

Owner's Manual with Installation Instructions

Banks Billet™ Torque Converter

**1994-2007 Dodge Cummins 5.9L
Turbo-Diesel Pickups
Equipped with 47RE and 48RE Transmissions**

THIS MANUAL IS FOR USE WITH PART NUMBER 72515

Gale Banks Engineering
546 Duggan Avenue • Azusa, CA 91702
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565
Customer Support: (888) 839-5600
Installation Support: (888) 839-2700

bankspower.com

Also Available from Banks Power

94-07 Dodge 5.9L



Banks iQ System

03-07 (P/N 61148-61149)

- 5" touchscreen interface that can control the Banks Diesel Tuner on the fly.
- Interchangeable gauge display, read and clear codes, monitor engine diagnostics, log data, time your vehicles runs and much more.

Banks Monster® Exhaust System

98-02 (P/N 48635-48638)

03-07 Single (P/N 48640-48643, 48700, 48701, 48708)

03-07 Duals (P/N 48702-48707, 48709)

03-07 Sport (P/N 48777-48780)

- Increases exhaust flow, cuts backpressure, lowers exhaust gas temperatures (EGTs) and increases Power

Banks Ram-Air Intake System

03-07 (P/N 42145)

- Increases your airflow over stock.
- Adds power, improves fuel economy, lowers EGTs and reduces smoke.

Banks Ram-Air Intake Super-Scoop

03-07 (P/N 42190-42191)

- Adds cooler denser air to the Ram-Air Intake housing, further increasing fuel economy, reducing smoke and lowers EGTs.

Banks Techni-Cooler® System

03-07 (P/N 25980-25981)

- Provides increased air flow to the engine by increasing air density for more increased power, lower EGTs and improved fuel economy.

Banks Monster-Ram

98-02 (P/N 42764)

03-07 (P/N 42765-42766)

- Increased flow from intercooler
- Raises boost without increasing backpressure at the turbine

Twin Ram Intake Manifold System

94-98 (P/N 42710, 42711, 43400)

- Increases flow and provides more uniform air distribution to the engine for more available power at a given boost level.

Big Hoss Intake Manifold System

03-07 (P/N 42747)

- Increases flow and provides more uniform air distribution to the engine for more available power at a given boost level.

Banks Exhaust Brake

98-02 (P/N 55219, 55221)

03-07 (P/N 55222-55229)

- Increases the stopping power of your truck and extends the service life of your brakes

Banks SmartLock

98-02 (P/N 55262)

03-07 (P/N 55270)

- Reduces wear on transmission
- Locks Torque Converter and raises trans-line pressure
- Works with Banks Exhaust Brake

Boost and Pyro Gauges

03-07 (P/N 64507)

- Keep your engine safe by monitoring vital engine parameters.

Banks Bullet

03-07 (P/N 66522-66523)

- Adds power safely to your vehicle
- Displays critical engine functions
- Engine safeguards
- Change power levels on-the-fly

Banks Diesel Tuner

98-02 Big Hoss (P/N 62781-62783)

03-07 EconoMind w/switch (P/N 63725, 63793, 63795, 64507)

03-07 EconoMind w/iQ (P/N 63807, 63808, 63817, 63818)

03-07 Six-Gun w/switch (P/N 61022, 63797)

03-07 Six-Gun w/iQ (P/N 63809, 63819)

- Adds power safely to your vehicle
- Engine and transmission safeguards
- Change power levels on-the-fly

Thermocouple

- Add a temperature limiting function to your Diesel Tuner .

Banks Speed-Loader

03-07 (P/N 62981)

- Furthers the power output of the Banks Six-Gun and provides EGT limiting safety.

Banks QuickTurbo

94-02 (P/N 24052, 24053)

- More boost through the powerband
- Does not over-boost
- Turbo-diesel efficiency

Banks BigHead® Actuator

94-98 (P/N 24328)

98-02 (P/N 24329)

03-07 (P/N 24331)

- Achieves a higher peak boost over stock and gives you precise boost control that gives you crisp acceleration and more mid-range pulling power.

Banks Git-Kit Systems

94-98 (P/N 46381)

Contains:

- Monster Exhaust
- OttoMind Tuner

98-02 (P/N 49357-49362)

Contains:

- Big Head Wastegate Actuator
- OttoMind Tuner

Banks Stinger Systems

94-98 (P/N 49205, 49206)

98-02 (P/N 49363-49374)

Contains:

- Ram-Air Filter
- Monster Exhaust
- OttoMind Tuner
- Big Head Wastegate Actuator
- Gauges

03-07 (P/N 49692-49699, 49708-49711, 49716-49721)

Contains:

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- EconoMind Tuner w/ Banks iQ
- Big Head Wastegate Actuator

Banks Stinger-Plus Systems

94-98 (P/N 49275, 49276)

98-02 (P/N 49320-49323, 49351, 49352)

Contains:

- Ram-Air Filter
- Monster Exhaust
- OttoMind Tuner
- Big Head Wastegate Actuator
- Gauges
- Quick Turbo

Banks PowerPack Systems

94-98 (P/N 49280-49283)

Contains:

- Ram-Air Filter
- Twin-Ram Manifold
- Monster Exhaust
- OttoMind Tuner
- Big Head Wastegate Actuator
- Gauges

98-02 (P/N 49330-49335, 49353-49356)

Contains:

- Ram-Air Filter
- Monster-Ram
- Monster Exhaust
- OttoMind Tuner
- Big Head Wastegate Actuator
- Gauges
- Quick Turbo

03-07 (P/N 49700-49707, 49712-49715, 49722-49727)

Contains:

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- EconoMind Tuner w/ Banks iQ
- Big Head Wastegate Actuator
- Monster-Ram
- Techni-Cooler System

Banks Six-Gun Bundle

03-07 (P/N 49728-49735, 49744-49747, 49752-49757)

Contains:

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ
- Big Head Wastegate Actuator

Banks Big Hoss Bundle

03-07 (P/N 49736-49743, 49748-49751, 49758-49763)

Contains:

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ
- Big Head Wastegate Actuator
- Monster-Ram
- Techni-Cooler System

**For More Information please call (888) 635-4565
or Visit us online @ www.bankspower.com**

General Installation Practices

Dear Customer,

If you have any questions concerning the installation of your Banks Power System, please call our Technical Service Hotline at (888) 839-2700 between 7:00 am and 5:00 pm (PT). If you have any questions relating to shipping or billing, please contact our Customer Service Department at (888) 839-5600.

Thank you.

1. Familiarize yourself with the installation procedure by reading the installation manual before starting work.
2. Throughout this manual, the left side of the vehicle refers to the driver's side, and the right side refers to the passenger's side.
3. Disconnect the negative (ground) cable from the battery (or batteries, if there are two) before beginning work.
4. Route and tie wires and hoses a minimum of 6 inches away from exhaust heat, moving parts and sharp edges. Clearance of 8 inches or more is recommended where possible.
5. During installation, keep your work area and tools clean to avoid possible entry of dirt into the drivetrain components.
6. When raising the vehicle, support it on properly weight-rated safety stands, ramps or a commercial hoist. Follow the manufacturer's safety precautions. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the front wheels are centered squarely on

the topsides. When raising the front of the vehicle, set the parking brake and block the rear wheels. When raising the back of the vehicle, be sure the vehicle is on level ground and the front wheels are securely blocked.

Caution! Do not use floor jacks to support the vehicle while working under it. Do not support the vehicle using concrete blocks, masonry or any other item not intended specifically for this use.

7. Installing the Banks Torque Converter requires removal of the transmission from the vehicle. Heavy tooling such as a transmission jack and an automotive hoist or ample-height jack stands are required. Professional installation by a properly equipped shop is recommended. Failure to follow all installation instructions during Torque Converter install can result in bodily injury and/or expensive damage to the transmission and surrounding components.

8. The transmission and torque converter must be removed as an assembly to avoid damage to the converter drive plate, pump bushing and oil seal.

9. Before installing the Banks Torque Converter, verify that your transmission is in good operating condition. Transmission problems such as harsh or delayed engagement when shifting into Drive or Reverse, no Drive or Reverse range, erratic shifting, grating or scraping noises, or lack of up and/or downshifting can lead to torque converter damage. If necessary, have your transmission repaired or overhauled before installing the converter.

Tools Required:

- 3/8" and 1/2" drive ratchets with metric sockets including 1/2" and 3/8" drive extension
- Metric combination or open-end wrenches
- Standard and Phillips head screwdrivers
- Standard and needle-nose pliers
- Clean shop towels or rags
- Transmission hoist
- Floor jack
- C-clamp
- Drain pan
- MOPAR ATF (See manufacturers recommendations for your specific model)
- 320-400 grit sandpaper
- Measuring ruler
- Pry bar or channel lock pliers
- Grease pen
- Inch-pound and foot-pound torque wrenches
- Barring Tool (available from Banks p.n. 97007)

Highly recommended tools and supplies:

- Penetrating oil or light lubricant spray
- For 4x4 models: Second transmission hoist
- Transmission fluid filter
- Transmission pan gasket

Notice To Installer:

Banks recommends replacing your transmission fluid, transmission fluid filter and transmission pan gasket. Failure to service transmission may result in torque converter damage.

Installation Procedure

1. Disconnect the negative (ground) cable from the battery (if there is more than one battery, disconnect both negative cables). Secure the cable so it cannot accidentally come in contact with the post.

2. Raise the vehicle high enough to remove the transmission and support it securely with properly weight-rated safety stands, ramps or a commercial hoist. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the wheels are centered squarely on the topsides. Set the parking brake and securely block the wheels that are on the ground. **CAUTION: DO NOT WORK UNDER ANY VEHICLE SUPPORTED ONLY BY A JACK. SEVERE INJURY MAY RESULT.**

3. Carefully remove the Banks Torque Converter from the shipping container. Be careful not to damage the shipping container as it will be used to return the factory torque converter to Gale Banks Engineering.

4. To avoid pump seal damage during converter installation, inspect the Banks Torque Converter hub and hub drive notches for sharp edges, burrs, scratches or nicks. It may be necessary to polish hub and/or

notches with 320/400 grit sandpaper and crocus cloth.

5. If necessary, disconnect or remove the lower exhaust components to make room for transmission removal.

6. Remove the two engine-to-transmission struts, if equipped (see **Figure 1**).

7. If necessary, remove the starter motor. Retain the hardware for reassembly.

8. Remove the torque converter access cover located on the underside of the front of the transmission.

9. Remove the fill tube bracket bolt and pull the tube out of the transmission. Retain fill tube O-ring and hardware for re-assembly (see **Figure 2**). On 4x4 models, remove the bolt attaching the transfer case vent tube to the converter housing.

10. Remove the flywheel housing plugs (see **Figure 3**). Insert the Dodge Barring Tool (available from Banks, p.n. 97007) into the flywheel housing and rotate the crankshaft in the clockwise direction until the converter bolts are accessible. Remove the converter bolts and retain for re-assembly.

Figure 1

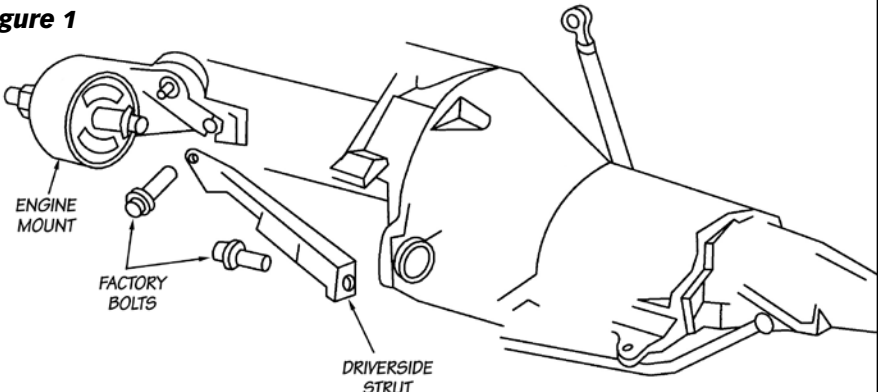


Figure 2

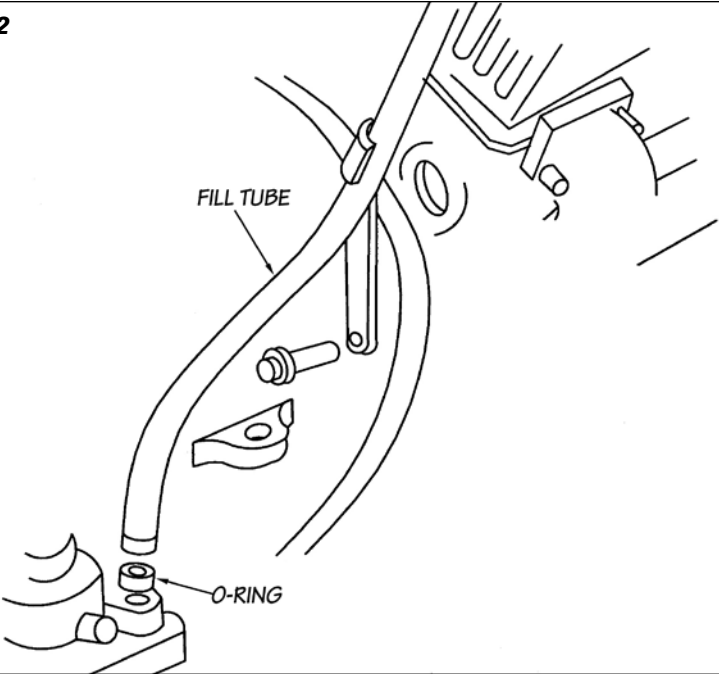
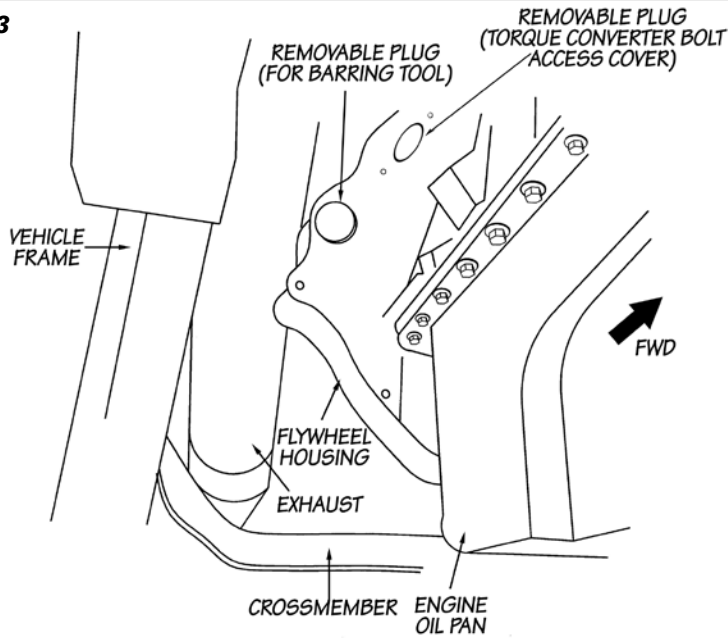


Figure 3



11. Mark the propeller shaft and axle yokes for assembly alignment, then disconnect and remove the propeller shaft. On 4x4 models, remove both propeller shafts. (It is common for transmission fluid to drain from the rear after driveshaft removal.)

12. Disconnect wires from the park/neutral position switch, transmission solenoid and vehicle speed sensor. Disconnect the gearshift rod and torque shaft assembly from transmission.

13. Disconnect the throttle valve cable from the transmission bracket and throttle valve lever.

14. On 4x4 models, disconnect the shift rod from the transfer case shift lever. (You can also remove the shift lever from the transfer case and tie the rod & lever to the chassis using wire.)

15. Disconnect transmission fluid cooler lines at the transmission fittings. Remove lines from the retaining clips and tie the lines to the chassis.

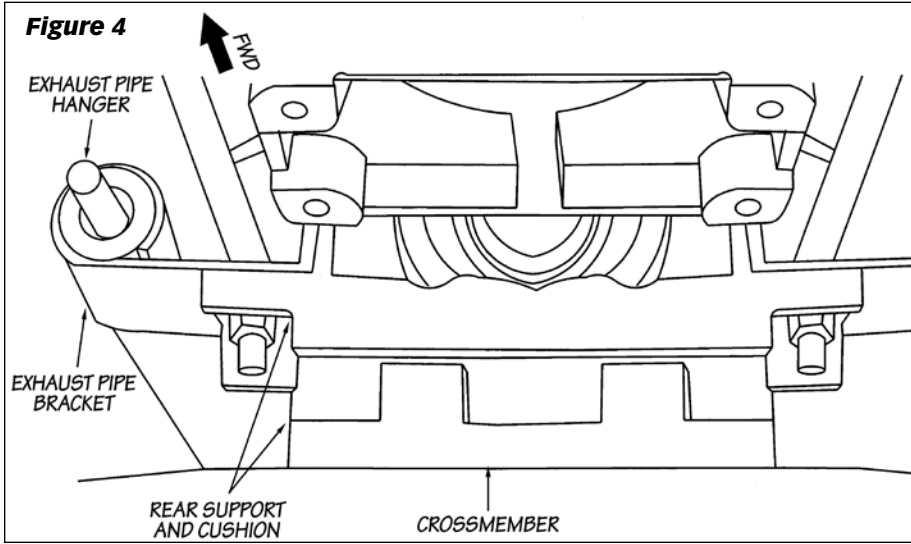
16. Support the rear of the engine with a jack, engine hoist or safety stands. Raise the transmission slightly with a transmission jack to relieve load on the cross members and supports.

17. Remove the bolts securing rear support, transmission cushion and cross member. Raise the transmission slightly and slide the exhaust hanger arm from the bracket (see **Figure 4**).

18. Remove the bolts attaching the crossmember to the frame and remove the cross member. On 4x4 models, disconnect the speed sensor wires and vent hose from the transfer case. With the transfer case supported by a transmission jack, remove the bolts connecting the transfer case to the transmission and remove the transfer case.

19. Remove all the torque converter housing bolts and retain for reassembly. Carefully slide the transmission and torque converter assembly rearward off engine block dowels. Disengage torque converter hub from the end of the crankshaft.

Figure 4



20. Lower the transmission and remove it from under the vehicle.

21. Once the transmission and torque converter assembly are removed, place a suitable drain pan under the converter-housing end of the transmission.

CAUTION: Verify that the transmission is secured to the lifting device. When torque converter is removed, the transmission's center of gravity will shift and transmission may become unstable.

22. Carefully slide the torque converter out of the transmission.

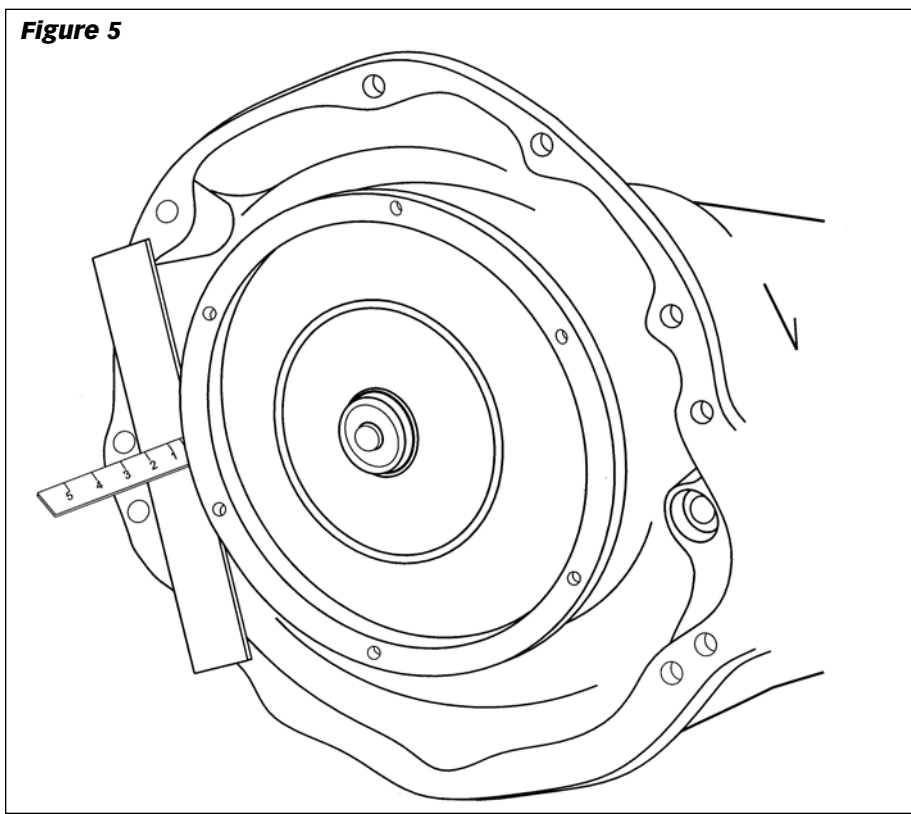
Note: Inspect the oil seal on the front pump of the transmission. If there are signs of leakage or damage, the seal should be replaced prior to installing the new torque converter.

23. For 48RE Transmissions:

Remove and discard the Teflon/o-ring seal from the stator support shaft – this seal is not required when a Banks Billet™ Torque Converter is installed.

24. Lubricate the Banks converter drive pilot hub, oil pump and the converter pilot hub by pouring one quart of MOPAR ATF fluid into the pilot hub. **CAUTION: When installing the Banks Torque Converter, be careful not to damage the pump gear O-Ring or Hub-Seal.**

Figure 5



- 25.** Align and carefully install the converter drive pilot hub into the oil pump. Be sure the converter drive pilot hub is fully seated in pump gears (rotating and pushing the converter inward may help in the seating process). You should feel the torque converter engage three (3) times while installing the transmission.
- 26.** Check converter seating with a ruler and straightedge (**Figure 5**). The surface of the converter lugs should protrude approximately $\frac{1}{2}$ " in front of the transmission flange. If measurement is more than $\frac{1}{2}$ ", repeat **Steps 25** and **26** until converter is properly seated.
- 27.** Raise the transmission and align the converter with the drive plate.
- 28.** Move the transmission towards the engine and raise/tilt the transmission to align the converter housing with alignment dowels.
- 29.** Seat the front converter hub into the crankshaft by aligning the transmission over the alignment dowels.
- 30.** Install the factory bolts through the converter housing and into engine. Install the rear transmission support.
- 31.** Reinstall the transmission cross member to the vehicle frame. Lower the transmission onto the cross member to the vehicle frame. Install and tighten the bolts attaching the transmission mount to the cross member cushion.
- 32.** Carefully remove the jack or hoist being used to support the engine. Re-Install the vehicle speed sensor/speedometer adapter.
- 33.** Connect the gearshift and throttle cable to the transmission. Connect wires to the park/neutral position switch and transmission solenoid(s).
- 34.** Using the barring tool, rotate the crankshaft in a clockwise direction, reinstall the converter bolts and torque to 35 ft-lbs.
- 35.** Install the converter housing access cover.
- 36.** For 4x4 models, reinstall the transfer case and connect the speed sensor wires and vent hose to the transfer case. Reconnect or reinstall the shift rod and lever.
- 37.** If applicable, reinstall the starter motor. Reinstall cooler line bracket and connect the cooler lines to the transmission.
- 38.** Reinstall exhaust components and propeller shaft. Be sure to realign the marks on propeller shaft(s) and yoke.
- 39.** Adjust gearshift linkage and throttle valve cable if necessary.
- 40.** Verify that all previously removed components are reconnected, all tools used are accounted for and all bolts are tightened to manufacturer's specifications.
- 41.** Fill the transmission with the factory recommended Mopar ATF fluid.
- CAUTION: DO NOT overfill transmission fluid. Check fluid level periodically during refilling.**
- 42.** Reconnect the battery cable(s).
- 43.** Start the vehicle and allow engine to reach normal operating temperatures. With the vehicle lightly loaded, accelerate gently and allow the torque converter to lock and unlock a minimum of fifteen (15) times. Monitor transmission temperatures and stall speed to verify the torque converter is operating normally. Check transmission fluid level and add ATF fluid if needed. Installation of the Banks Torque Converter is now complete.

To receive a core charge refund, complete the following steps.

1. You will notice that you have been charged a \$250.00 refundable core charge for your Banks Billet Torque Converter. In order to receive a refund on the core charge you must send us a good rebuildable core. Please follow these important instructions.

2. Do not discard or destroy the shipping container that your new torque converter came in.

3. After installation of your new torque converter, DRAIN ALL FLUID from your old torque converter by allowing it to sit upside-down in a suitable drain pan or container overnight.

CAUTION: Failure to properly drain the converter may result in shipping refusal or other consequences related to shipping hazardous material.

4. Install supplied plug on old torque converter input hub and wrap it in the supplied plastic bag.

5. Pack the torque converter into the Banks shipping container. If applicable, place the foam insulation around the torque converter to prevent damage during shipping.

6. Reseal the shipping container. Verify that the Torque Converter is secure in the shipping container.

7. Locate the return shipping label included in the Banks Billet Torque Converter package and affix it to the outside of the shipping container so that it completely covers the previous shipping label.

8. Call Gale Banks Engineering customer service line (888) 839-5600 with your original invoice number to receive an RMA number. Write the RMA number on the label in the space provided.

9. Ship the core to the address shown on the label. *NOTE: Any charges incurred to return the core are the responsibility of the customer.* If your return-shipping label is missing or damaged, ship the packaged torque converter to:

**GALE BANKS ENGINEERING
1800 N 30th Avenue
Melrose Park IL 60160**

Thank you for your cooperation with the core return process, and for choosing Gale Banks Engineering.

Gale Banks Engineering
546 Duggan Avenue • Azusa, CA 91702
(626) 969-9600 • Fax (626) 334-1743

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