South Bend Ford/Dodge DD
Installation Instructions

Torque specifications:
Flywheel to crank 90-100 ft. lbs.
Pressure plate to flywheel is 45 ft. lbs.

Unbolt pressure plate from flywheel in a star pattern with quarter turns.

Check discs on input shaft for free movement before installation.

Bolt flywheel to crank with provided specs.

Line up paint marks on pressure plate, center plate, and flywheel.

Install discs according to sticker (located on disc) for correct hub direction.

Install pressure plate bolts in crossing pattern, one quarter turn at a time (do not use air powered tools for this step).

Refer to Important Information Form (included) for more installation information.

South Bend Ford 6.0 & 6.4 DD
Installation Instructions

Torque specifications:
Flywheel to crank 45-49 ft. lbs. torque
Pressure plate to flywheel is 18-20 ft. lbs. torque

Unbolt pressure plate from flywheel in a star pattern with quarter turns.

Check discs on input shaft for free movement before installation.

Bolt flywheel to crank with provided specs.

Line up paint marks on pressure plate, center plate, and flywheel.

Install discs according to sticker (located on disc) for correct hub direction.

Install pressure plate bolts in crossing pattern, one quarter turn at a time (do not use air powered tools for this step).

Refer to Important Information Form (included) for more installation information.

Orientation of release fork for Dodge Ram applications

Applications

Model Year	Engine Size	Vehicle
1994-2002	8.0L V10 Gas	Dodge Ram
1994-2002	5.9L Turbo Diesel	Dodge Ram

Please note that the clutch fork on this vehicle can be installed in the reverse position. When installed incorrectly, the result will be a "growling noise coming from the bell housing and/or a no release condition. Please refer to Figure Number 1 for the correct fork orientation during the assembly process.

When the clutch fork is installed properly, the fork part number will be on the left side of the transmission input shaft. The left side of the transmission is the side where the pivot ball is located (see Figure Number 1).

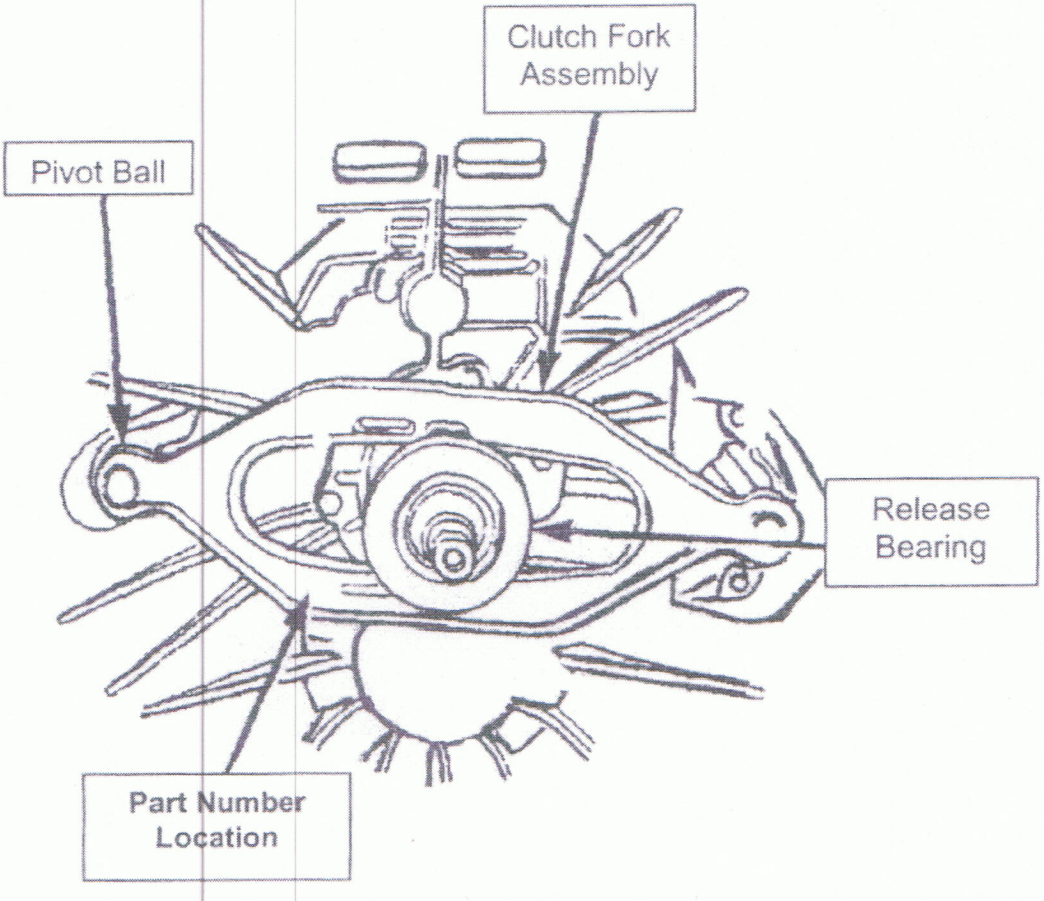

Figure Number 1

Important Information for SDD clutches

RE: South Bend Dual Disc clutches for Dodge & Ford diesel pick-up trucks.

This notice is an attempt on our part to respond to some complaints we have had about our products. Our goal is to try to help our customers gain a better understanding of what goes on in their drive train when upgrades are introduced, and how some simple changes in driving habits can help.

When a gas engine runs, it has a smooth, uninterrupted rotation. When a diesel engine runs, the opposite is true. A diesel has a pulsation, which is caused by small, quick spikes in torque (4-8 times per revolution, depending on how many cylinders the engine has). This causes a vibration, most apparent at idle speeds, which needs to be dampened so that it is not transferred to the transmission, causing the gears to "clatter" and make noise.

When Dodge and Ford introduced the Dual Mass Flywheel (DMF) they successfully dampened the vibration. The DMF worked well when the engine ran at factory specifications, and when the towing limits were not exceeded. As soon as these trucks started being used beyond the OEM recommendations, problems started to occur.

Horsepower and torque upgrades, excessive towing loads and poor driving habits caused the DMF to wear out and eventually fail. Keep in mind that while it was wearing out, it was still dampening the vibration, until it failed completely.

Because it became increasingly more common to use these trucks beyond their limitations, we were impelled to come up with a clutch system that could, not only hold the extra torque, but would also provide a reasonable amount of dampening.

We succeeded in doing that. However, there are some distinct differences between how our system operates, compared to the OEM design. In order to make a clutch withstand dramatic increases in torque and load, certain aspects of the system needed to be improved and strengthened. For example, the dampening springs in the clutch discs had to be stronger, or they would fail just like the DMF. Our original design was made too strong in that area, which caused some noise at idle. Our new hub design has eliminated that problem in most trucks, without sacrificing it's capacity for torque. Keep in mind that noise is not always caused by the clutch. The way that the engine runs, and the amount of wear in the transmission (and usually a combination of both) directly affect the likelihood of noise when the engine is idling.

Due to the fact that we have had a vast amount of experience with the late model G-56 transmissions, we have come to learn that the internal components (especially the aluminum case) are prone to wear. In order to reduce the risk of your system making noise after your new clutch is installed, YOU MUST INSPECT THE TRANSMISSION.

A qualified transmission specialist needs to check the amount of play in your input shaft. Even a small amount of movement could indicate a problem, which will just get worse and could cause a catastrophic failure.

Occasionally, we hear people complain of noise while accelerating. This is where the bad driving habits come in. We have come to realize that some people (in order to conserve fuel) shift into the next gear too soon. If the transmission is in too high a gear, at a low wheel speed, it causes a lugging effect on the engine (we have all experienced this if we were trying to shift into 2nd gear, but instead hit 4th). This lugging will cause a backlash in the splined hubs of the clutch discs, and can cause an unnecessary noise. This seems to be most apparent in late model, aluminum cased transmissions. The solution is simple. Keep the RPM's up while shifting. This will prolong the life of the entire drivetrain.

We try to explain to our customers that they may need to adapt to the new system. In other words, "you may need to change the way you drive". People don't like to hear that. Remember, even though you may not have had any noise before, the way you drove (along with your power upgrades and loads) definitely attributed to the short life of the DMF. You can't make dramatic changes in your truck, without realizing that you might need to make some changes in your behavior and your expectations.

We feel that the most important thing we can provide to our customers, is a clutch that drives nice, and lasts. We have done just that. We make every effort to improve our products as needs arise, and will continue to do so. We listen to our customer's concerns and try to take them all into consideration. This is the reason that we have been able to provide the best clutch in the industry….hands down.

Keep calling. We want to hear from you.

Removal and Installation
Removal

1. Disconnect battery negative cable.
2. Shift transmission into Neutral.
3. Remove screws attaching shift boot to floor pan. Then slide boot upward on the shift lever.
4. Remove the bolts holding the shift tower to the isolator plate and transmission gear case.
5. Remove the shift tower and isolator plate from the transmission gear case.
6. Raise and support vehicle.
7. Mark propeller shaft and axle yokes for alignment reference. Use paint, scriber, or chalk to mark yokes.
8. Remove universal joint strap screws and remove straps.
9. Remove propeller shaft.
10. Disconnect and remove exhaust system as necessary.
11. Disconnect wires at backup light switch.
12. Support engine with adjustable safety stand and wood block.
13. If transmission is to be disassembled for repair, remove drain bolt at bottom of PTO cover and drain lubricant from trans.
14. Remove bolts/nuts attaching transmission to rear mount.
15. Support transmission with a transmission jack. Secure transmission to jack with safety chains. NOTE: It is recommended that a heavy duty, scissors style transmission jack be used to remove and install the NV5600 transmission.
16. Remove rear cross member.
17. Remove bolts attaching clutch slave cylinder to clutch housing. Then move cylinder aside for working clearance.
18. Remove wire harness from clips on transmission.
19. Remove bolts attaching transmission clutch housing to the engine block.
20. Slide transmission and jack rearward until input shaft clears clutch disc and pressure plate.
21. Lower transmission jack and remove transmission from under vehicle.

Installation

1. Apply light coat of MOPAR high temperature bearing grease to contact surfaces of following components:

o input shaft splines and pilot bearing hub.
o release bearing slide surface of front retainer.
o pilot bearing.
o release bearing bore.
o release fork.
o release fork ball stud.
o propeller shaft slip yoke.

1. Apply sealer to threads of bottom PTO cover bolt and install bolt in case.
2. Mount transmission on jack and position transmission under vehicle. NOTE: It is recommended that a heavy duty, scissors style transmission jack be used to remove and install the NV5600 transmission.
3. Raise transmission until input shaft is centered in clutch disc hub.
4. Move transmission forward and start input shaft in clutch disc and pilot bushing/bearing.
5. Work transmission forward until seated against engine block. Do not allow transmission to remain unsupported after input shaft has entered clutch disc.
6. Install and tighten transmission-to-engine block bolts.
7. Install clutch slave cylinder.
8. Connect backup light switch wires.
9. Fill transmission with recommended lubricant. Correct fill level is bottom edge of fill plug hole.
10. Position transmission harness wires in clips on transmission.
11. Install transmission mount on transmission or rear cross member.
12. Install rear cross member.
13. Remove transmission jack and engine support fixture.
14. Align and install propeller shaft.
15. Lower vehicle.
16. Shift transmission into third gear.
17. Clean the mating surfaces of shift tower and isolator plate with suitable wax and grease remover.
18. Apply MOPAR Gasket Maker, or equivalent, to the sealing surface of the transmission case. Do not over apply sealant.
19. Install the isolator plate onto the transmission case, metal side down.
20. Install the shift tower onto the isolator plate. No sealant is necessary between the shift tower and top of the isolator plate.
21. Verify that the shift tower, isolator plate, and the shift socket are properly aligned.
22. Install the bolts to hold the shift tower to the isolator plate and the transmission case. Tighten the shift tower bolts to 10.2 - 11.25 Nm (7.5 - 8.3 ft. lbs.) .
23. Install shift boot and bezel.
24. Connect battery negative cable.

Warranty Policy

South Bend Clutch, Inc. warrants that our Clutches are free from defects in workmanship and material under normal use and service. The obligation of South Bend Clutch, Inc. under this warranty is limited to repair or replacement of the defective products, which fails within 12 months or 12,000 miles. We will not be liable for losses that might be claimed as a result of the failure of any part, nor shall we be liable for damages or injury to any persons or property resulting from the misuses or improper installation of any part subject to this warranty.

South Bend Clutch, Inc. reserves the right to examine all parts returned for warranty claim to determine whether or not any such part has failed because of a defect in material or workmanship. Our obligation under this warranty shall be limited to repairing, replacing, or crediting, at our discretion, any part found to be defective.

The Limited Warranty will not be valid under the following express conditions:

- When proper break-in procedure was not followed. To receive proper break-in procedure for your application please call 1-800-988-4345.
- When Flywheel was not replaced with new or resurfaced to specification.
- Clutches which have been altered, improperly installed, or damaged by accident, negligence or misuse.

PRODUCTS USED FOR HIGH PERFORMANCE AND/OR RACING PURPOSES WHICH THEY WERE NOT ORIGINALLY ENGINEERED FOR, WILL NOT BE COVERED.

Return Policy

No returned product for warranty, repair, or replacement will be accepted without a return authorization number. Please call and speak to our warranty department at 1-800-988-4345.