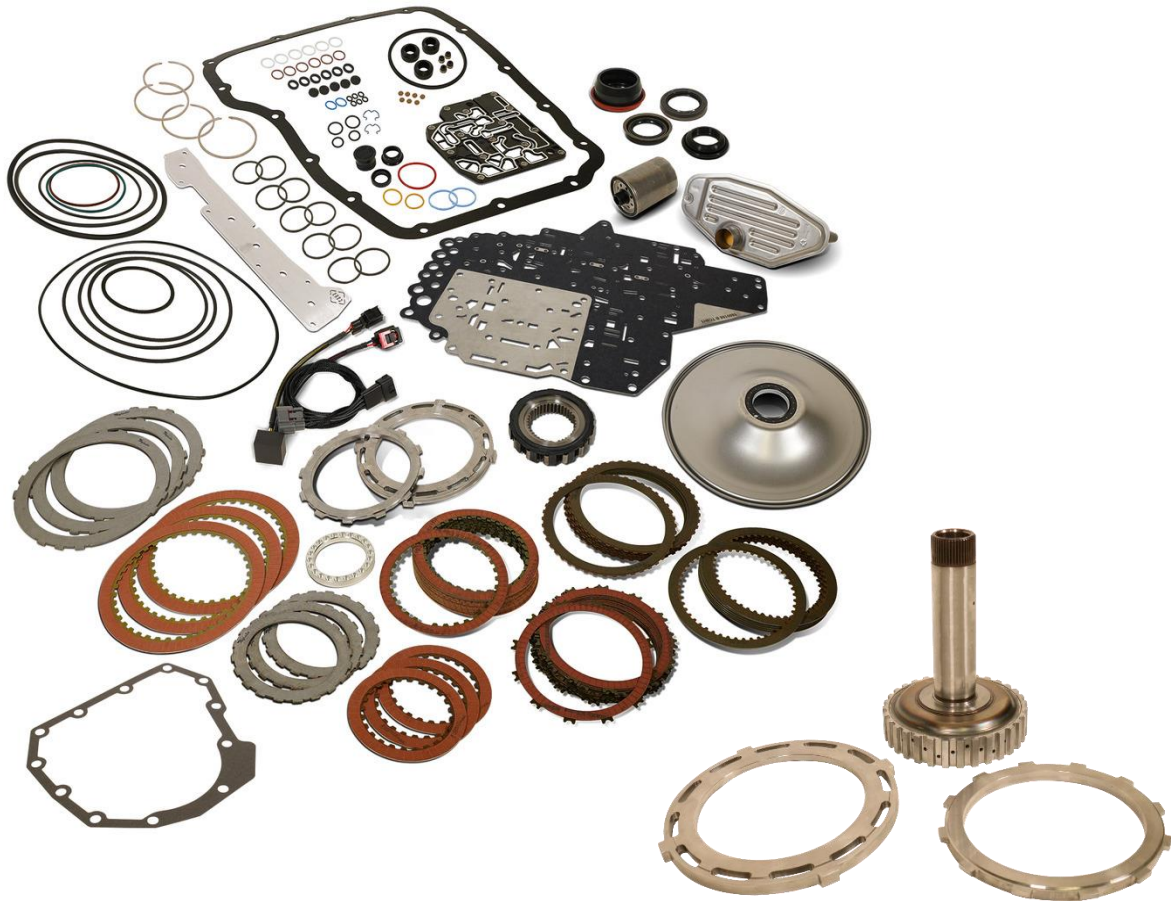




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## **68RFE Rebuild Kits**

**Rebuild kits, Build-it parts, & Big Stack kit**



<b>Part #</b>	<b>Description</b>
<b>1062022</b>	<b>2007-2018 68RFE Rebuild Kit – Stage 2</b>
<b>1062023</b>	<b>2007-2018 68RFE Rebuild Kit – Stage 3</b>
<b>1062025</b>	<b>2007-2018 68RFE Rebuild Kit – Stage 4</b>
<b>1062027</b>	<b>2019+ 68RFE Rebuild Kit – Stage 3</b>
<b>1062035</b>	<b>Big Stack Overdrive Shaft &amp; Reaction Plates</b>
<b>1062036</b>	<b>BD Big Stack + Machined Sonnax Drum</b>

## ***Introduction***

BD offers a variety of proven 68RFE build-it kits to suite your truck needs. Additional parts/ kits are available should you or your transmission builder want to further increase the performance or durability of your 68RFE.

A transmission learn procedure must be performed should any of the following repairs be applied to the vehicle:

- Transmission Replacement
- Transmission Control Module Replacement (TCM)
- Solenoid Pack Replacement
- Clutch Plate and/or Seal Replacement
- Valve Body Replacement or Recondition
- Torque Converter Replacement
- Battery Replacement
- Power Upgrade or Flash Programmer Installation/ Updates

**IMPORTANT!** 2019+ valve bodies use an updated solenoid gasket, which must be carefully cleaned, inspected, and reused (Figure 1). If it must be replaced, it is only available with a new solenoid pack.

The 2019+ kit also contains a different Protect 68 Plate Kit, and the check ball that was required in the prior years is no longer required, and is not included.

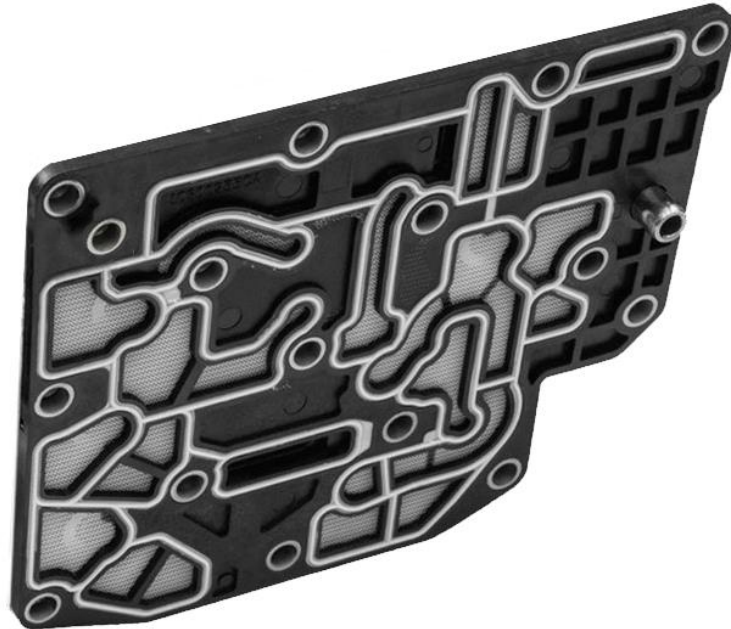


Figure 1. 2019+ Solenoid Gasket

## ***Upgrades/ Individual parts***

The below items are available separately and can be purchased individually to customize your transmission build.

<b>BD Part Number</b>	<b>Description</b>
1064043	Filter Kit; Service 68RFE
1030374	Adapter;68rfe Filter Threaded
1030362	68RFE Protect 68 Gasket & Pressure Control
1061525	BD Heavy Duty Transmission Pan
1041221	BD 68RFE Flexplate
1060603	68rfe One Way Clutch/ Sprag
1600189	Billet Input Shaft
1062034	Billet OD Selector Plates (14 frictions)
1062035	"Big Stack" Overdrive shaft + Selector Plates (16 OD frictions)
1062036	"Big Stack" Overdrive shaft + Selector Plates + Large Area OD Drum

## 2007-2018 Build-it Kit Contents

BD Part Number	Description	1062022 Stage 2	1062023 Stage 3	1062025 Stage 4
K29900L(A)	Gasket and Seal Kit	1	1	1
R600888	2C Friction	3	3	3
29303	2C Steel	3	3	3
B29308L	OD Housing Friction	15	15	15
B29309L	OD Housing Steel	15	15	15
29310	4C Friction	3	3	3
29311	4C Steel	3	3	3
29321L	Rev Friction	7	7	7
29322L	Rev Steel	7	7	7
29601	Filter, Pan	1	1	1
29609	Filter; Spin-on	1	1	1
1600180	4C Spring Retaining Ring	1	1	1
1600163	Selector Plate; OD/Rev (14 OD frictions)	1	1	1
1600162	Selector Plate; UD/ OD (14 OD Frictions)	1	1	1
1030373(B)	Protect 68 Plate kit	1	1	1
1600197	Gasket; 68RFE Ext Housing	1	1	1
52119645AA	Cover; Oil Pump	0	1	1
1060603	Sprag; One way	0	1	1
1030369	Pressure Module	0	0	1

**(A)**K29900L Gasket and seal kit:

- Gasket; 68rfe Pan (1601523)
- Gasket; 68rfe Solenoid Pack
- Seal; Solenoid Pack Connector
- Seal; 4wd Output Shaft
- Seal; 2wd Output Shaft
- Seal; Input Shaft
- Gasket Kit; Oil Cooler
- Seal Kit; 2-4C
- Seal Kit; Input drum
- O-ring; Pump Cover
- Sealing Kit; Piston rings
- Seal Kit; Solenoid pack
- Seal Kit; Internal valve body and orifices
- Seal Kit; External
- Check Balls; 1/4" - Qty 7

**(B)**1030373 Protect 68 Plate Kit:

- Bonded Valvebody Gasket Plate
- Heavy Duty Accumulator Plate
- Transmission Pan Gasket
- Clutch Feed Seals
- Check Ball

## 2019+ Build-it Kit Contents

BD Part Number	Description	1062027 Stage 3
K29901L (A)	Gasket and Seal Kit (2019+)	1
R600888	2C Friction	3
29303	2C Steel	3
B29308L	OD Housing Friction	15
B29309L	OD Housing Steel	15
29310	4C Friction	3
29311	4C Steel	3
29321L	Rev Friction	7
29322L	Rev Steel	7
29601	Filter, Pan	1
29609	Filter; Spin-on	1
1600180	4C Spring Retaining Ring	1
1600163	Selector Plate; OD/Rev (14 OD frictions)	1
1600162	Selector Plate; UD/ OD (14 OD Frictions)	1
1030375 (B)	Protect 68 Plate kit	1
1600197	Gasket; 68RFE Ext Housing	1
52119645AA	Cover; Oil Pump	1
1060603	Sprag; One way	1
1030369	Pressure Module	0

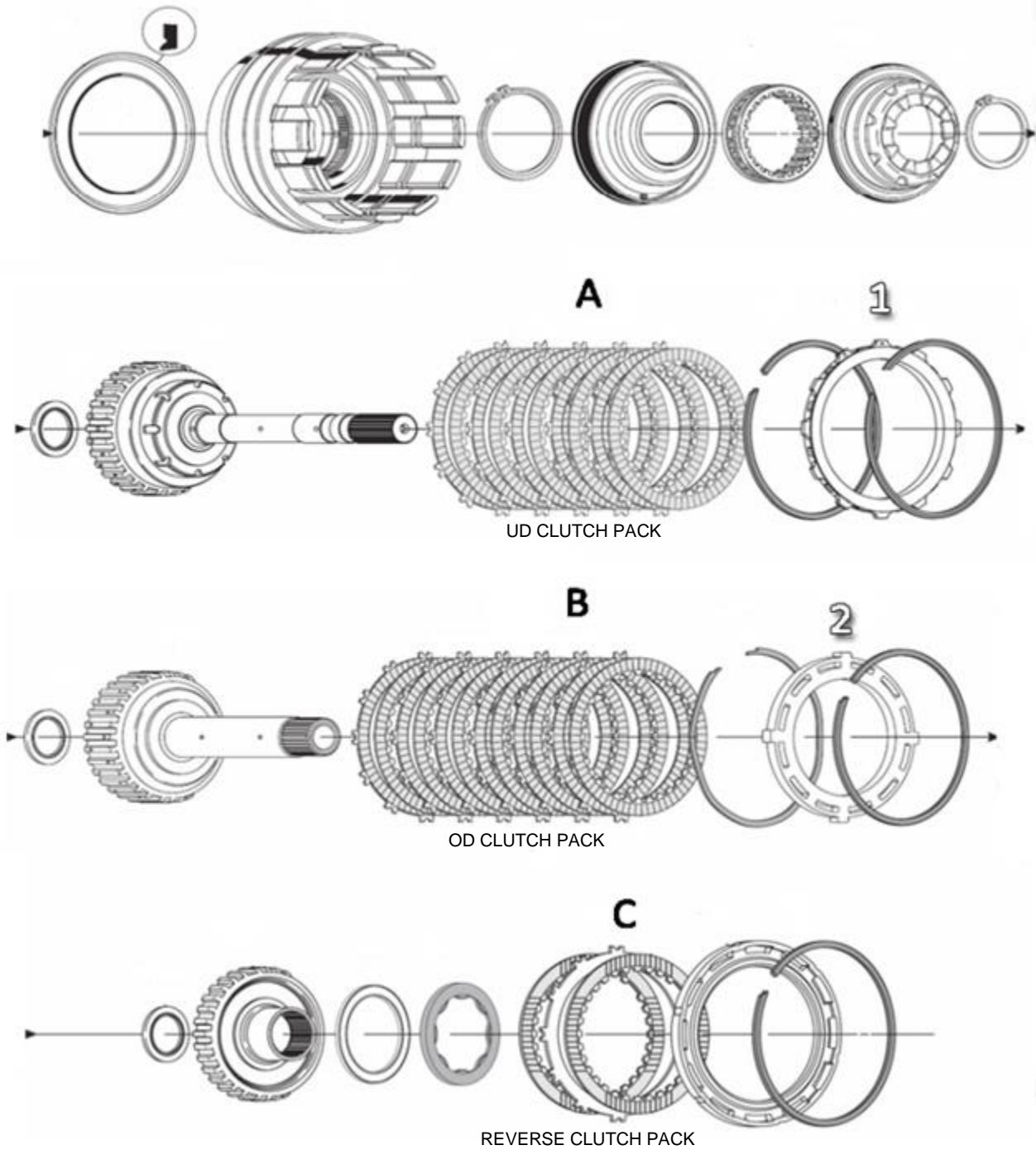
**(A)**K29901L Gasket and seal kit:

- Gasket; 68rfe Pan (1601523)
- Seal; Solenoid Pack Connector
- Seal; 4wd Output Shaft
- Seal; 2wd Output Shaft
- Seal; Input Shaft
- Gasket Kit; Oil Cooler
- Seal Kit; 2-4C
- Seal Kit; Input drum
- O-ring; Pump Cover
- Sealing Kit; Piston rings
- Seal Kit; Solenoid pack
- Seal Kit; Internal valve body and orifices
- Seal Kit; External
- Check Balls; 1/4" - Qty 7

**(B)**1030375 Protect 68 Plate Kit:

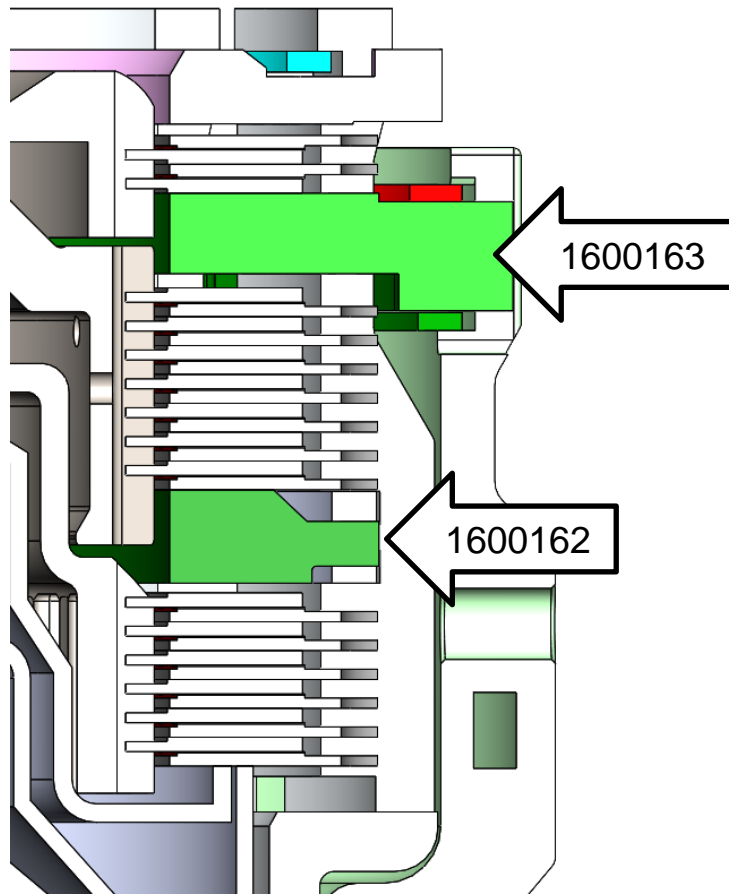
- Bonded Valvebody Gasket Plate
- Heavy Duty Accumulator Plate
- Transmission Pan Gasket
- Clutch Feed Seals

**Installation – 68RFE Rebuild Kit**



- A – Underdrive Clutch – Use 6+6 of B29308L & B29309L (OEM uses 5+5)
- B – Overdrive Clutch – Use 7+7 B29308L & B29309L (OEM uses 6+6)
- C – Reverse – Use 2+2 of B29308L & B29309L (OEM uses 2+1)
- 1 – UD/OD Pressure Plate #1600162 (can only be installed one way)
- 2 – Rev/OD Pressure Plate #1600163 (can only be installed one way)

**68RFE Rebuild Kit – Clutch Assembly (Standard BD Build)**



Note 1: The tapered section of the UD/OD pressure plate (1600162) must be facing upward.

Note 2: OEM snap rings MUST be used

Note 3: All UD and OD clutch plates must face upwards

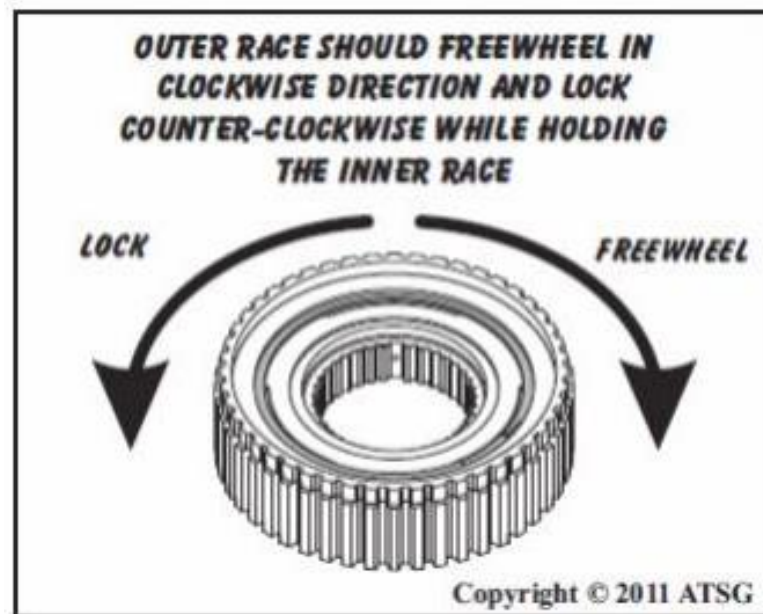
Note 4: Single sided reverse clutches may be oriented either direction

<b>68RFE Clutch Clearance</b>	
Soak all clutches in ATF for 30 minutes before installing and measuring clutch pack clearance	
Underdrive	.040 - .068"
Overdrive*	.030 - .063" *
Reverse	.023 - .058"
L/R	.046 - .082"
4C	.030 - .055"
2C	.038 - .066"

**\* 16 friction Big Stack Overdrive kits require different clutch clearances  
See Page 9\***

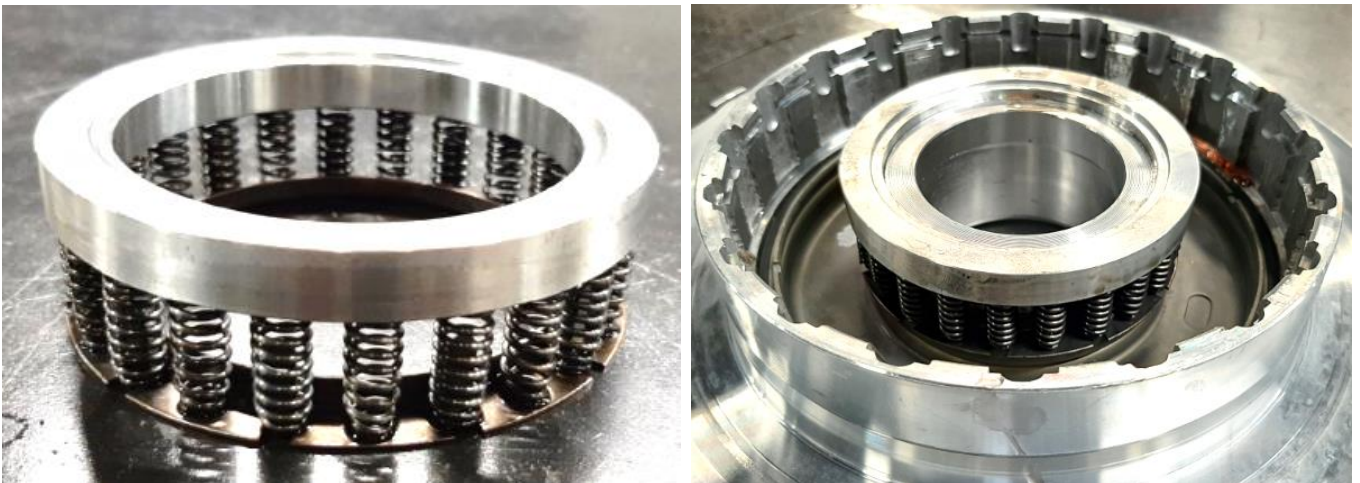
## **1st Gear Sprag**

Please be sure to follow the instructions provided with the sprag to ensure correct functionality.



## **Billet 4C spring retainer**

The billet 4C spring retainer (1600180) must be oriented as shown below.








## Optional 68RFE Overdrive "Big Stack" Kit

The BD Big Stack uses a different Overdrive shaft and selector plates allowing you to fit 16 overdrive clutches. This made possible with an improved OD shaft with increased spline depth, and two billet QT100 reaction plates. This allows for a 33% increase in mechanical torque holding capacity and a 33% increase in steel thermal mass. The billet QT100 plates reduce clutch coning due to the stiffer material and geometry.





The BD Big Stack can be used in conjunction with a Sonnax input drum to allow a 16% increase in apply area. This setup will allow for a 54% increase in mechanical torque holding capacity. An electronic pressure enhancer (1030369) will further increase OD torque holding capacity.

### Kit Components – Big Stack Kits

#### 1062035

1600159	1600178	1600179
		
BD Overdrive Shaft <b>Qty: 1</b>	Reaction Plate; OD/UD <b>Qty: 1</b>	Reaction Plate: OD/Rev <b>Qty: 1</b>

#### 1062036

1600159	1600178
	
BD Overdrive Shaft <b>Qty: 1</b>	Reaction Plate; OD/UD <b>Qty: 1</b>
1600232	M1600233
	
Drum Kit; Sonnax Machined <b>Qty: 1</b>	Machined Bolt-On Plate <b>Qty: 1</b>

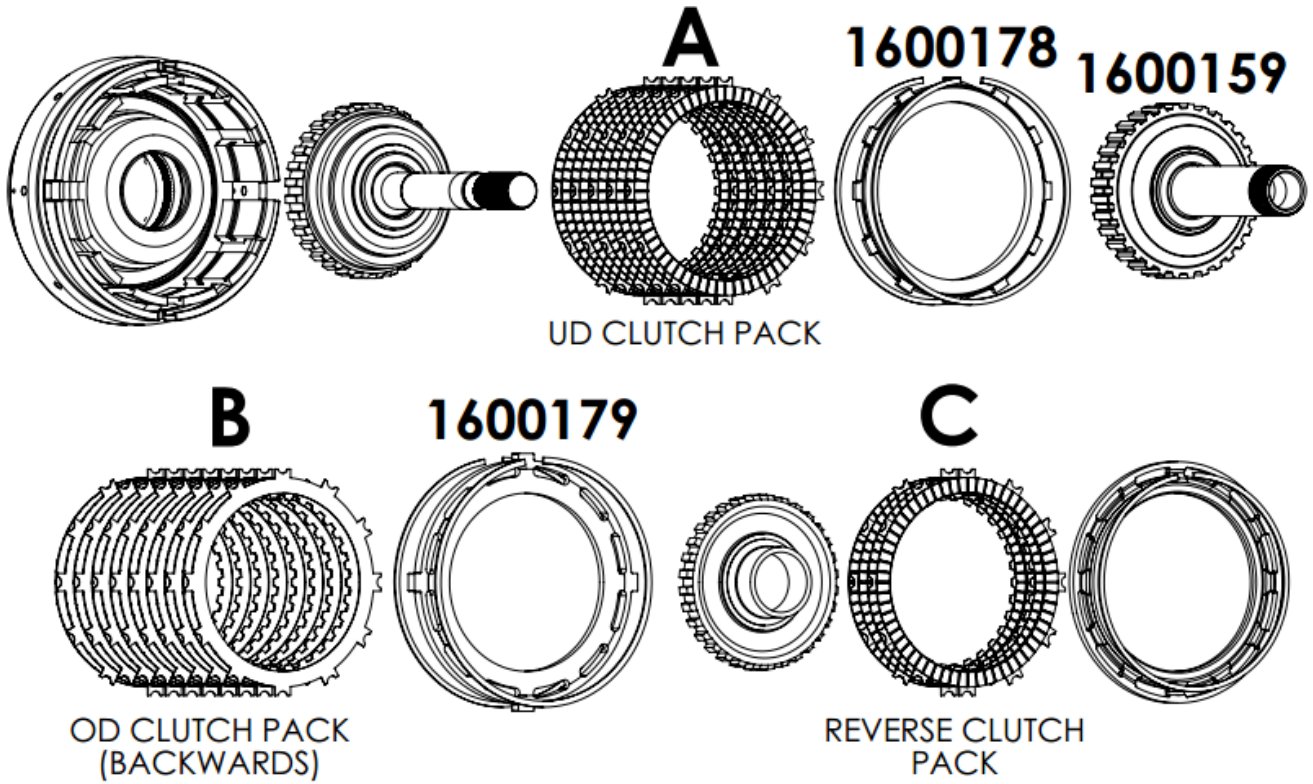
\*Sonnax Chisel (#1003-80) not included. Use any equivalent 1/8" Chisel.

McMaster Part # 3570A8\*

\*Clutches not included. To be used with a BD Build-it Transmission Kit

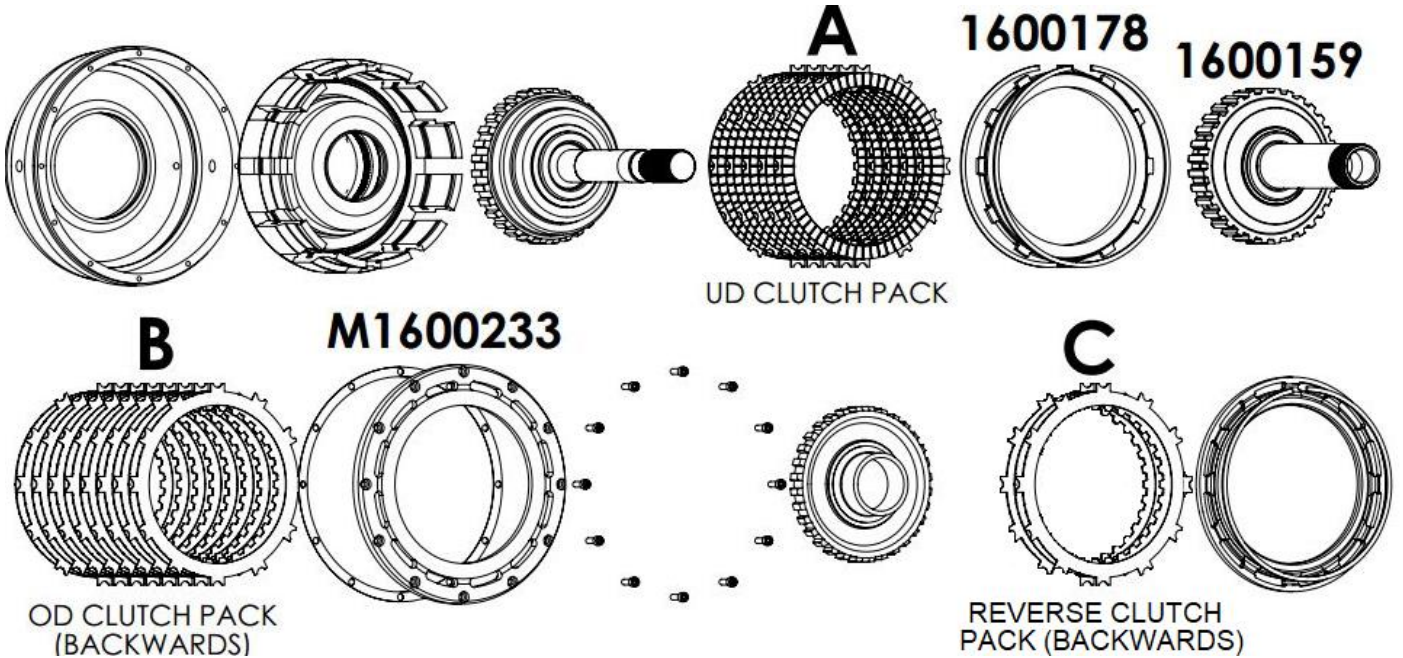
1062023 OR 1062025\*

**BD Big Stack + OEM Drum Assembly (1032035)**

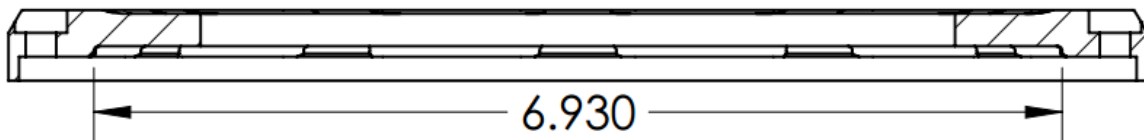


**BD Big Stack + Sonnax Drum Assembly (1062036)**

See Sonnax PN 72960-06K instructions to assemble the Sonnax drum.



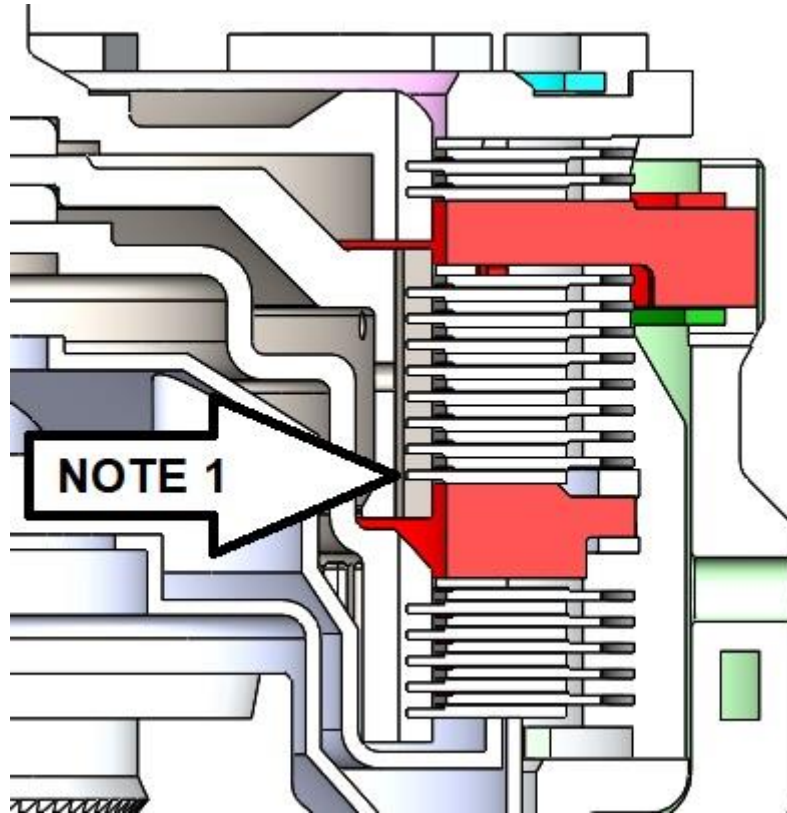
Any purchased kit from BD will have all necessary machining complete. If purchased from a separate vendor, the Sonnax bolt-on plate must be machined to fit the upside-down OD clutch plates. The bolt-on plate does not need to be resurfaced, but the face width must be increased to 6.93" (max tool radius .032").



## Big Stack Clutch Clearances

Item No.	Description	Clutch Part Number	Clutch Pack Clearance	Quantity
A	Underdrive Clutch Pack	B29308L & B29309L	.040-.068"	5+5
B	Overdrive Clutch Pack	B29308L & B29309L	.040-.055"	8+8
C	Reverse Clutch Pack	B29308L & B29309L	.023-.058"	2+2*

\*Replace the OEM 2+1 double sided clutches with single sided 2+2



**NOTE 1: The OD clutch pack is different than a standard build. The internally splined OD clutch must be installed first with the friction surface facing downward.**

Note 2: The tapered section of the OD/UD reaction plate (1600178) must be facing upward.

Note 3: Designed to fit with Borg Warner single sided clutches. Alternate clutches may cause reduced clutch pack clearances which can cause premature failure.

Note 4: OEM snap rings MUST be used

Note 5: The standard Sonnax build will require one Anchor Shim Plate to meet the OD clutch pack clearance requirements.