

VALAIR

Performance Diesel Clutches

THE INFORMATION IN THIS PACKET WILL ANSWER MOST COMMON QUESTIONS

Warranty Registration

Please read our Warranty Registration Sheet, then fill out the required information and return or fax to us no later than 30 days after receiving your new Performance Series Clutch. There are two copies of this in the packet, one is your copy to keep for your records and the other is to be returned to us. You need to keep a copy of your invoice. All warranty claims will need to be submitted with a copy of the original invoice. Warranty claims without an invoice will be denied.

The information we need:

- Part Number - This will be on your invoice
- Purchased from - This will be who you bought the clutch from
- Name - The name used when the clutch was ordered.
- Date - Date on the invoice

Noise warnings and facts

This page will explain some of the noises associated with HD or performance type clutches.

Critical items to check

This page gives you specific things to check to ensure that the clutch is installed properly.

Do's and Don'ts

These two pages give you some helpful information and some simple guidelines to help with your install and get the best possible performance from your new clutch.

Quick Specs Sheet

This page will give you Torque Spec's, new clutch Break-in information along with our contact information in case you ever have question or encounter a problem.

Thank you for choosing a Valair Performance Series Clutch.

**Sincerely,
Valair Inc.**

Valair Inc.
PO Box 818, Mineral Wells, Texas 76068
Fax: 940-325-4318

NOISE WARNING'S & FACTS

Gear rollover facts:

When changing from a stock OEM type disc over to a HD type disc some gear rollover noise is possible. Gear rollover noise is often heard when the vehicle is idling in neutral with the clutch pedal out or under a load in low RPM ranges (often referred to as sounding like marbles in the transmission). This is not an issue with the clutch.

Gear rollover noise is caused by reverse engine spike and can in most cases be drastically reduced by simply changing the oil in the transmission or reducing engine spike produced by inadequate engine components (ex. misfiring injector, FCA problems, Electronic programming, timing issues).

Over filling transmissions by 1 qt. with factory specified oil will also help reduce gear rollover noise.

Disengagement noise:

On all dual and triple disc clutches, a noise will be associated with the disengagement of the clutch. This is due to the intermediate plate(s) floating freely in the lugs of the flywheel. **This is NOT a bad throw out bearing!!!** The noise can possibly get more noticeable during the break-in period of the clutch due to the intermediate plate(s) seating in.

Please educate yourself before installation!

Please research gear rollover and/or transmission related noises due to solid flywheel or HD clutch replacement. Any noises caused by gear rollover and/or rattle from the floater plate will not be covered under any type of warranty, nor can the clutch be returned after install. If you choose to return the clutch **prior** to installation, a 10% restocking fee will be added to any returns.

Thank you for your cooperation,
Valair Inc. Tech support

Critical items to check

12 Things to check before, during, and after installation

Failure to check the following items may void your warranty

1. Check the disc on the input shaft.

This will ensure that you have the correct hub size and that the disc will move freely when the clutch is disengaged. Check for any type of wear on the input shaft. It may be necessary to file the hub on the disc to get it to slide freely. Disc that do not slide freely are the main cause for a clutch that shifts slow or will not release properly.

2. Do not reuse spacers or shims.

If your old clutch used a spacer or shim do not reuse it unless you were informed to do so. Our clutch kits will include any shims or spacers if necessary.

3. Do not use excessive grease

Use a small amount of grease on the inside of the release bearing. Do not use excessive amounts of grease on the splines of the disc, input shaft, or pilot bearing this grease will end up on the pressure plate, flywheel, or disc and cause slipping and hot spots.

4. Line up paint marks

On dual and triple disc clutches, be sure to line up the paint marks on the pressure plate, floater plate, and flywheel.

5. Use the alignment tool

When installing the pressure plate check that the alignment tool will slide in and out freely. A little extra time here will save a lot of time later.

Steps 6 and 7 apply only to kits that use 3 or 4 lever style pressure plates

6. Remove installation bolts (3 and 4 lever style pressure plates only)

Remove the bolts from the top of the cover. These bolts are installed to ease installation of high plate load pressure plates, retain these bolts for future use.

7. Check lever height (3 and 4 lever style pressure plates only).

After the pressure plate is installed take a straight edge and check the distance from the top of the pressure plate to the tip of the levers, this measurement is set before we send the clutch out. If you have a different measurement

(STOP) do not go any further. This is an indication that something is installed incorrectly.

The measurements should be as follows (+/- .040 is acceptable)

(Comp Triple) 10.50" clutch with 3 levers 0.565 from top of cover to lever tip.

(DDB) 13.00" clutch with 4 levers .800 from top of cover to lever tip.

8. Fork and pivot ball inspection.

Check the release fork and pivot ball for wear, replace if necessary.

(DUAL and TRIPLE DISC) If your kit came with a new fork use the supplied fork and be sure to remove the washer from behind the pivot ball. **THE PAINTED SIDE OF THE FORK WILL GO ON THE PIVOT BALL SIDE.**

9. Stabbing the transmission.

If you are having trouble getting the transmission to pull up against the engine **(DO NOT USE THE BELLHOUSING BOLTS TO PULL IT IN).**

Check that everything is lined up and strait, if you're still having trouble refer to steps **1** and **2**.

10. Release fork free travel

After the transmission is installed check the release fork for free travel, there should be $\frac{3}{4}$ "-1" free travel on single disc and 1"-1 $\frac{1}{2}$ " on dual disc. If your fork movement is not within this range **(STOP)** something is installed incorrectly.

11. HD Hydraulic installation.

The new master cylinder is a twist in style just like the stock unit, the part that bolts to the fire wall is a bracket that will be reused on the new master cylinder. The new master cylinder includes (2) rubber washers you may or may not need to use both washers. It is very important that the master cylinder fits tight in the bracket, but locks into place. Units that come out of the firewall will not be covered under warranty. You will reuse your safety switch on the new hydraulics.

12. Hydraulic adjustment

Adjust the clutch pedal so that the clutch will start to engage when the pedal is 2"-3" from the bottom, this should make the clutch and brake pedal about even, adjusting the pedal too high will cause clutch slippage and premature clutch wear.

Do's and Do Not's

Do's

- **Ensure a Safe, Clean work environment ... Safety FIRST ... Cleanliness Second.**
- **Use the correct tools for the job!!!** (you CANNOT install a clutch with a screwdriver, a hammer, and an adjustable wrench)
- **Have a helper that can assist you if at all possible.** (4 hands are always better than 2 especially when 'Stabbing' the transmission back in.)
- **Check the Pivot Ball and Fork for wear while the transmission is out.** (The nylon part of the pivot ball should be ROUND, not pointed or flat, this is a \$6 part from your local Dodge Dealer Part # 52087542. The Fork should be cleaned and inspected for wear... Dodge fork Part# 52087515. Check the clip that holds the fork to the pivot ball, replace if necessary Dodge Dealer Part# 4338855.)
- **Use a Torque Wrench to tighten Flywheel and Pressure Plate bolts.**
(See quick spec page.)
- **Check the Input Shaft Retainer and Input Shaft.** (Especially check these for wear, ridges or groves where the Release bearing and Disc have been running on them. A grooved Retainer or Input shaft can cause the release bearing or disc to bind causing engagement and disengagement issues. Check the disc on the input shaft, it may be necessary to sand or file the hub/s of the disc or splines of the input shaft to remove any sharp edges in order to get them to slide freely. **(They key to a good shifting clutch is getting the disc to slide smoothly on the input shaft.)**)
- **Clean the Flywheel and Friction surface of the Pressure Plate with Brake Cleaner.** (We coat our flywheels and pressure plates with an 'anti-rust' coating and although they look clean you need to get this oily film off before installing the clutch).
- **Use a SMALL amount of grease inside the Release Bearing Collar.** (Apply a small amount to the inside of the Release bearing where it will slide back and forth on the Retainer).
- **Check the Rear Main Seal for leaks.** (While you have the transmission out you may as well check this and replace if excessive oil is leaking).
- **Use Loctite or some form of Thread Locker on Flywheel Bolts.** (We use the RED but even the BLUE is better than none).

Do Not's

- **Do Not...Bend, Flex, Twist, Distort or Drop the Clutch Disc.** (The Clutch Disc itself MUST be flat to operate correctly and when I say flat I mean within 0.002", anymore distortion than this and you WILL have release problems).
- **Do Not...Get Grease, Oil, Solvents on the Friction Surfaces of the Disc.** (This will lead to Grabby or Chatterly clutch engagement).
- **Do Not...Peel the Flywheel / Pressure Plate Stickers off until you are ready to install the disc.** (We all get ahead of ourselves sometimes or have over zealous helpers, check it twice before you put it in, typically the 'Long' side of the Hub faces the Pressure Plate on single and dual disc clutches).
- **Do Not...Use excessive grease on the Input Shaft!!!** (Grease and Oil is a Clutch's worst enemy, any extra grease or oil on the input shaft will 'Fling' itself onto the clutch disc when the truck is started up and running and work its way to the friction material, after some time your nice smooth clutch will become a grabby clutch).
- **Do Not...Loose the Retaining Clip that holds the Fork to the Pivot Ball.** ('Stabbing' a Transmission is hard enough, but to get it all in and bolted up only to find the Fork has come off the pivot ball is enough to add more four letter words to the already extensive English vocabulary, make sure the fork is securely attached to the pivot ball, the part # for the clip is 4338855).
- **Do Not...Let the transmission Drop suddenly while attempting to 'Stab' it.** (This can cause serious damage to the Pilot Bearing and warp the clutch Disc).
- **Do Not...Use Excessive Force or use the Bell housing bolts to get the transmission into place.** (When installing the transmission into the clutch assembly it should slide in ... alignment is critical, there should be an even amount of gap around the entire bell housing for it to slide in, you may also have to get the input shaft to turn slightly to align the splines, having to use excessive force means something is not right ... STOP.. check and recheck, take a 5-min break and come back to it ... remember it should slide in).
- **Do Not...Install a new clutch on a flywheel that is not new, or has not been resurfaced.** (Not only will this void your warranty, it WILL lead to clutch slippage and premature failure no matter how good it looks ... get it resurfaced). You Can Not resurface your flywheel with a buffing pad or angle grinder, it just doesn't work and It will void your warranty!

Quick Specs

Torque Settings:

(Flywheel)

12mm	12.9	102	ft lbs	OEM Dodge and Ford
12mm	10.9	85	ft lbs	Most aftermarket Dodge and Ford
3/8	Grade 8	48	ft lbs	some non Power Stroke Fords
10mm	10.9	47	ft lbs	6.0/6.4, some non Power Stroke Fords
16mm	10.9	202	ft lbs	Duramax

(Pressure Plate)

5/16	Grade 8	24	ft lbs	Single disc clutch
3/8	Grade 8	44	ft lbs	Dual disc clutch
8mm	8.8	18	ft lbs	non Power stroke Ford
10mm	8.8	29	ft lbs	single disc Duramax

Break-In Periods

One of the most asked questions we get is about Clutch Break-In, basically the break-in period is the most critical period for a new clutch, we suggest low power levels with a lot of stop and go driving while taking off in 1st or L, basically the more times you engage and disengage the clutch within this period the better it will be, 200 miles of city driving where you are using the clutch frequently is much better than 200 miles of highway where you may only use the clutch once or twice. Turn off exhaust brakes and do not use the clutch/transmission to slow the truck down during the break in period.

Organic Clutches: (200 Miles Total)

Normal Driving, Low Power, 50-100 miles

Ceramic Button Clutches: (500 Miles Total)

Normal Driving, Low Power for the first 200 miles

Progressively Increase Loads and Power for the next 300 miles

Ceramic/Kevlar Button Clutches: (750 Miles Total)

Normal Driving, Low Power for the first 500 miles

Progressively Increase Loads and Power for the next 250 miles

Tech Support
Phone: 940-468-3238
Email: valair@valairinc.com

Important Warranty Information

(CUSTOMER COPY)

Valair Inc. warrants that our Performance Series Clutches are free from defects in workmanship and material under normal use and service for a period not exceeding 30 days on OEM Organic Single disc clutches, 6 months or 6,000 miles on all other Single disc clutches and 12 months or 12,000 miles on all dual disc clutches. Whichever occurs first from the original date of purchase.

This means we will warranty the clutch for mistakes we made, not necessarily for mistakes you make whether it is during installation or from your personal driving style.

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

- Flywheel was not replaced or resurfaced to specification before new clutch installation.
- Clutches which have been physically altered, incorrectly installed, damaged by accident, negligence or misuse.
- Burned, Scorched Clutches, Clutches Contaminated with Oil or Grease.
- Clutch Disc Breakage (Applies to OEM Style Discs ... Does not apply to HD Spring Hub Discs)
- Clutches used in high performance events or driving applications which the clutch was not specifically designed whether performed by a licensed organization or solely by the individual.

Invoices with selling prices lower than MAP price will void your warranty.

The obligation of Valair Inc. under this warranty is limited to repair or replacement of the defective product/s. Inspection shall disclose to the satisfaction of Valair Inc. that the clutch and/or components are defective. Buyer must return the defective parts only once he/she has received the consent or authorization of the seller.

Valair Inc. shall not be liable for any special, direct, indirect, incidental or consequential damages to other mechanical components or equipment on the vehicle, including, but not limited to engines, transmissions or driveline. Valair Inc. shall not be liable for loss of life, bodily injury, claims for delay, loss of profits or wages, or for labor charges. Valair Inc. under this Limited Warranty shall not be obligated for expedited shipping, storage or impoundment charges.

No express or implied warranties either of merchantability or fitness for any particular use or purpose or otherwise, other than that expressly set forth above which are made expressly in lieu of all other warranties, shall apply to clutch products sold by Valair Inc.

In the event of a warranty claim.

- 1. Do not remove the clutch, most issues can usually be remedied with a simple adjustment. We will also ask specific questions about the clutch that you may not be able to answer once the clutch is removed.**
- 2. Know specific details about the issue. When does the issue occur? Clutch pedal in (clutch disengaged) clutch pedal out (clutch engaged). 1st gear 5th gear.....**
- 3. Call Valair directly. 940-468-3238**

Tech Support & Warranty Information

Valair Inc.

940-468-4542

Important Warranty Information

(VALAIR COPY)

This Document **MUST** be signed and returned to Valair Inc.

Valair Inc. warrants that our Performance Series Clutches are free from defects in workmanship and material under normal use and service for a period not exceeding 30 days on Organic Single disc clutches, 6 months or 6,000 miles on all other Single disc clutches and 12 months or 12,000 miles on all dual disc clutches. Whichever occurs first from the original date of purchase.

This means we will warranty the clutch for mistakes we made, not necessarily for mistakes you make whether it is during installation or from your personal driving style.

Please ensure you choose a clutch suited to your needs, application and driving style, if you need help deciding we are only one phone call away and will be glad to assist you.

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- Flywheel was not replaced or resurfaced to specification before new clutch installation.
- Clutches which have been physically altered, incorrectly installed, damaged by accident, negligence or misuse.
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Valair Inc. shall not be liable for any special, direct, indirect, incidental or consequential damages to other mechanical components or equipment on the vehicle, including, but not limited to engines, transmissions or driveline. Valair Inc. shall not be liable for loss of life, bodily injury, claims for delay, loss of profits or wages, or for labor charges.

Valair Inc. under this Limited Warranty shall not be obligated for expedited shipping, storage or impoundment charges.

No express or implied warranties either of merchantability or fitness for any particular use or purpose or otherwise, other than that expressly set forth above which are made expressly in lieu of all other warranties, shall apply to clutch products sold by Valair Inc.

I have read and understand this Warranty Statement

Purchased from

Invoice/Packing Slip #

Part Number

Signed

Printed Name

Date of Purchase