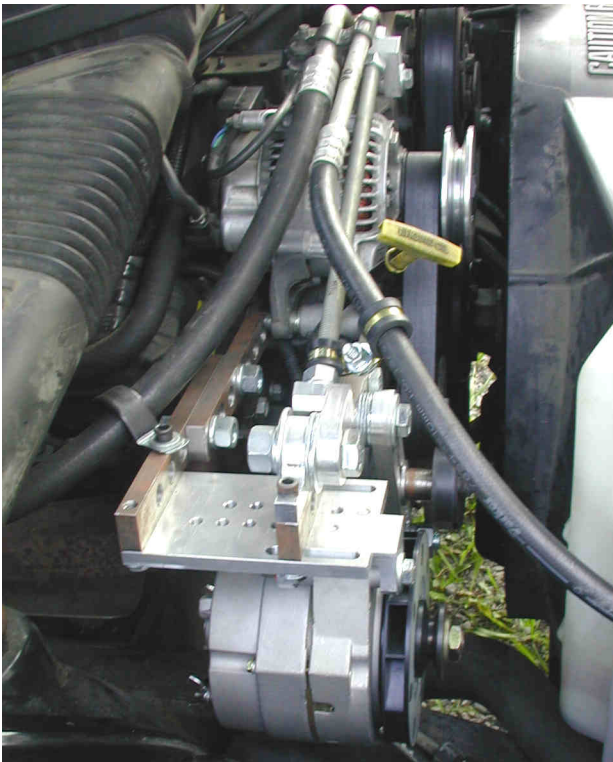
In this application, a V-8 Dodge truck, the vehicle owner installed a MW150KB welding system. He determined that the best fit for the ZENA power generator, in his truck, would be obtained by using the ZENA UB2 universal power generator mounting bracket so as to mount the power generator UNDER the UB2 frame members using the A300A bracket supplied as part of his MW150KB truck kit.

In this fairly typical piggy-back installation, V-belt drive for the power generator is obtained by using a standard model AAPK Add-A-Pulley alternator power take off kit (also part of the MW150KB).

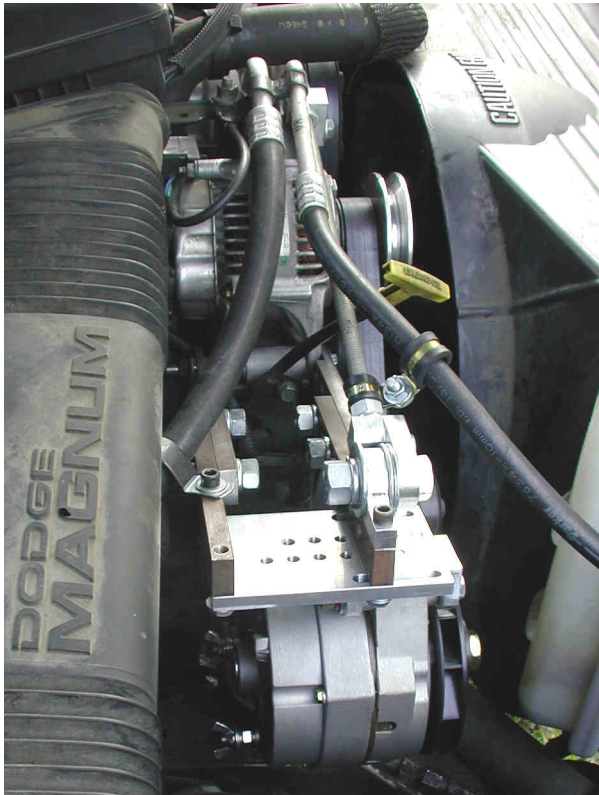
Belt tensioning by means of an idler pulley was determined to be best. The choice of mounting position for the generator facilitates the use of the idler pulley (supplied with the UB2) on the inbound (slack) side of the power generator's drive pulley. This insures excellent belt wrap around the power generator pulley and, as mentioned before, provides a means of tensioning the drive V-belt.

Since, in this application, the generator does not have to be moved for belt tensioning, only a minimum of extra space is required around the generator -- making it easier to fit the unit to this particular vehicle.

Because the generator does not have to be moved for belt tightening, other than providing some strain relief



UB2 bracketing in place, pulley detail, all-thread support

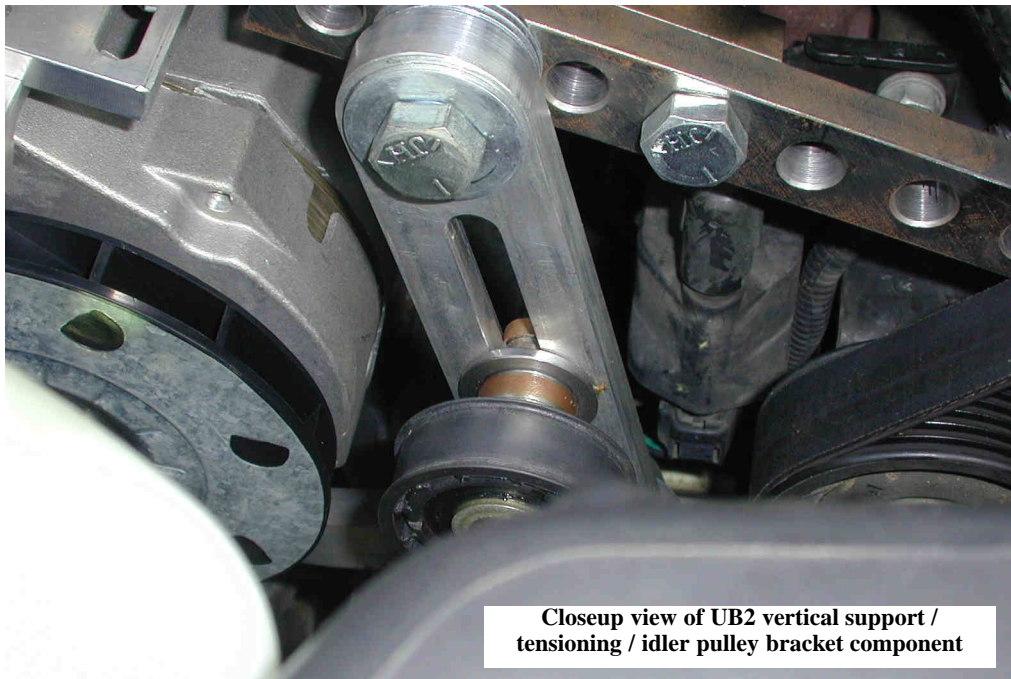


UB2 bracketing in place, power generator mounted

points to hold hoses out of the way, no extra modification to hoses or hose routing was required.

The photos of this installation show the power generator in place on the UB2, illustrate the positioning of the idler pulley and hoses, and show the final belt path from the Add-A-Pulley to the welding power generator.

These photos also show the use of “all-thread” rod (supplied with the UB2) in conjunction with the “standard” UB2 bracing/stiffening/support components which are designed to be used with this type of threaded rod.

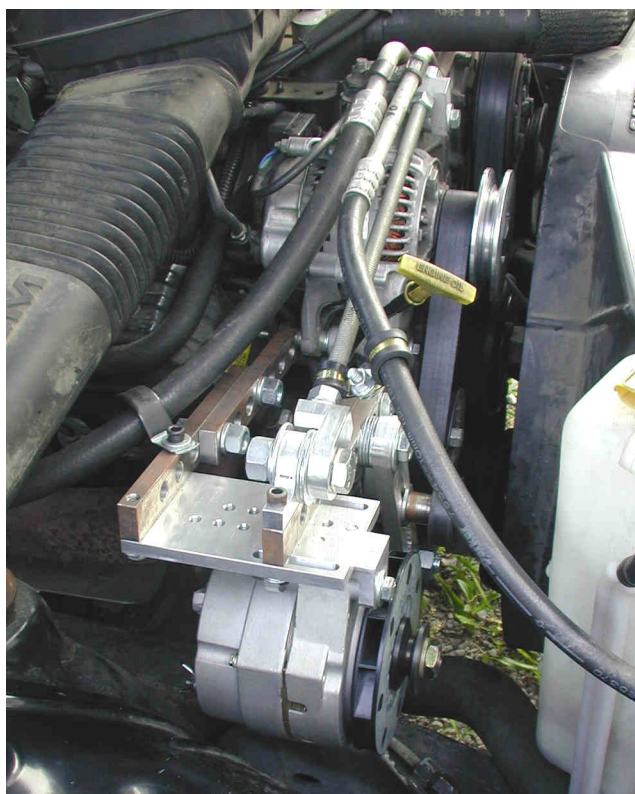


Closeup view of UB2 vertical support / tensioning / idler pulley bracket component

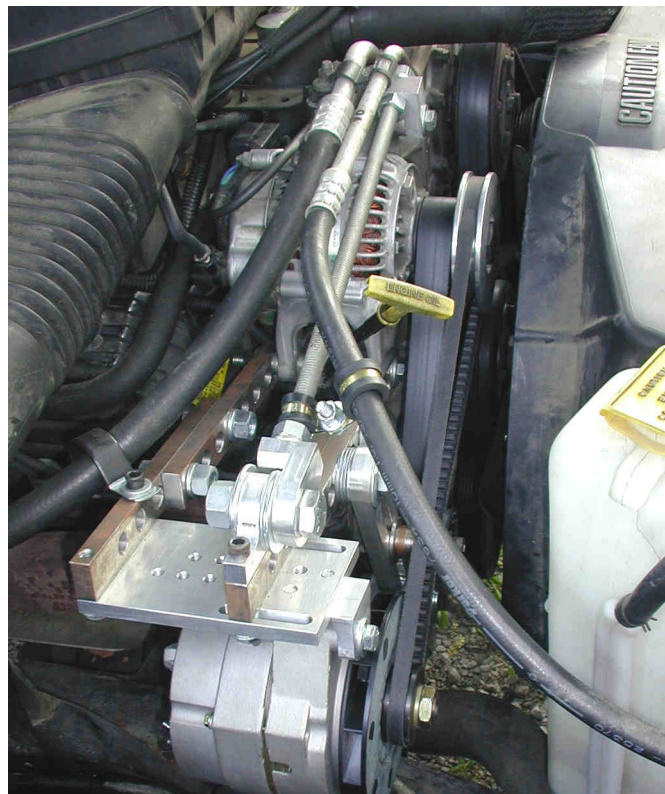
In this case, these support components are attached to the third mounting bolt on the stock alternator bracketing. The customer did, however, require a longer piece of all-thread than the 1’ length which was supplied with the UB2.

NOTE: This support could also have been provided by using site fabricated components (or by using only some of the UB2 bracing parts), had the customer decided to do so, or had the UB2 components not provided a satisfactory solution in this application.

The welding control module was mounted remote from the generator in this application. Welding cable hook-up is by means of the BJ150.4 quick disconnect kit supplied as part of the MW150KB. In this application, thanks to the versatility of the UB2, **no welding or extra bracketing components had to be fabricated!**



UB2 bracketing and power generator in place. Prior to belt attachment. belt not attached



UB2 bracketing and power generator in place, belt attached, ready to weld!