



## IMPORTANT – PLEASE READ

### FLYWHEEL INSTALLATION INFORMATION

JB Racing, Inc. is the original designer and manufacturer of the E36 aluminum flywheel for BMW's. We offer street stock replacement lightweight aluminum flywheels for Audi, BMW, Mini Cooper "S" and *ULTRA-LITE* competition/racing flywheels and flywheel/clutch kits for selected Audi, BMW, and Porsche applications. All JBR flywheels are manufactured in-house to exacting standards on our MAZAK CNC machinery using the highest quality materials available which enables us to maintain the highest level of quality control of our products.

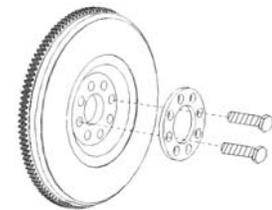


Your selection and purchase of our premium quality flywheel product is appreciated. It is designed to provide performance enhancements for your vehicle and when properly installed and not abused, will provide many years of trouble-free service. **Please take a moment to read these instructions in their entirety before you begin the installation** to ensure it is installed correctly, therefore providing optimum service life. **Professional installation is strongly recommended.**

All JB Racing flywheels are sold as COMPLETE KITS which include high quality, re-usable installation hardware and hardened bolt-ring which must be used. *Do not install using the OE hardware.*

#### EACH FLYWHEEL KIT INCLUDES:

- CNC machined aluminum flywheel
- Replaceable, hardened steel friction surface
- Dowel pins and pressure plate installation hardware
- Heli-coil inserts installed in pressure plate mounting holes
- Factory equivalent starter ring gear, heat shrunk & bolted
- Hardened flywheel bolt-ring with 10.9 grade installation bolts
- Flywheels are Zero-Balanced



Assembly Diagram

JB Racing flywheels are designed to replace your OE single or dual-mass flywheel utilizing the stock pressure plate, clutch disc and throw-out bearing components specified by the vehicle manufacturer for the model listed unless otherwise noted. Sachs HD Sports and most aftermarket performance OE direct replacement clutch components are also compatible with our stock replacement type flywheels. We offer *performance sprung-hub clutch disc kits* for selected applications – PLEASE INQUIRE

Your new flywheel will provide the best service when installed with a NEW clutch disc, pressure plate and throw-out bearing. All new clutch discs should be driven normally for the first 400-500 miles BEFORE being subjected to full throttle acceleration or any extreme engagement conditions. The disc lining material "cures" during this "break-in" period allowing the disc and all clutch components to achieve both maximum design grip and service life.

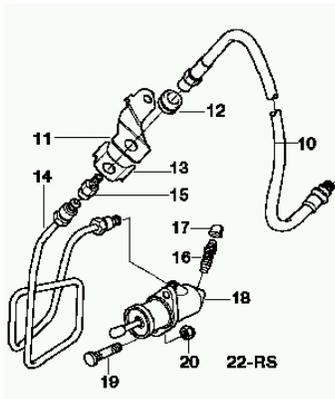
## INSTALLATION INSTRUCTIONS **IMPORTANT – PLEASE READ**

- **Professional installation is recommended.** We also recommend that NEW clutch disc, pressure plate, throw-out and pilot bearings be installed with your new flywheel. Additionally, it has been our experience that stock OEM pressure plates should be balanced, especially when used in high performance applications, to ensure the most trouble free results. We can balance these components for you for an additional charge. Your new flywheel is supplied already Zero-Balanced.
- Flywheels are shipped with a rust inhibiting preservative to protect the friction surface. This preservative may be removed by simply wiping the surface with a rag dampened with lacquer thinner or other solvent, then wiping dry with a clean cloth. It is essential this protective coating be removed prior to installation. Failure to do so may cause clutch slippage and premature wear.

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(continued)

- Your new JBR flywheel is supplied with a BOLT-RING kit which consists of a hardened bolt ring and premium Grade 10.9 re-usable installation hardware. It is **MANDATORY** that your new flywheel be installed using the installation kit supplied with your flywheel – Do not use the OE hardware. Flywheel bolts should be inserted *thru the bolt-ring, then the flywheel (see assembly diagram) and threaded into the crankshaft.* The flywheel is also designed to have an “interference fit” over the crankshaft hub to establish concentricity with the crankshaft. . Be sure that both mating surfaces are clean and align the hollow crankshaft dowel bolt hole before mounting the flywheel to the crankshaft. Then, using the bolt ring and four (4) bolts, gradually and equally “pull” the flywheel down until it is fully seated on the crankshaft flange. Once it is fully seated onto the crankshaft flange, remove all bolts, apply a drop of threadlocker (such as Loctite Blue) to the crankshaft threads, insert all flywheel bolts and **re-tightened to the factory OE torque specification.**
- Position the clutch disc onto the flywheel using an alignment tool and place the pressure plate onto the flywheel dowel pins. Thread all clutch bolts (*do not use any threadlocker*) into the flywheel and tighten gradually until the pressure plate is fully seated onto the flywheel mounting surface. **Torque the pressure plate bolts to a maximum of 16-18 ft./lbs.** Do not exceed 18 ft. /lbs. as overtightening these bolts will result in damage to the Heli-coil insert threads.
- After removing the clutch alignment tool, position the throw-out bearing onto the guide tube and clutch fork and then re-install the transmission. Be sure the transmission guide tube and TOB are clean before re-assembly. We highly recommend that a NEW throw-out bearing be installed.



**PLEASE NOTE-** Some late model BMW vehicles are factory equip with a clutch delay valve, or “Lock Valve” (see diagram- item #15) located in the clutch hydraulic line between the master and slave cylinders. This valve is designed to provide a controlled clutch engagement for a smooth “drive-away” by metering the return flow rate of hydraulic fluid from the slave cylinder to the master. The net effect is that the clutch “engagement rate” is slowed and not directly controlled by the driver.

If your vehicle is equip with this “Lock Valve” or any similar device, we strongly recommend it be removed from the clutch hydraulic system as the delay induced in full clutch engagement will result in excessive clutch slippage and premature wear of all clutch disc, pressure plate and flywheel friction surfaces, especially if the vehicle is driven aggressively.

*Thank you for selecting our lightweight aluminum flywheel for your vehicle. We hope you will enjoy the performance enhancements this product offers. Proper installation of your new flywheel with the correct matching clutch components should provide you with many miles of trouble free operation. Should you encounter any installation problems, or have any questions regarding the flywheel application, please contact us for assistance.*

### FLYWHEEL REBUILDING SERVICE

All JB Racing aluminum flywheels are serviceable. If at some point your flywheel should become damaged or worn, we recommend it be returned to us for evaluation and/or repair as necessary. Friction surfaces are a normal wear item and are replaceable. Our normal rebuild service includes a complete inspection of the flywheel core, minor cosmetic repair, installation of a new friction surface with new hardware and the flywheel re-balanced to Zero-Balance. New clutch bolts are also supplied with all flywheels serviced. Should your flywheel ever require service, please package it carefully with your complete contact information enclosed and return it to us. Upon our receipt, we will perform a complete inspection and advise you of the repairs necessary to return your flywheel to serviceable condition and the estimated cost.

### WARRANTY

At JB Racing, we take pride in the high quality of workmanship and materials used in the manufacture of our products. While we make every effort to insure our products are free of defects in both materials and workmanship, there is no warranty, expressed or implied for any products used in high performance and/or racing applications. The customer assumes all liability and risk arising from the proper installation and use of any high performance and/or racing product. JB Racing does not accept responsibility for any damage, labor costs, or personal injury.

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