



## ALUMINUM FLYWHEEL INSTRUCTIONS

Congratulations, you have purchased the finest flywheel for both increased engine performance and engine life!

**Instructions for removal and re-installation of your flywheel and clutch assembly can be found in most factory service manuals or through various online resources.**

**\*Please follow the OEM recommendations for installation of your new flywheel with the following notes in mind:**

### **BASIC FITMENT NOTES:**

**CENTERBORE/CRANK BOSS:** Because of standard variances in OEM factory manufacturing tolerances, the aluminum flywheel to crankshaft boss fit may vary from slip-fit to slight interference. Aluminum expands at twice the rate of steel so that in order to retain a tight fit when the engine and flywheel reaches operating temperature — the aluminum flywheel has to go on tighter at ambient temperature. Excessive flywheel run-out can be evidence of improper fit. If interference is present, check to see that when the flywheel bolts are torqued, the flywheel is pulled tight against the crankshaft mating surface and that there is no excessive run-out. Remove flywheel and inspect for evidence of improper fit. Interference at the crankshaft “boss” can be corrected by removing excessive material with a 3-cornered scraper or by heating the flywheel on an electric “hot plate” to temporarily expand the center bore for correct mounting. Never leave the hot plate unattended. Caution, flywheel will be hot, use care when handling! **WARNING: Do not use Loctite on the crank register because it prevents the flywheel from properly seating against the crank.**

**ALIGNMENT, BOLT UP & MOUNTING:** Many flywheel applications feature a locating/alignment hole designed to match up to a factory locator dowel, boss or hole on the engine crankshaft flange and assure proper alignment of the flywheel. Please make sure your flywheel is properly aligned using these locator elements when installing. On some applications, like Ford flywheels (e.g. #186501) no locator dowel was used, and the actual crank bolt pattern is ASYMMETRICAL (not equal in dimensions) so that the flywheel may be installed in only one orientation. These type applications may require you to “clock” or rotate the flywheel several times until ALL bolt holes align correctly before installing your crank bolts. Always use OE or higher quality hardware when installing your flywheel and clutch. Fidanza flywheels are designed to use OE spec hardware unless special hardware is provided. Please DO NOT use lock style washers as this will brinell the aluminum and may damage your flywheel. Please DO use a small amount of Loctite on crank bolts where needed to ensure they remain properly tightened. Again, please refer to your factory service manual for correct torque specs, tightening pattern, etc. **DO NOT OVERTIGHTEN/OVERTORQUE CRANK OR CLUTCH BOLTS AS THIS MAY DAMAGE YOUR FLYWHEEL!** Threaded clutch bolt holes are USS (coarse thread) or standard Metric as this is stronger for aluminum. If your flywheel uses dowels for the clutch, the dowels should be pressed in with a vise. You must apply a small amount of permanent Loctite on each dowel before installation (not required for step dowels). Follow the OEM torque specifications for the flywheel to crank bolts and clutch mounting bolts. Wipe the friction surface with brake cleaner to remove protective film or any contaminants just before clutch installation.

**BELLHOUSING AND BLOCK CLEARANCES:** All Fidanza Performance flywheels are designed to OE dimensions and clearances unless specifically noted. Test the flywheel and clutch that you plan to use for rotational clearance inside of the bellhousing and for engine block clearance before final assembly. Normal manufacturing tolerances with the factory bellhousing, oil pan, sensors, engine block and or any other area that could cause clearance problems must be checked prior to final assembly.

**The flywheel application fitments have been derived using the best possible sources, but end user MUST verify fitment before installation!**

**TRIGGERS:** Fidanza Performance flywheels are equipped with trigger rings or the provision to accept the OE trigger rings where required. For vehicles equipped with sensors triggered off of the flywheel, please measure the clearance between the flywheel and trigger/sensor before removal of the original flywheel. This clearance **MUST** be matched after installation of your new flywheel. This may require shimming for clearance or moving the sensor in as needed. Some factory sensors are adjustable (please see your factory

service manual for details). This is also a great time to check your factory sensor and replace it if you have any concerns or doubts in it's operation. **Failure to properly set the correct trigger clearance and alignment will result in a vehicle that runs poorly or not at all.**

**BEARINGS & MISC.:** Pilot bearing fit is not as tight in an aluminum flywheel as your OEM steel flywheel as the aluminum flywheel and steel bearing heat and expand differently. The flywheel must be designed this way to work properly or the steel bearing will be restricted and seize up causing failure. For proper installation, apply a small amount of Loctite Gap Filler to the OD of your pilot bearing when installing it in your new Fidanza flywheel as this will hold it in place for correct installation.

**BALANCING:** Since this is a CNC machined aluminum flywheel manufactured to exacting tolerances it is very close to the correct balance. We do however always recommend that you balance the flywheel with your clutch pressure plate as a COMPLETE assembly for optimum performance and reduced vibration. Please pay close attention to any specific requirements of your particular engine - especially if it is an external balance configuration. Some engines (e.g. LT1, LT4, etc.) do require "match-balancing" of the replacement flywheel to the OE flywheel prior to final balance with the clutch. See factory service manual for engine/model specific balancing information/instructions.

**WARNING:** Do not use Loctite on the crank register because it prevents the flywheel from properly seating against the crank. Dual Mass replacement flywheels may cause added gearbox noise. This is a normal effect that is well worth the added performance. The noise comes from the idler gears and does not pose a premature wear problem.

**CLUTCH/FLYWHEEL BREAK IN:** Once installation is complete, your flywheel and clutch will need to be "bedded-in" much like brake pads, in order to correctly work together. DO NOT ABUSE OR OVERHEAT the flywheel and clutch assembly as this may cause glazing or more severe damage resulting in clutch failure! For organic based street discs such as OE or our V-1 Series clutches we recommend breaking in the new combo for about 200-300 miles of normal street driving, stop-and-go city driving, etc. with mild engagements and minimal heat prior to any spirited driving or racing. Clutches with ceramic-based race discs, such as our V-2 Series clutches, usually require only a few hard slips or engagements to "lap" in the friction surfaces prior to normal driving or racing. DO NOT OVERHEAT THE CLUTCH DURING BREAK IN!!!

**PRODUCT INFO:**

**Please use this area to record the part number, product code and critical data from your new Fidanza flywheel for future reference and ease of service. (Please keep this documentation with your original receipt and file it away for later reference)**

**Part Number (6 digit):** \_\_\_\_\_ (from box or invoice-e.g. 191681)  
**Product Code:** \_\_\_\_\_ (hand etched into flywheel near crank-e.g. H3-1111)  
**Friction plate bolt count:** \_\_\_\_\_ (count bolts used to hold steel friction plate-12, 16, 18 or 20)

**FOR ANY PERFORMANCE/RACE USE VEHICLE:** Inspect flywheel whenever possible for fatigue, cracks, damage or adverse wear. Some of the most critical areas to inspect are: (1) The crankshaft register (2) Flywheel to crank mounting holes (3) Ring Gear. Extreme heat can adversely affect the dowels and ring gear. Extreme heat can, as with any flywheel, affect the ring gear causing it to grow and not return to its static diameter, possibly causing eventual ring gear failure. Precautions must be taken in performance use vehicles to avoid this dangerous situation. The use of a scatter shield or safety blanket for the clutch and flywheel area is a MUST in all performance/race use vehicles.

**High Performance parts and Service excluded from warranty.** Due to the unusual stress placed on racing parts, and because of the circumstances under which they are often used, racing parts are sold without warranty, as is, and all warranties, express or implied, of merchantability, or of fitness for a particular purpose, or otherwise are expressly disclaimed and denied.

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### Specific Model Instructions:

**112441** – When used on the following applications: 98-99 VW Passat 1.8L Turbo/ 2000 VW Passat 1.8L Turbo with AEB engine code/ 2000-2003 Audi A4 1.8L with AEB engine code: User must use VW/Audi part N907-059-01, flywheel to crankshaft bolts, for safe and proper installation.

**161881** - Eclipse V6 - Please use the supplied crank bolts, with Loctite®, and torque to the original equipment specification.

**161941, 161947, 161991 & 161997** - Mazda RX7 To ensure that your new performance flywheel was constructed to the most optimum design, the factory counterweight must be used. These counterweights were used on RX-7's with automatic transmissions and are available through your local Mazda dealership. The counterweight that you use must match the rotors that you are using! As a reference only, here are the stock part numbers: 1986-1988 RX-7's, use Mazda part #N327-11-521A. For 1989-1995 RX-7's use Mazda part #N351-11-521. For 2004-2006 RX-8's use Mazda part #N3Z2-11-52X. If you have any questions regarding which part number to use, please consult your service manual or your local Mazda dealership. The use of Grade 8 or higher 10MM X 1.25MM X 21MM bolts to mount the counterweight is also required. The rotary motor used in your RX7 is capable of much higher RPM than most standard motors. For this reason the use of a certified scatter shield for any high performance use is necessary. This is true whether using our aluminum flywheel or the factory steel unit.

**194201** - For 1996 and up applications the clutch and flywheel mounting bolts from 1995 model must be used.

**199145** - New Porsche flywheel bolts (part number 911 102 171 00) must be installed. Torque the flywheel bolts to 110 foot lbs.

**199441** - Torque the flywheel to crank bolts at 74 foot lbs. Adjust the sensor screw on the side of the flywheel for proper clearance to the sensor.

**199681** - The pilot bearing must be Loctited into place once the correct depth is found. Allow the Loctite to set up before installing the flywheel. Follow Loctite's instructions for use.

**199111 & 199991** - Torque the flywheel to crank mounting bolts to 70 foot lbs. 1978-1983 911's require the use of pilot bushing #901-102- 025-01.

### Legal Policy: HIGH PERFORMANCE PARTS, SERVICE AND INFORMATION EXCLUDED FROM WARRANTY:

Due to the unusual stress placed on high performance parts, and because of the circumstances under which they are often used, high performance parts are sold without warranty, AS IS, WITH ALL FAULTS, and all warranties, expressed or implied, of merchantability, or of fitness for a particular purpose, or otherwise are expressly disclaimed and denied.

### NO INDEPENDENT REPRESENTATIONS OR AGREEMENTS:

There are no agreements outside of this written contract, except as the parties have elsewhere agreed in writing, nor has either party been induced to enter this agreement as the result of any oral representation or promise. Each party has relied on his own expertise and knowledge in entering this contract and each party acknowledges the consideration for the contract to be valuable and sufficient.

### DUTIES:

The duty of Fidanza Performance to the customer is strictly contractual and shall in no way exceed the duties accepted herein, and where there appears an ambiguity in the contract language, the same shall be construed to limit the duty of Fidanza Performance.

### CONSENT TO JURISDICTION:

The parties agree that any dispute arising out of parts, service or information provided by Fidanza Performance shall be decided by the courts of the state of Ohio and that no other court shall have jurisdiction over said dispute. Fidanza Performance maintains no sales force, service facility or agents outside the state of Ohio.

### EMISSION CONTROL COMPLIANCE:

Customers are responsible for emission control compliance (if any) of FP's engine and/or other components in their locality.

**WARRANTY EXCLUDED: PARTS, SERVICE AND INFORMATION EXCLUDED FROM WARRANTY. FEC DISCLAIMS ALL RESPONSIBILITY FOR CONSEQUENTIAL, INCIDENTAL, OR COMMERCIAL LOSSES, INCLUDING LABOR CLAIMS FROM USE OF THIS MERCHANDISE OR SERVICES.** Due to the unusual stress placed on high performance parts, and because of the circumstances under which they are often used, our parts, and our services associated with them, are sold without warranty, AS IS, WITH ALL FAULTS. All warranties, expressed or implied, of merchantability, or of fitness for a particular purpose, or otherwise are expressly disclaimed and denied.

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