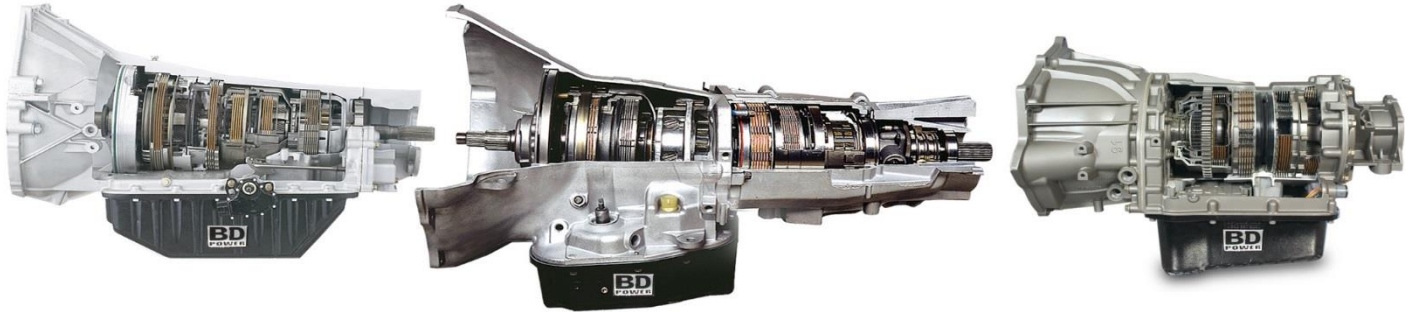




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## **Transmission Build-it Kits**

***Build up your transmission with BD specialty parts***

Are you looking to rebuild your own transmission, and need some upgrades to match your application? For the seasoned rebuilder, BD Diesel offers a range of rebuild kits featuring the same parts we use in our performance transmissions. All kits include the basic rebuild parts and gaskets, and have numerous upgrades that range from stock, up to our stage 4 Master Kit.

<b>DODGE 1994-2002 47RH-47RE</b>	<b>1062001</b>	<b>1062002</b>	<b>1062003</b>	<b>1062004</b>
	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>Stage 4</b>
Band – High Temp/Energy – Raybestos	1	1	1	1
Band Anchor – Billet	-	1	1	1
Accumulator Piston – Billet Dual Ring	-	-	1	1
Bushing – Front Clutch Drum 0.85	1	1	1	1
Bushing – Pump – Bronze w/Dimples	1	1	1	1
Friction – Front (Dir/Hi/Rev) Allomatic	4	5	5	5
Friction – O/D Allomatic	5	5	6	6
Friction – O/D Direct Borg Warner	10	10	10	10
Friction – Rear (FWD) Borg Warner	4	5	5	5
Shifter Bracket & Lever Kit – 4.2 Ratio	-	-	-	1
Gasket Kit – Overhaul	1	1	1	1
Pressure Plate – Dir/FWD (Frt) .145”	-	1	1	1
Pressure Plate – Dir/FWD (Frt) .185”	-	1	1	1
<b>Pressure Plate Forward (Rr) Beveled Machined</b>	-	1	1	1
<b>Pressure Plate O/D Brake F&amp;R Machined</b>	-	-	1	1
<b>Piston – Dir. Clutch (Frt) Machined</b>	-	1	1	1
Piston Retainer Kit	-	-	-	1
Servo Cover Ring	-	-	-	1
Servo Piston Cover	-	-	-	1
Snap Ring – Direct Clutch .062	-	-	-	1
Snap Ring – Direct Clutch .074	-	1	1	1
Snap Ring – Direct Clutch .088	-	-	-	1
Rear Clutch Piston Spring	-	-	-	1
Steel – FWD (Dir/Hi/Rev)	3	4	4	4
Steel – O/D Brake	5	5	6	6
Steel – O/D Dir .525”	9	9	9	9
Steel – Frt (Dir/Hi/Rev) Oversize	5	5	5	5
Strut – Front Band	1	1	1	1
Washer – Int. Shaft Thrust .052	-	1	1	1

<b>OPTIONS</b>	<b>Gear-train Exchange*</b>	<b>1030341</b>
	<b>Valve Body Exchange*</b>	<b>1030415</b> 1994-1995
		<b>1030417</b> 1998.5-1999
	<b>BD Heavy Duty Trans Pan</b>	<b>1061501</b> 1989-2007
	<b>BD Flex Plate</b>	<b>1041210</b> 1994-2007
	<b>BD Trans Oil Filter Kit</b>	<b>1064017</b> 1994-2007
<b>Press Transducer Upgrade</b>	<b>1060602</b> 2000-2007	

<b>DODGE 2003-2007 48RE</b>	<b>1062011</b>	<b>1062012</b>	<b>1062013</b>	<b>1062014</b>
	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>Stage 4</b>
Band – High Temp/Energy – Raybestos	1	1	1	1
Band Anchor – Billet	-	1	1	1
Accumulator Piston – Billet Dual Ring	-	-	1	1
Bushing – Front Clutch Drum 0.85	1	1	1	1
Bushing – Pump – Bronze w/Dimples	1	1	1	1
Clutch Disc	1	1	1	1
Friction – Front (Dir/Hi/Rev) Allomatic	4	5	5	5
Friction – O/D Allomatic	5	5	6	6
Friction – O/D Direct Borg Warner	10	10	10	10
Friction – Rear (FWD) Borg Warner	4	5	5	5
Shifter Bracket & Lever Kit – 4.2 Ratio	-	-	-	1
Gasket Kit – Overhaul	1	1	1	1
Pressure Plate – Dir/FWD (Frt) .145”	-	1	1	1
Pressure Plate – Dir/FWD (Frt) .185”	-	1	1	1
<b>Pressure Plate Forward (Rr) Beveled Machined</b>	-	1	1	1
<b>Pressure Plate O/D Brake F&amp;R Machined</b>	-	-	1	1
<b>Piston – Dir. Clutch (Frt) Machined</b>	-	1	1	1
Piston Retainer Kit	-	-	-	1
Servo Cover Ring	-	-	-	1
Servo Piston Cover	-	-	-	1
Snap Ring – Direct Clutch .062	-	-	-	1
Snap Ring – Direct Clutch .074	-	1	1	1
Snap Ring – Direct Clutch .088	-	-	-	1
Rear Clutch Piston Spring	-	-	-	1
Steel – FWD (Dir/Hi/Rev)	3	4	4	4
Steel – O/D Brake	5	6	6	6
Steel – O/D Dir .525”	9	9	9	9
Steel – Frt (Dir/Hi/Rev) Oversize	5	6	6	6
Strut – Front Band	1	1	1	1
Washer – Int. Shaft Thrust .052	-	1	1	1

<b>OPTIONS</b>	<b>Gear-train Exchange*</b>	<b>1030342</b> 2003-2007
	<b>Valve Body Exchange*</b>	<b>1030419</b> 2003-2004
		<b>1030423</b> 2005-2007
	<b>BD Heavy Duty Trans Pan</b>	<b>1061501</b> 1989-2007
	<b>BD Flex Plate</b>	<b>1041210</b> 1994-2007
	<b>BD Trans Oil Filter Kit</b>	<b>1064017</b> 1994-2007
	<b>Press Transducer Upgrade</b>	<b>1060602</b> 2000-2007

<b>DODGE 2007.5-2017 68RFE</b>		<b>1062023 Stage 3</b>
29302	2 <sup>nd</sup> Clutch Friction Raybestos	3
29303	2 <sup>nd</sup> Clutch Steel	3
29310	4 <sup>th</sup> Clutch Friction Raybestos	3
29311	4 <sup>th</sup> Clutch Steel	3
29601	Filter	1
29609	Filter – Spin On	1
B29308L	O/D 3 <sup>rd</sup> Gear Friction Raybestos	15
B29309L	O/D 3 <sup>rd</sup> Gear Steel	15
K29900L	Overhaul Kit	1
<b>1600186</b>	<b>Plate VB 68RFE</b>	<b>1</b>
52119645AA	Pump Cover	1
1600205	Valve Body Accumulator Plate	1
29321L	Reverse Friction	7
29322L	Reverse Steel	7
<b>1600163</b>	<b>OD/Rev Plate</b>	<b>1</b>
<b>1600162</b>	<b>Intr Plate</b>	<b>1</b>
<b>1060603</b>	<b>One-way clutch – HD Upgrade</b>	<b>1</b>
<b>1600186-1</b>	<b>Gasket; Valve Body solenoid side</b>	<b>1</b>
<b>1600186-2</b>	<b>Gasket; Valve Body</b>	<b>1</b>
<b>52118261</b>	<b>Check Ball; 0.25" Diameter</b>	<b>1</b>

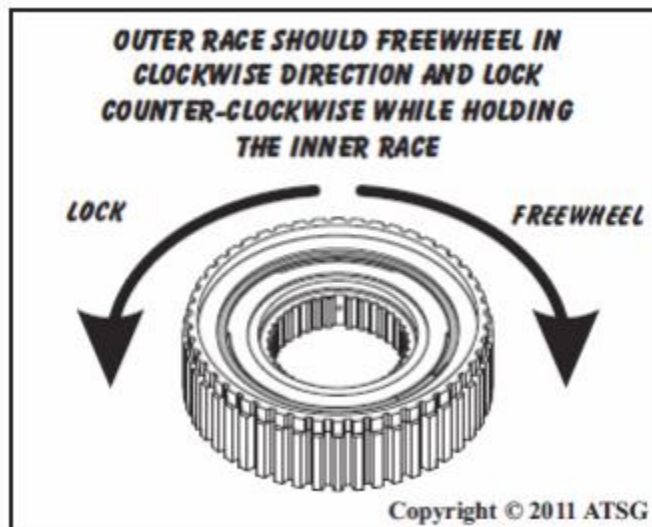
<b>OPTIONS</b>	<b>BD Heavy Duty Trans Pan</b>	<b>1061525</b> 2007.5-2012
	<b>BD Flex Plate</b>	<b>1041220</b> 2007.5-2012

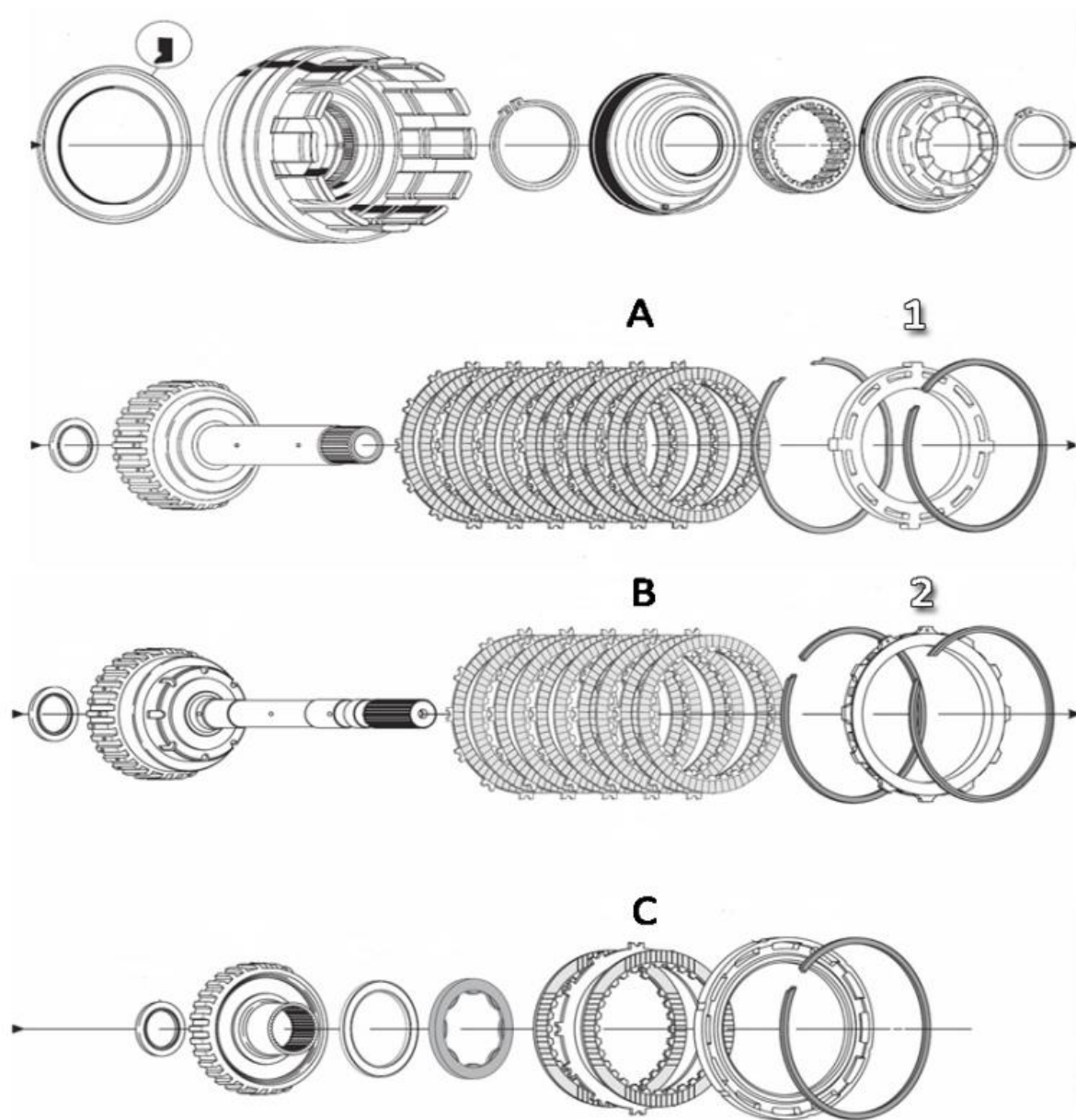


<b>DODGE 2007.5-2017 68RFE</b>		<b>1062025 Stage 4</b>
29302	2 <sup>nd</sup> Clutch Friction Raybestos	3
29303	2 <sup>nd</sup> Clutch Steel	3
29310	4 <sup>th</sup> Clutch Friction Raybestos	3
29311	4 <sup>th</sup> Clutch Steel	3
29601	Filter	1
29609	Filter – Spin On	1
B29308L	O/D 3 <sup>rd</sup> Gear Friction Raybestos	15
B29309L	O/D 3 <sup>rd</sup> Gear Steel	15
K29900L	Overhaul Kit	1
52119645AA	Pump Cover	1
29321L	Reverse Friction	7
29322L	Reverse Steel	7
<b>1600205</b>	<b>Valve Body Accumulator Plate</b>	<b>1</b>
<b>1060603</b>	<b>One-Way Clutch – HD Upgrade</b>	<b>1</b>
<b>1600163</b>	<b>Custom HD Lower Pressure Plate</b>	<b>1</b>
<b>1600162</b>	<b>Custom HD Rev/OD Plate</b>	<b>1</b>
<b>1030362</b>	<b>Protect68 Kit 2007.5-2017</b>	<b>1</b>

<b>OPTIONS</b>	<i>BD Heavy Duty Trans Pan</i>	<b>1061525</b> 2007.5-2012
	<i>BD Flex Plate</i>	<b>1041220</b> 2007.5-2012

When assembling 1<sup>st</sup> gear sprag,  
 please be sure to follow the instructions  
 provided with the sprag to ensure correct functionality.





**A – Overdrive Clutch – Use 7+7 B29308L & B29309L (OEM uses 6+6)**

**B – Direct Clutch – Use 6+6 of B29308L & B29309L (OEM uses 5+5)**

**C – Reverse – Use 2+2 of B29308L & B29309L (OEM uses 2+1)**

**1 – Rev/OD Pressure Plate #1600162 (can only be installed one way)**

**2 – Direct/OD Pressure Plate #1600163 (can be installed one way)**

<b>FORD 1990-1997 E4OD</b>	<b>1990-1994 Stage 4</b>		<b>1995-1997 Stage 4</b>	
	<b>1062104-2</b>	<b>1062104-4</b>	<b>1062114-2</b>	<b>1062114-4</b>
Bearing	2	2	2	2
Bearing – Bronze	1	1	1	1
Boost Valve	1	1	1	1
Boost Valve & Sleeve Kit	1	1	1	1
Bushing 1-Pc Case	1	1	1	1
Clutch – O/D Roller (Cast)	1	1	-	-
Clutch – O/D Roller (Steel)	-	-	1	1
Clutch – Overrun Roller	1	1	1	1
Coast Clutch Piston	1	1	-	-
Coast Clutch Frictions/Steels	2	2	2	2
Direct Frictions/Steels	5	5	5	5
Filter	1	1	1	1
Forward Frictions/Steels	5/4	5/4	5/4	5/4
Gear Pump	1	1	1	1
Inner Race	1	1	1	1
Intermediate Band	1	1	1	1
Intermediate Band Servo Piston	1	1	1	1
Intermediate Piston	-	-	1	1
Intermediate Frictions/Steels	4	4	4	4
Intermediate Sprag	1	1	1	1
Low Reverse Frictions/Steels	4	4	4	4
Output Shaft	1	1	1	1
Overdrive Friction/Steels	4	4	4	4
Overhaul Kit	1	1	1	1
<b>Pressure Plate – Low/Rev Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Race – Inner Machined</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>
Rear Planet	-	-	1	1
<b>Rear Ring Gear Hub – Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Reprogramming Kit	1	1	1	1
<b>Steel – Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Steel Planet – 6 Pin	1	1	-	-

<b>OPTIONS</b>	<b>Solenoid Packs</b>	<b>1030431</b> 1990-1994 <b>1030432</b> 1995-1997
	<b>Accumulator Body Exchange*</b>	<b>1060442</b> 1995-2003 2wd <b>1060444</b> 1995-2003 4wd
	<b>BD Heavy Duty Trans Pan</b>	<b>1061716</b> 1989-2010
	<b>BD Trans Oil Filter Kit</b>	<b>1064012</b> 1994-1997

<b>FORD 1999-2003 4R100</b>	1999-2003 Stage 1	1999-2003 Stage 4	
	1062121	1062124-2	1062124-4
Bearing	-	2	2
Bearing Bronze	1	1	1
Boost Valve	-	1	1
Boost Valve and Sleeve Kit	-	1	1
Bushing – 1-Pc Case	1	1	1
Bypass Tube Eliminator – Front	-	1	1
Bypass Tube Eliminator – Rear	-	1	1
Center Support – Machined	-	1	1
Clutch – O/D Roller (Steel)	-	1	1
Clutch – Overrun Roller	-	1	1
Coast Clutch Piston	-	1	1
Coast Clutch Piston	2	2	2
Direct Frictions Borg Warner/Steels	5	5	5
Filter	1	1	1
Forward Frictions/Steels Raybestos	5/4	5/4	5/4
Friction – Rev/Low – 24 Teeth	-	7	7
Gear Pump	-	1	1
Inner Race	-	1	1
Intermediate Band	-	1	1
Intermediate Band Servo Piston	-	1	1
Intermediate Frictions/Steels Exedy	4	4	4
<b>Intermediate Piston – Machined</b>	-	1	1
Intermediate Sprag	-	1	1
Lockup Kit – On/Off	-	1	1
Low Reverse Frictions/Steels BorgWarner	2	2	2
Output Shaft	-	1	1
Overdrive Frictions/Steels BorgWarner	4	4	4
Overhaul Kit	1	1	1
<b>Pressure Plate – Low/Rev Machined</b>	-	1	1
Rear Planet	-	1	1
<b>Rear Ring Gear Hub</b>	-	1	1
Shift Kit – Tugger	-	1	1
Snap Ring – Sure Lock	-	1	1
<b>Steel Machined</b>	-	1	1
Washer – 1.0x0.530x0.063 5052 Alum	-	2	2
Washer – 1.0x0.665x0.063 5052 Alum	-	2	2

<b>OPTIONS</b>	Solenoid Packs	1030434
	<b>Accumulator Body Exchange*</b>	1060442 1995-2003 2wd 1060444 1995-2003 4wd
	<b>BD Heavy Duty Trans Pan</b>	1061716 1989-2010
	<b>BD Trans Oil Filter Kit</b>	1064013 1999-2003

<b>FORD 2003-2010 5R110</b>	<b>1062131 2003-2004 Stage 1</b>	<b>1062134 2003-2004 Stage 4</b>	<b>1062141 2005-2010 Stage 1</b>	<b>1062144 2005-2010 Stage 4</b>
Bearing Bronze	1	-	1	1
Coast Clutch Friction Raybestos	3	3	3	3
Direction Friction Allomatic	4	6	4	6
Direct Steel	4	6	4	6
<b>Direct Piston – Machined</b>	-	1	-	1
<b>Direct Pressure Plate – Machined</b>	-	1	-	1
Filter	1	1	1	1
Forward Clutch Friction Raybestos	4	4	4	4
Forward Clutch Steel	4	4	4	4
Intermediate Friction Allomatic	3	5	4	5
Intermediate Steel	3	5	4	5
<b>Intermediate Pressure Plate – Machined</b>	-	1	-	1
Low Reverse Friction Raybestos	6	6	6	6
Low Reverse Steel	6	6	6	6
Overdrive Friction Raybestos	3	5	3	5
Overdrive Steel	3	5	3	5
<b>Overdrive Piston – Machined</b>	-	1	-	1
<b>Overdrive Pressure Plate – Machined</b>	-	1	-	1
Overhaul Kit	1	1	1	1
Piston – Aluminum	-	1	-	1
Piston Kit	-	-	-	1
Plug Kit	-	1	-	-
Shift Kit	-	1	-	1
Steel Kit	1	1	1	1

<b>OPTIONS</b>	<b>BD Heavy Duty Trans Pan</b>	<b>1061716 1989-2010</b>
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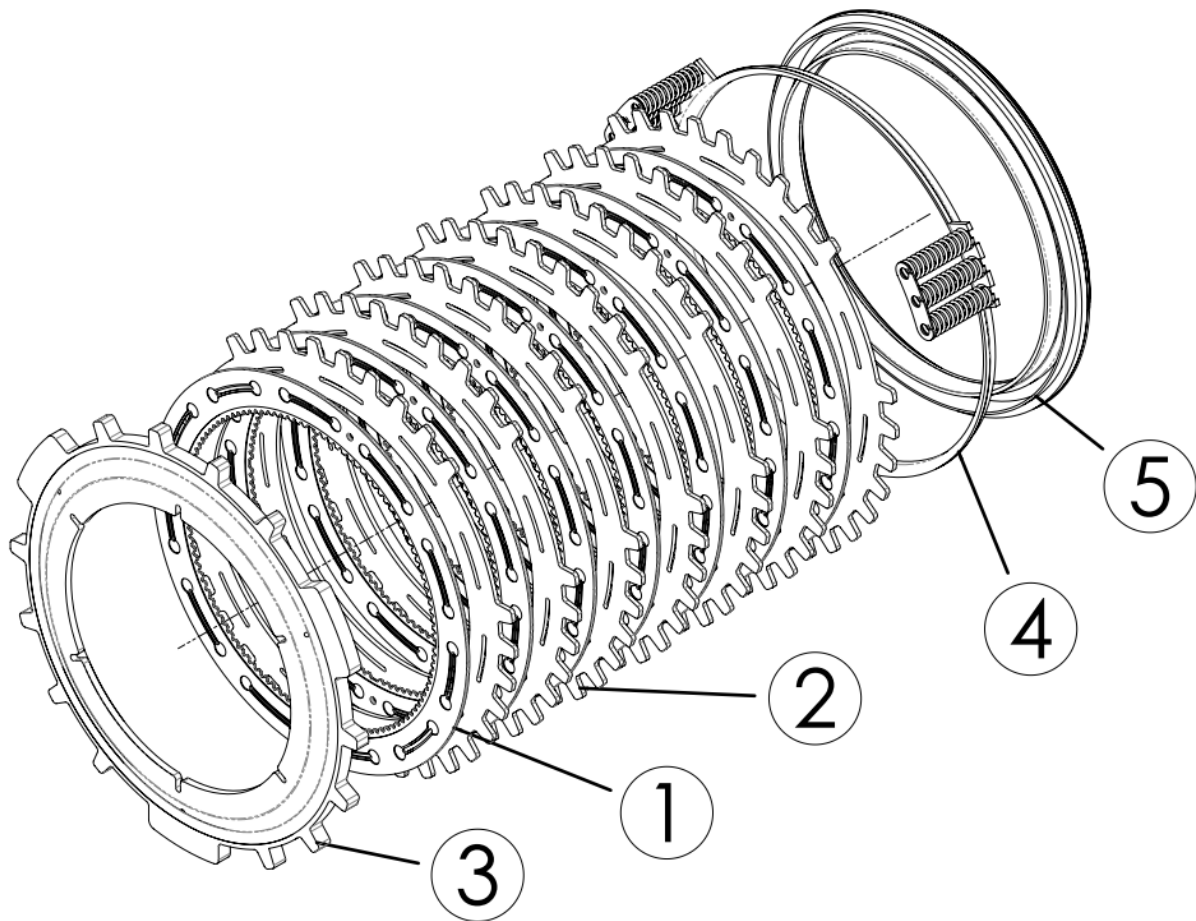
<b>GM 2000-2010 Allison 1000</b>	<b>1062204 2004-2004 Stage 4</b>	<b>1062214 2004-2006 Stage 4</b>	<b>1062224 2006-2010 Stage 4</b>
C1 Clutch Pack Raybestos Z-Pack	1	1	1
C2 Clutch Pack Raybestos Z-Pack	1	1	1
<b>C3 Plate Assembly – Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>
C3/C4 Friction Plate GPZ – Raybestos	14	14	14
<b>C3/C4 Piston Machined</b>	<b>2</b>	<b>2</b>	<b>2</b>
C3/C4 Reaction Plate	12	12	12
C3/C4 Spring Plate	2	2	2
<b>C4 Plate Assembly – Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>
C5 Friction Plate Raybestos	7	7	7
<b>C5 Plate Assembly – Machined</b>	<b>1</b>	<b>1</b>	<b>1</b>
C5 Reaction Plate .097”	7	7	7
<b>Crazy Washer</b>	<b>1</b>	<b>1</b>	<b>1</b>
E Shift Valve Spring	1	1	-
Filter Main	1	1	1
Filter Suction – Deep	1	1	1
F-Trim Valve End Sleeve	1	1	1
G Solenoid Plate	1	1	-
Lock Up Boost Kit	1	-	-
Overhaul Kit	1	1	1
Pressure Switch Assembly	1	1	1
Shift Kit	1	1	1

<b>OPTIONS</b>	<i>Valve Body Exchange*</i>	<b>1030470</b> 2001-2004 LB7 <b>1030472</b> 2006-2007 LBZ	<b>1030471</b> 2004-2006 LLY <b>1030473</b> 2007-2008 LMM
	<i>BD Heavy Duty Trans Pan</i>	<b>1061650</b> 2001-2018	
	<i>BD Flex Plate</i>	<b>1041260</b> 2001-2011	



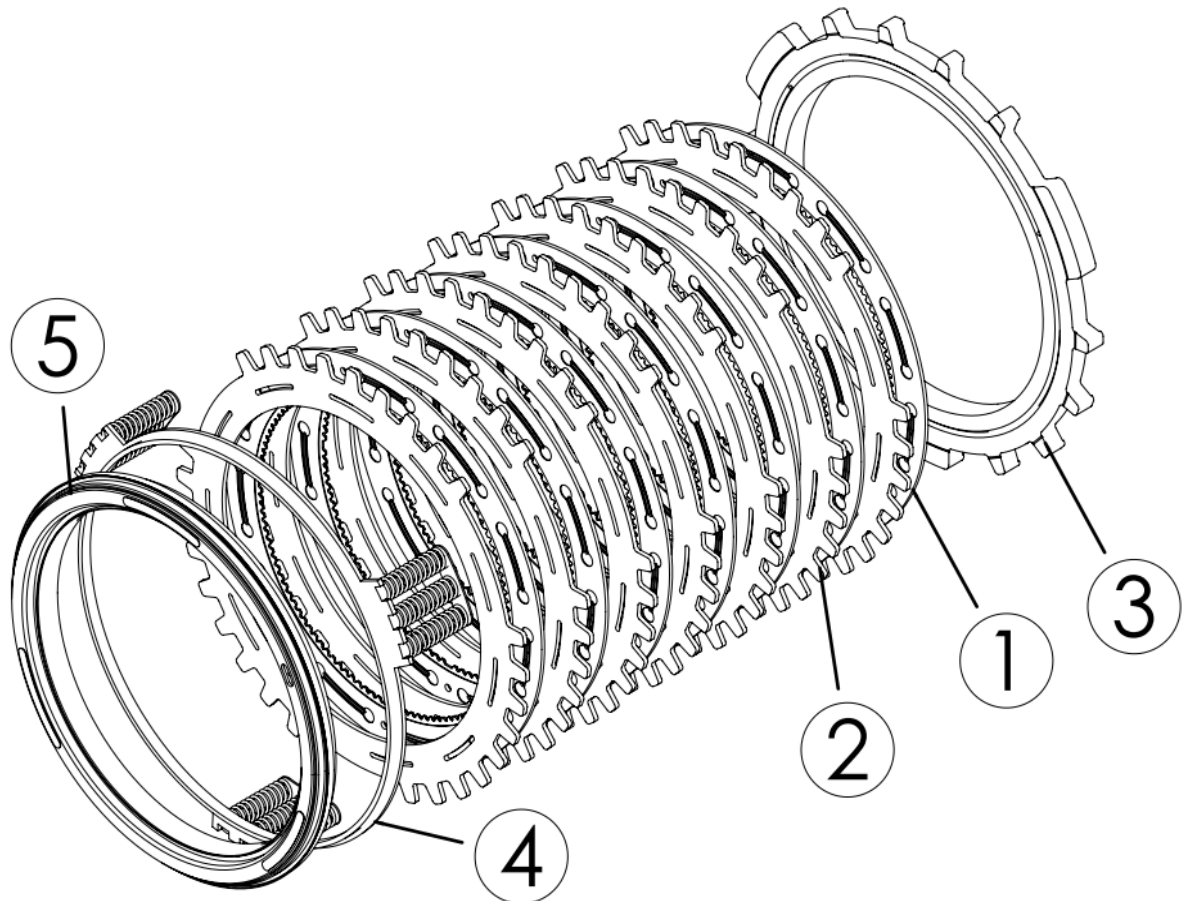
<b>GM 2011-2016 Allison 1000</b>		<b>1062226</b>	<b>1062227</b>
		<b>Stage 3</b>	<b>Stage 4</b>
RGPZ-1001	C1 Clutch Pack GPZ – Raybestos	1	1
RGPZ-1002	C2 Clutch Pack GPZ – Raybestos	1	1
<b>29546702-M</b>	<b>C3 Pressure Plate – Machined</b>	1	1
GPZ-195	C3/C4 Frictions GPZ – Raybestos	14	14
29531048	C3/C4 Steels	14	14
<b>29546697-1-M</b>	<b>C3/C4 Piston – Machined</b>	2	2
<b>29546697-2-M</b>	<b>C3/C4 Spring Retainer – Machined</b>	2	2
<b>29546271-M</b>	<b>C4 Pressure Plate – Machined</b>	1	1
<b>29531058-M</b>	<b>C5 Pressure Plate – Machined</b>	1	1
29537393	C5 Frictions – Raybestos	7	7
29536482	C5 Steels	7	7
29536859	C5 Piston Inner Lip Seal	1	1
<b>1604730</b>	<b>Crazy Washer</b>	1	1
29539579	Filter Main	1	1
29537966	Filter Suction – Deep	1	1
29545312	Overhaul Kit	1	1
29546972	Pressure Switch Assembly	1	1
<b>Coming Soon</b>	<b>Pressure Enhancer Kit</b>	-	1
29536703	Pump Bushing	1	1

**OPTIONS****BD Heavy Duty Trans Pan****1061650 2001-2018**



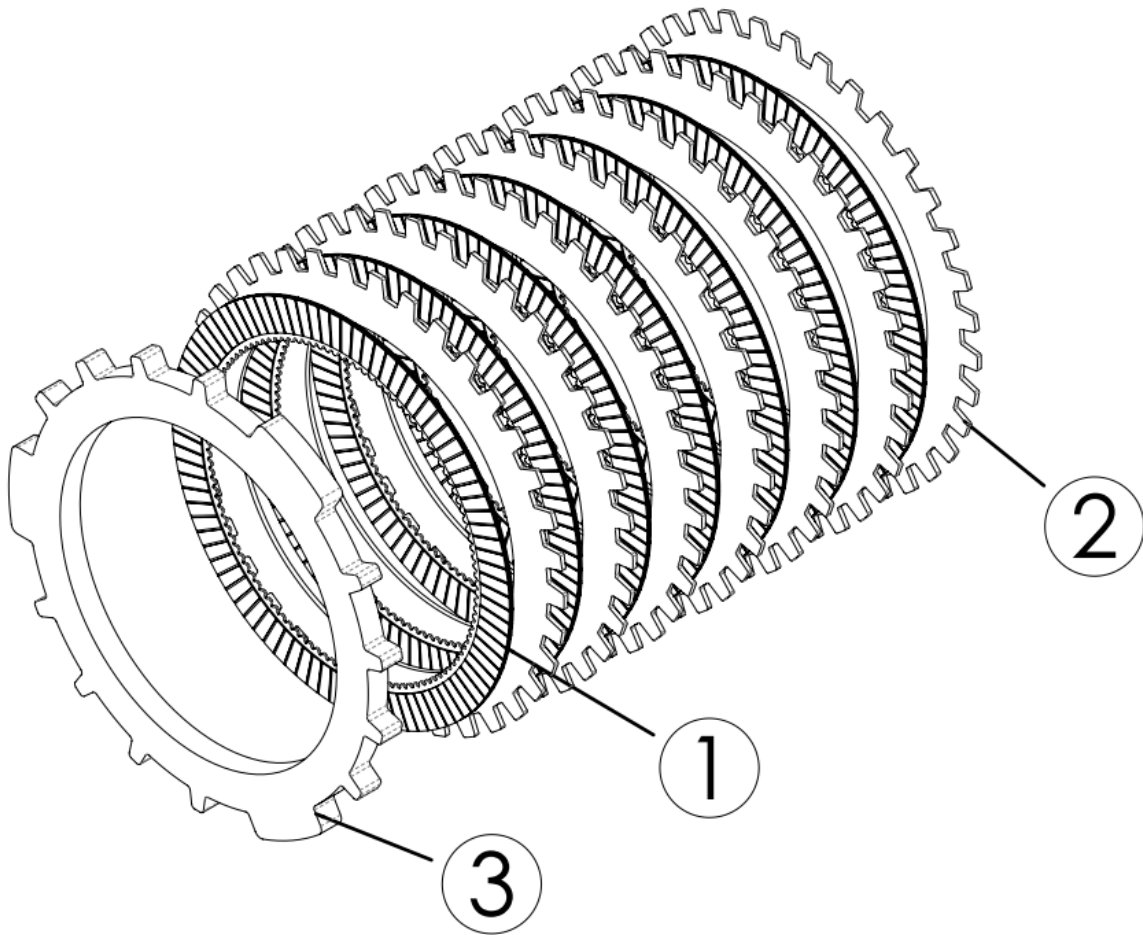
C3 Clutch Pack Configuration: Use 7+7 (OEM uses 4+4)

- Item 1: Frictions GPZ-195
- Item 2: Steels 29531048
- Item 3: Pressure Plate 29546702-M
- Item 4: Spring Retainer 29546697-2-M
- Item 5: Piston 29546697-1-M



C4 Clutch Pack Configuration: Use 7+7 (OEM uses 6+6)

- Item 1: Frictions GPZ-195
- Item 2: Steels 29531048
- Item 3: Pressure Plate 29546271-M
- Item 4: Spring Retainer 29546697-2-M
- Item 5: Piston 29546697-1-M



C5 Clutch Pack Configuration: Use 7+7 (OEM uses 6+6)

- Item 1: Frictions 29537393
- Item 2: Steels 29536482
- Item 3: Pressure Plate 29531058-M



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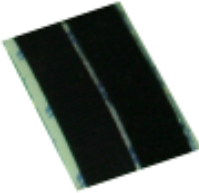

# **Allison Pressure Controller**

## **Transmission Line Pressure Booster Module**

<b>1031315</b>	<b>2011-2016 Duramax 6.6 LML</b>
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This kit fits both the 2011-2015.5 and 2015.5-2016 transmission controller types.

# Kit Contents

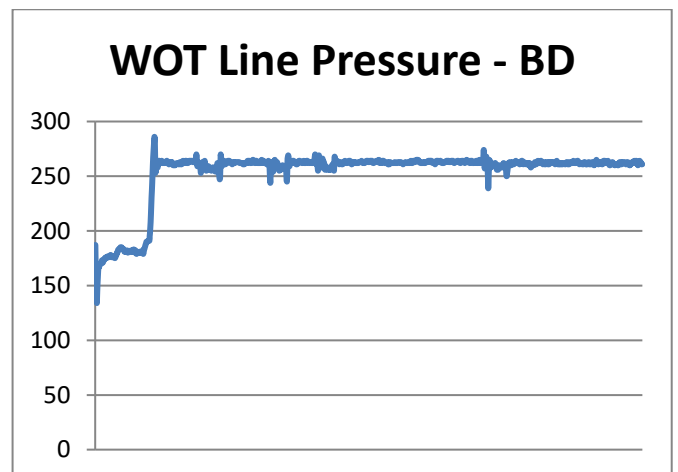
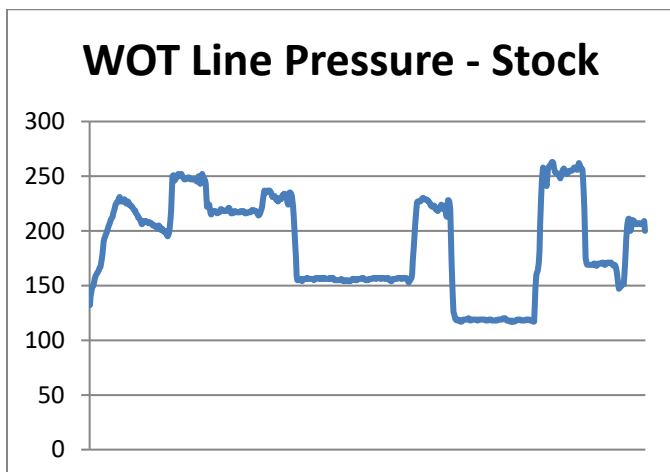
1607271	1607272	FT-10910-03116	1300131
			
Control Module Qty: 1	Wire Harness Qty: 1	Velcro Qty: 2 pcs	Tie Wrap Qty: 6

# Introduction

2011-2016 Allison transmissions utilize variable line pressure that adjusts to different engine load to improve fuel economy. The problem with this is that it drops line pressure after a shift, causing clutch slippage and failure in higher powered trucks. The BD pressure controller module boosts line pressure up to 275psi when the engine is over 15psi boost and runs stock pressure under normal conditions to prevent harsh shifting.

The kit is fully plug-and-play. It plugs into factory connectors and requires no special setup.

At wide open throttle, the stock strategy raises line pressure only for shifts, dropping line pressure to different levels for each gear. First – 200psi, Second 220psi, Third 160psi, **Fourth – 130psi**, Fifth – 175psi, Sixth – 180psi. The BD pressure box keeps line pressure at 250+psi when you are at full throttle to protect your transmission.



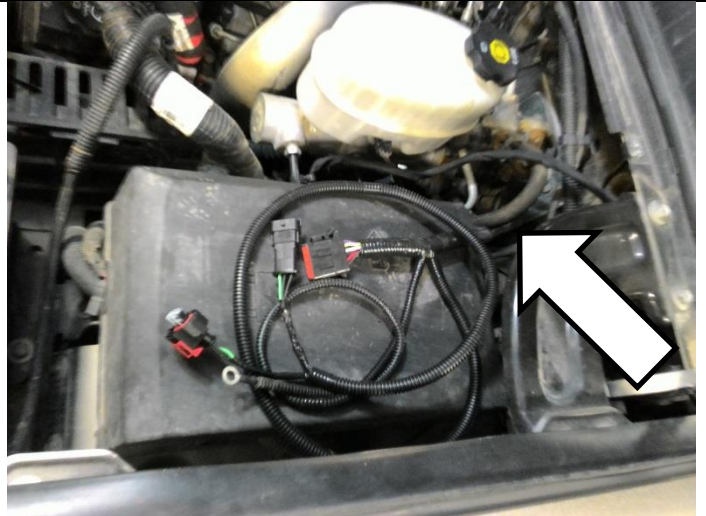
## Tools Required for Installation

- 10mm wrench or ratchet
- Side cutters
- Long needle nose or Allison transmission connector tool.

## Installation

Open the hood, fish the wire harness supplied in this kit down the firewall behind the fuse box to below the vehicle to be connected to the transmission.

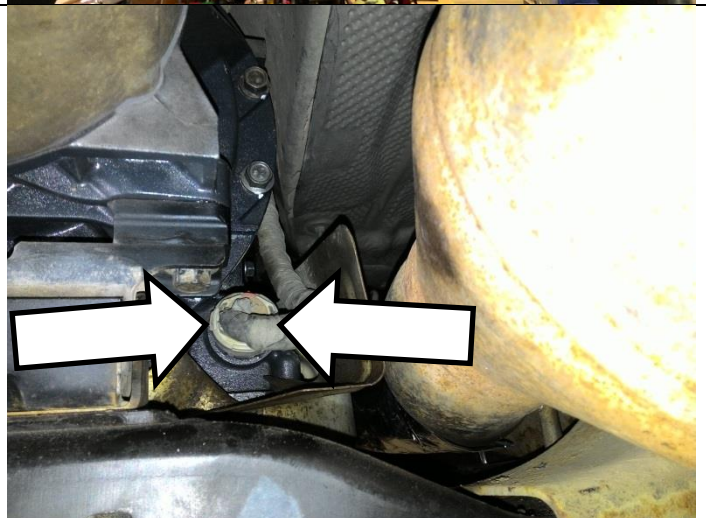
The transmission portion of the harness is the round 20 pin plugs. Leave the remainder in the engine bay as shown.



Feed the 20 pin round connector of the BD harness up over the transmission and down the back side by the main transmission connector.



Disconnect the transmission 20 way round electrical connector by squeezing on both sides and wiggling it off. You may either use the special Allison tool for this, long needlenose pliers or remove the heat shield to get your fingers on the connector.



Connect the BD harness inline and carefully zip tie the harnesses so that they stay away from the exhaust pipe.



Zip tie the new harness to the existing vehicle harnesses, out of the way of the front drive shaft and other moving parts on its route to the engine bay.



Back up in the engine bay; attach the ground terminal to the body. This is the single black wire with ring terminal. The suggested ground location is the large stud on the firewall. Use a 10mm wrench to remove and reinstall the nut over the ring terminal.

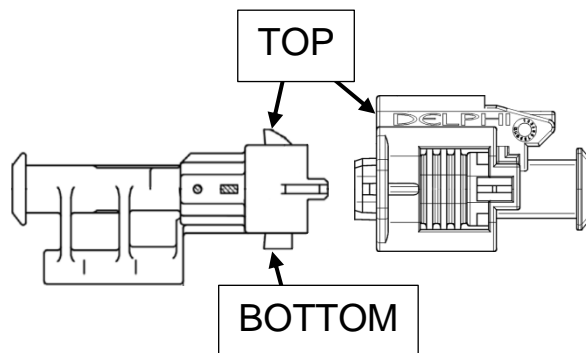


Locate the engine MAP sensor and plug the BD harness inline. Zip tie the wiring to keep it away from moving or hot parts.

**NOTE** It may be possible to connect this plug upside-down. Refer to the pictures below for correct orientation.



## LML Map Plug Orientation



Connect the module to the gray plug from the transmission/engine wiring harness.

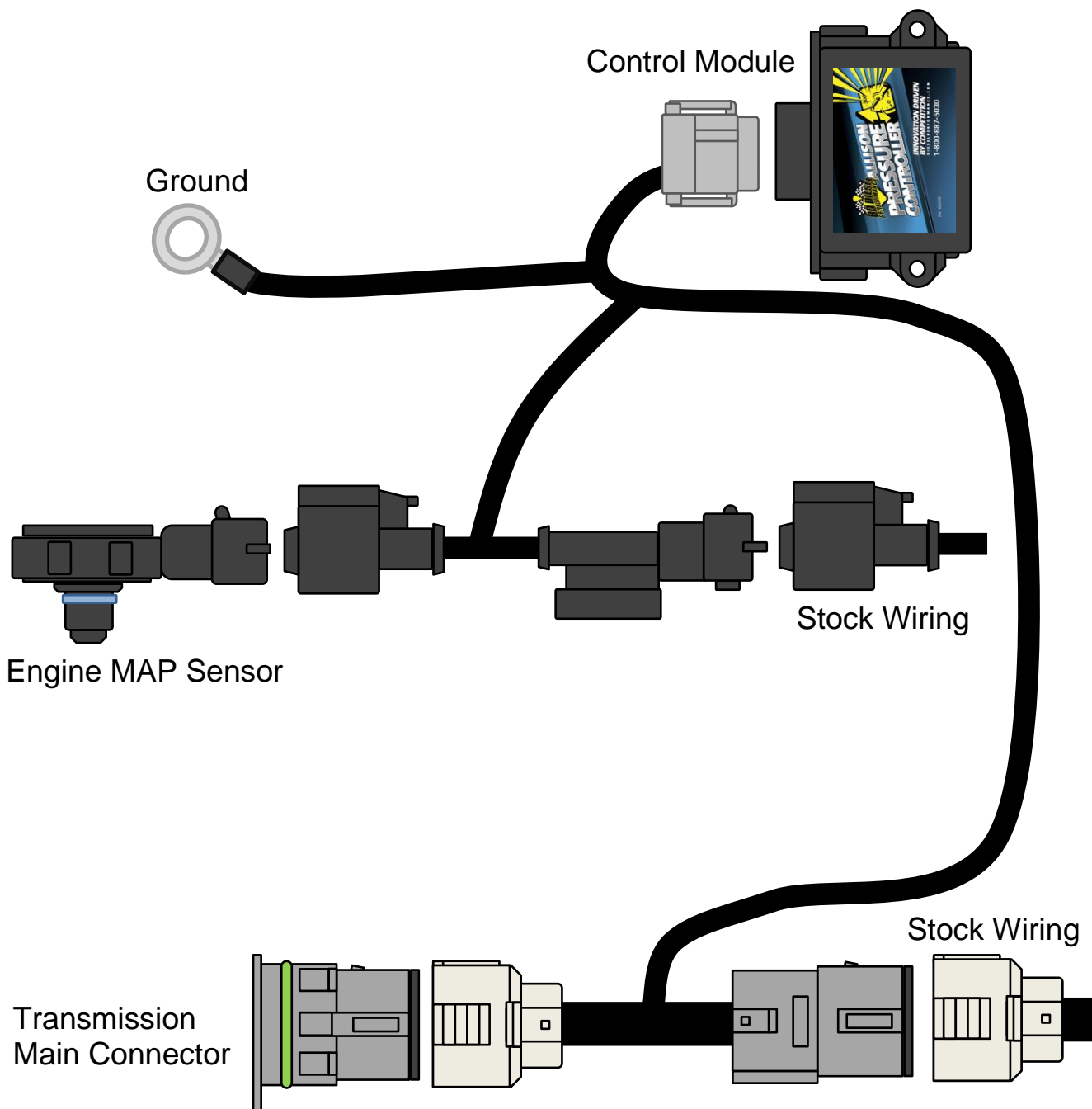
The module may now be zip tied to existing wiring at the firewall or mounted to the fuse box with Velcro.



To check operation of the pressure controller, attach a mechanical pressure gauge to the Allison transmission test port. Whenever the truck is over 15 psi of boost the line pressure should go to maximum (250-275psi).



# Wiring Diagram



## Pressure Indicator LED

An indicator LED (not supplied) can also be added to show when line pressure boosting is active. This will light up whenever the PCS solenoid is being controlled.



**Gray Plug**  
 10 – 12V for Pressure Light  
 11 – Ground for Pressure Light