



## “True Billet” Flexplate Installation Instructions (11/04) (page 1 of 2)

Congratulations on choosing the Meziere Enterprises “True Billet” Flexplate. Meziere has again raised the bar in high performance flexplates. Here are some of the features about this product you should know:

- One-piece aircraft alloy steel construction for precision tolerance and a strength unparalleled by any other flexplate made.
- No welding ó eliminating ring tooth runout, inconsistent starter engagement, and ring tooth heat treat/strength issues.
- No stamping ó all features CNC machined for tolerance levels unreachable by a stamping process.
- Tooth chamfering ó an extra process we incorporate to insure positive starter engagement/release and tooth strength.
- Dual Patterns/Dual bolt sizes ó A convenience to avoid at the track óhand drilling.
- Precision ó all units hand checked for fit, lateral/radial run out prior to packaging.
- SFI certification included on all units to meet sanctioned racing safety standards.
- Meziere tech support ó Competent sales/product support to answer your questions and make our product a success for you!

**Caution: Flexplate replacement often requires working under a vehicle handling heavy components. Always be sure to use proper safety precautions and safety jack stands on a level surface to support the vehicle. Failure to follow these precautions could result in personal injury!**

### **Recommended Tools To Do the Job:**

- \* Appropriate hand tools to remove and replace fasteners (including a torque wrench).
- \* Scraper or wire brush.
- \* Brake Clean.
- \* Flywheel turning tool.
- \* Thread Locking Compound
- \* Voltmeter (if diagnosing the starting system).

### **Removing Old Flexplate – Looking for Problems:**

If you are replacing an existing flexplate which has failed, pay careful attention to the mode of failure, and look for any mechanical/ electrical problems somewhere else in your assembly which could be corrected to avoid the problem happening again. Common problems are mechanical misalignments, starter system problems, engine tune-up problems, fastener problems, and problems with interferences. Reference any of the sections below which may appear to be a problem for you.

While removing your old flexplate, pay attention for fasteners which may have been damaged or loose. Also look for any cracks, metal transfer, or abnormal ring gear wear which may suggest other problems. If your fasteners seem to be in good shape, clean any thread locking compound from them and look closely for any previously unseen defects. If you are installing new fasteners, we recommend using ARP high quality bolts (available from Meziere Ent.).

### **Installing the Meziere Flexplate/ Checking for Fit:**

With a scraper and/or brush, thoroughly clean the crankshaft face of any dirt or old thread sealing compound. Next, slide the “True Billet” flexplate onto the crank and see that it sits flat up against the crank and that the bolt holes line up visually as you would expect. Make sure that the flexplate slides over the crankshaft pilot diameter (not tight on it). It is permissible to lightly and evenly open up the bore on the flexplate to make it slide. An over tight fit will make it very difficult to remove at a future time.

Now take the flexplate and place it up against the torque converter to make sure that a bolt pattern on the flexplate lines up with your converter pattern. Slide some bolts through by hand to verify the fit. This step will avoid any surprises at bolt up. **Important:** Look for metal transfer on the torque converter pads. These pads need to sit completely flat against the flexplate for proper contact. If these surfaces are not flat, dress them with a file.

Install the flexplate onto the crankshaft at this time, using thread locker on the crank bolts. Torque 7/16 bolts in an even tightening sequence to 70 ft/lbs, ½ bolts to 80 ft/lbs.

At this time it is necessary to make sure that the starter mechanical/ electrical systems are in order. Refer to the section of this instruction pertaining to engine/starter issues.

After proper starter engagement and condition has been verified, finish installing transmission/ converter assembly.



## “True Billet” Flexplate Installation Instructions (cont.) (11/04) (page 2 of 2)

### Installing the Meziere Flexplate (cont.)

**Important:** Proper converter/ front pump clearance must be maintained! The converter should be pulled forward from being fully back into the front pump .090ö- .160ö. If your clearance appears to be more than this, use shims to adjust the clearance into this range. Shims need to be flat and consistent pad-to-pad. If your clearance appears to be less than this, you need to machine or shim as necessary to achieve clearance. Improper clearance can result in a variety of serious failures!

With proper clearance established Thread lock and torque the converter bolts. Start all of the converter bolts first before tightening. Rotate the assembly a few times by hand to insure that it rotates properly without any bolt interference, etc.

### Starter/ Engine/ Electrical Issues:

Proper performance of your new flexplate will be enhanced if you take the time to inspect some of the systems around the flexplate. The following is a good list of things to check:

#### Starter Engagement/Condition:

These checks can be made after the flexplate has been installed on the engine, but before the transmission has been installed. Before making any clearance checks, inspect the starter gear to make sure it is not worn, broken, or sloppy. Repair or replace as necessary.

Physically engage the starter gear into the ring gear to see engagement. You should be able to grab the gear with pliers and pull it out. The gear should be able to engage fully without interference and have some slight (.025ö max) gear lash. This is an important step. Too much gear lash will put excessive load on the gear teeth. Too little lash will cause the starter gear to hang up in the ring gear after engine start. Add starter-to-block shims to increase lash. Decrease starter-to-block shims to decrease lash. If no shims are present and the lash is too great, special machining may need to be done to the starter mounting block. Do whatever necessary to achieve proper clearance!

**With the starter gear retracted out of the flexplate there should be .06ö-.140ö clearance.** This clearance is necessary to keep the starter gear from engaging under G-loads, but should not be so much that the gear cannot reach full engagement during starting.

#### Starter Electrical Circuit:

Your starter cannot perform to its potential if it does not get proper voltage and current. A quick check can make sure your starter wiring is correct. For this test disable the engine from possibility to start.

Measure voltage at the vehicle battery while cranking. Next measure voltage at the starter terminal while cranking. The voltage at the starter should be within ½ volt of the reading at the battery. At any time the voltage at the starter should not be less than 9.0VDC. If an excessive voltage drop exists, measure voltages at each connection in the system and repair the system as necessary. A low volt system can cause excessive load on the starter and, overheat the armature.

An improperly functioning fuel or ignition system, and/or a bad starting sequence by the driver can cause extreme overloads to the starter gear and ring gear. This problem is amplified as displacement and compression ratios are increased. Here are a few simple things to look for and think about:

Make sure your fuel system is not leaking raw fuel down into cylinders prior to starting. Always allow the engine to complete a few rotations **without** ignition prior to starting. A cylinder loaded with fuel is almost sure to kick back and severely overload your starting system components if ignition is applied. Make sure also that your ignition system has a start retard function to back timing down as far as possible for starting. This will great decrease the starter gear/ ring gear load.

**Maintenance:** Flexplate converter bolts have shown to loosen with use over time. Loosening of these bolts can cause poor contact and metal transfer between converter and flexplate. **Periodically re-torque these bolts to insure proper clamping.**

**Recertification:** Meziere Enterprises offers prompt inspection and recertification services as your race sanctioning body requires.

**No Warranty:** No warranty is expressed or implied. Because of the nature of this application Meziere limits responsibility to quality and workmanship before installation. Not liable for any consequential damage during use or installation.

Thank you for purchasing our product. Feel free to contact us if we can be of further assistance or for special applications.