REKLUSE MOTOR SPORTS

TorqDrive Manual Clutch Kit for Harley-Davidson Big Twin Motorcycles

INSTALLATION & USER'S GUIDE

Doc ID: 191-2841A
Doc Rev: 082417

OVERVIEW

- This kit is compatible ONLY with the OEM clutch components.
- This kit replaces the OEM clutch pack (friction disks and drive plates) to achieve the necessary performance.
- No modification of OEM parts is necessary.
- Replacement of the OEM primary chaincase cover gasket is recommended with this installation.
- For highly-modified engines see ***Belleville Spring Options*** section for information regarding spring tuning options beyond what is included with this kit.

RESOURCES

- Thoroughly read and understand the ***Safety Warnings*** document before installing or riding.
- Videos related to this product can be viewed online at **rekluse.com**
- A detailed parts fiche can be found online at **rekluse.com/support**

INSIDE THIS DOCUMENT

TOOLS NEEDED

- Allen key set (Standard SAE)
- T27 Torx bit, and possibly other Torx sizes
- 10mm socket
- Torque wrench (in-lb & ft-lb, or N-m)
- End wrenches (Standard SAE)
- 2x dental pick tools

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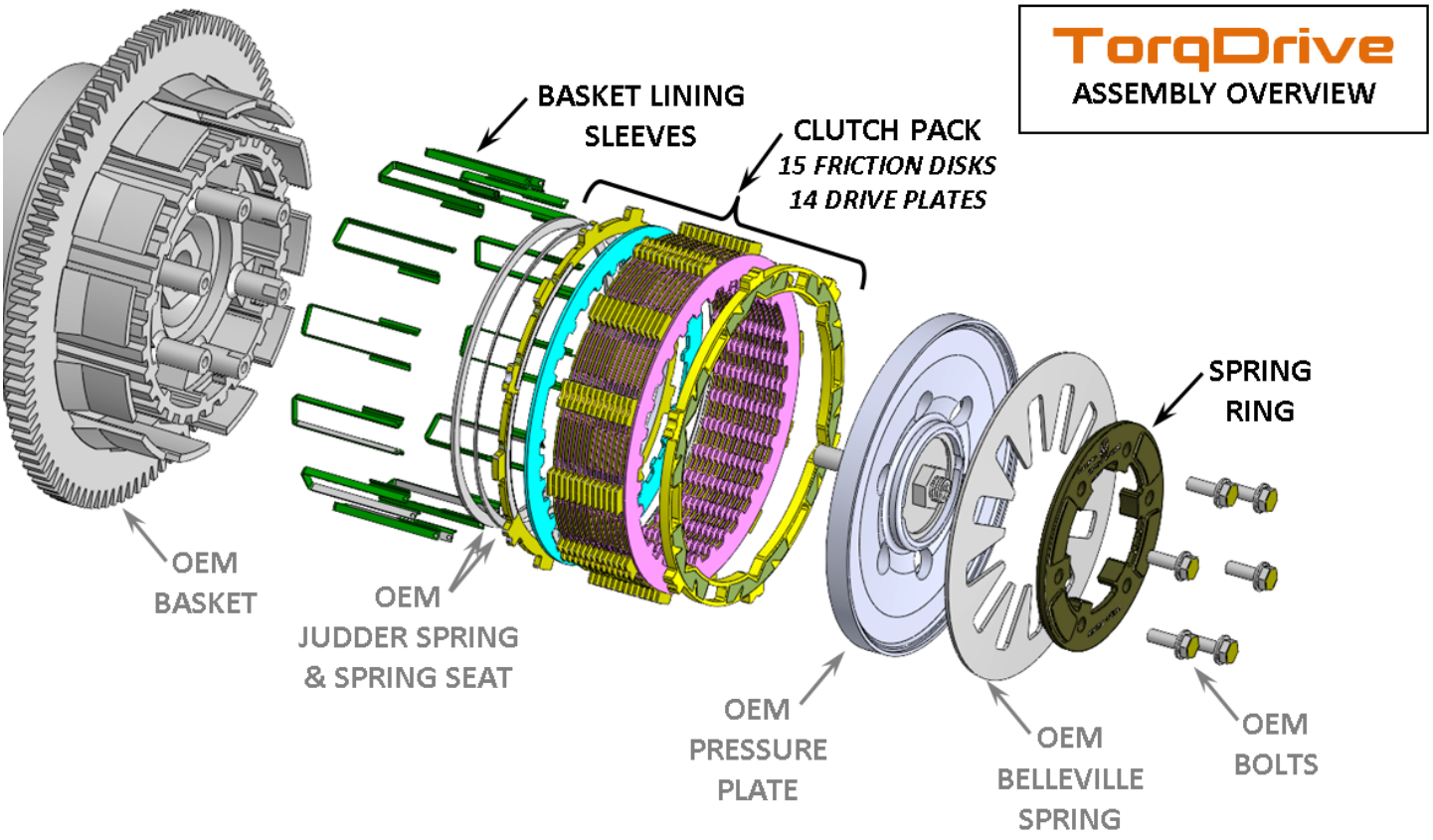
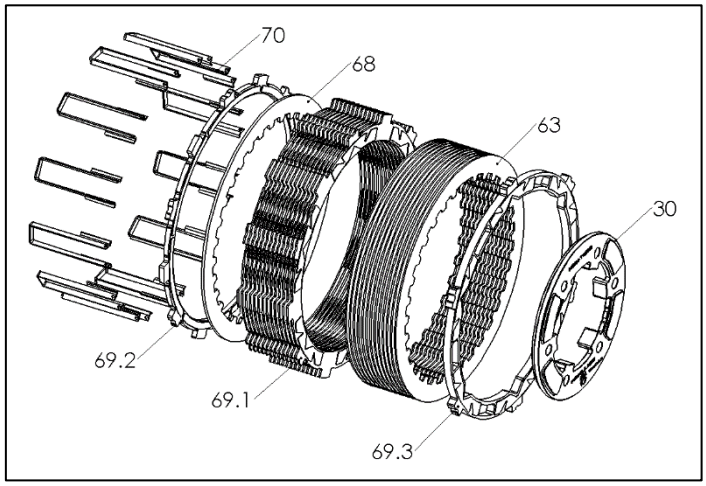
ASSEMBLY OVERVIEW



INCLUDED PARTS

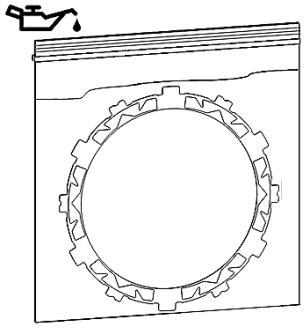


Item	Item Type	Qty
30	Spring Ring *other options available from Rekluse	1
63	Steel Drive Plate (.040”)	13
68	Steel Drive Plate (.065”)	1
69.1	TorqDrive Friction Disk	13
69.2	Judder Spring Friction Disk	1
69.3	Thick Friction Disk	1
70	Basket Lining Sleeve	12

Visit Rekluse.com/support for a full parts fiche illustration and part numbers.

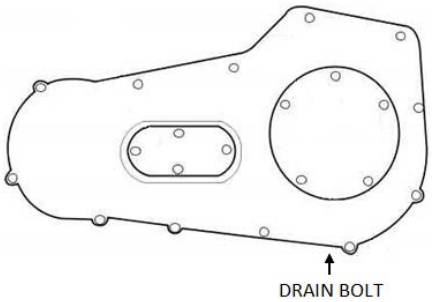
PREP & DISASSEMBLY

1. Soak all the Rekluse friction disks [#69.1, 69.2, 69.3] in oil for at least 5 minutes.

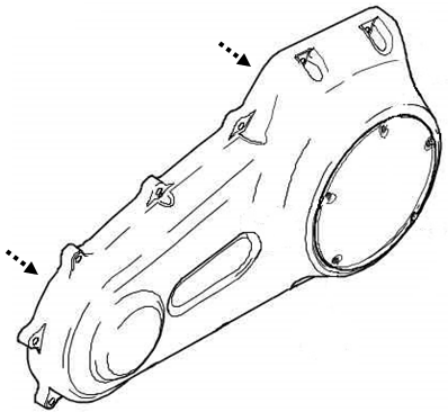


2. Place the bike upright in a lift or suitable stand.

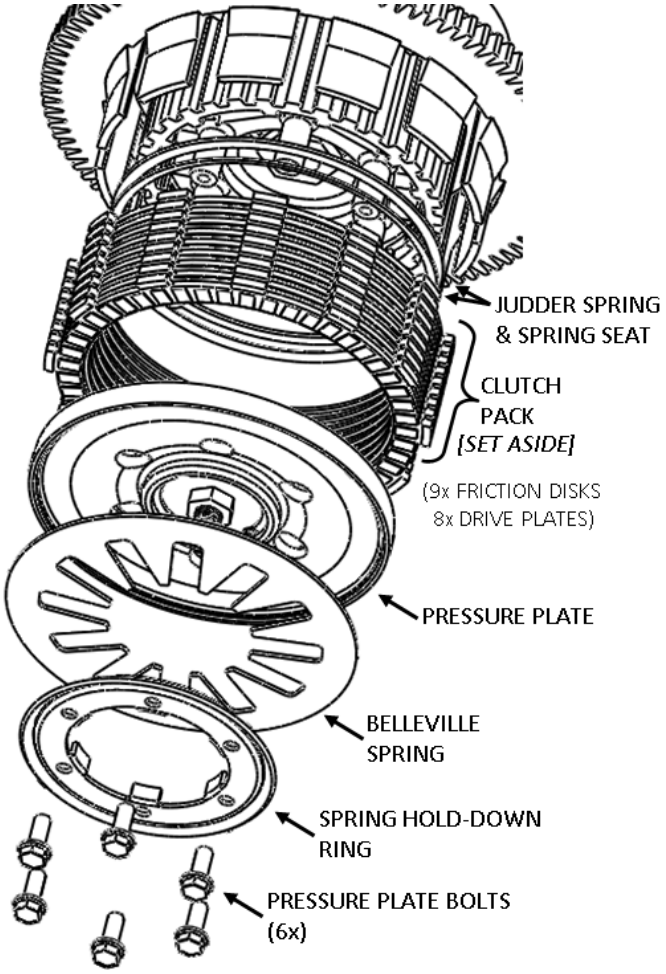
3. Drain the oil from the primary chaincase into a suitable container.



4. Remove the primary chaincase cover. This may require removing the left floorboard, foot peg(s), shift lever and/or side stand.



5. Remove the OEM parts named in this diagram.



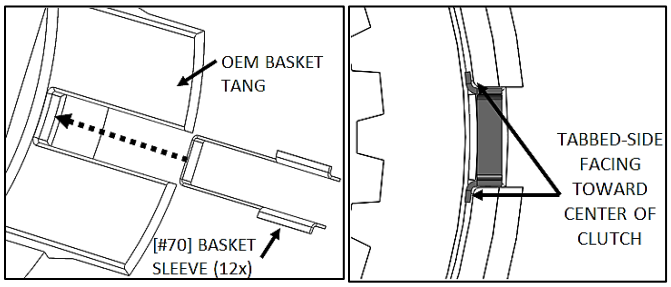
NOTE:

1. The OEM Judder Spring and Spring Seat WILL be reused.
2. The rest of the OEM clutch pack will NOT be reused.

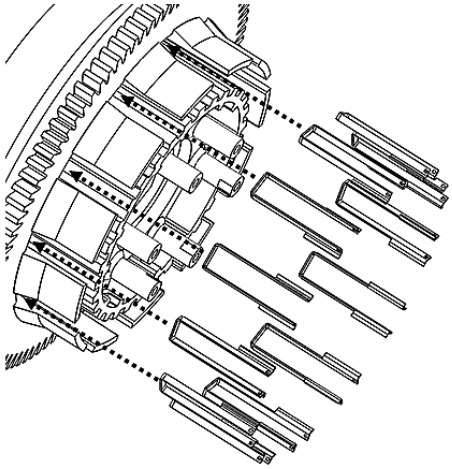
You may need to use dental pick tools to reach and remove the bottom plates and judder spring.

CLUTCH PACK INSTALLATION

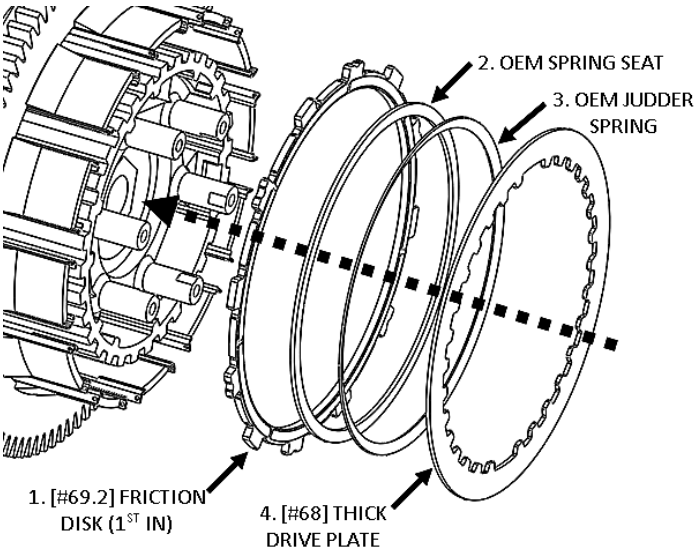
6. Install the 12 Basket Sleeves [#70] into the tang slots of the OEM basket, pushing them in until they contact the bottom of the tang slots.



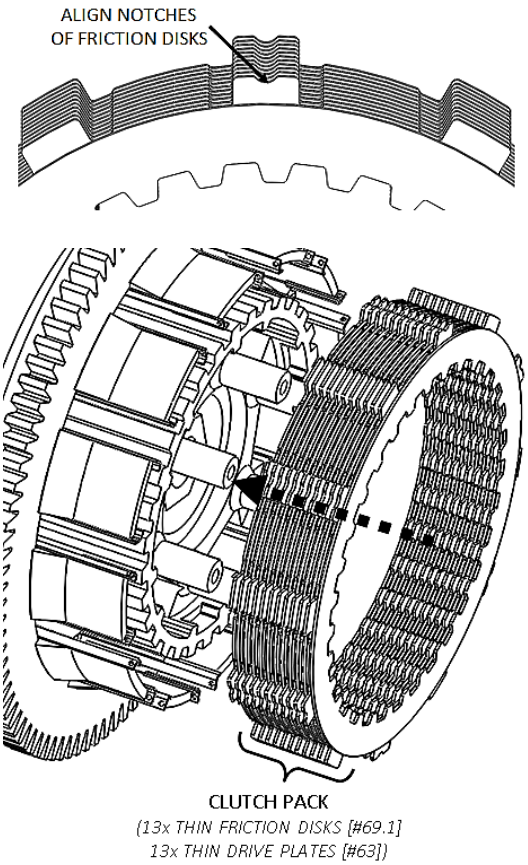
NOTE: In some models, the sleeves will fit deeper into the basket than others.



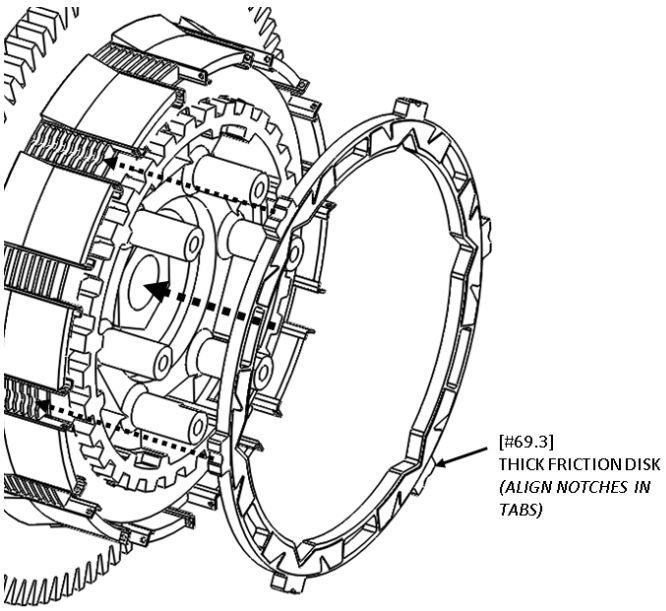
7. Install the Judder Spring Friction Disk [#69.2] first, followed by the OEM Spring Seat, Judder Spring, and the one Thick Drive Plate [#68] in the orientation shown below. Using dental pick tools to manipulate the basket sleeves may aid with installing the plates.



8. Taking care to align the notches on the friction disks, install the rest of the clutch pack, one item at a time, alternating friction disks with drive plates.
Correct alignment is critical for optimal performance.



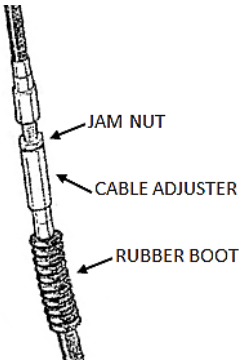
Install the Thick Friction Disk [#69.3] after the last drive plate, aligning the notches with the other friction disks. This disk can be identified as the one having rectangular holes through it.



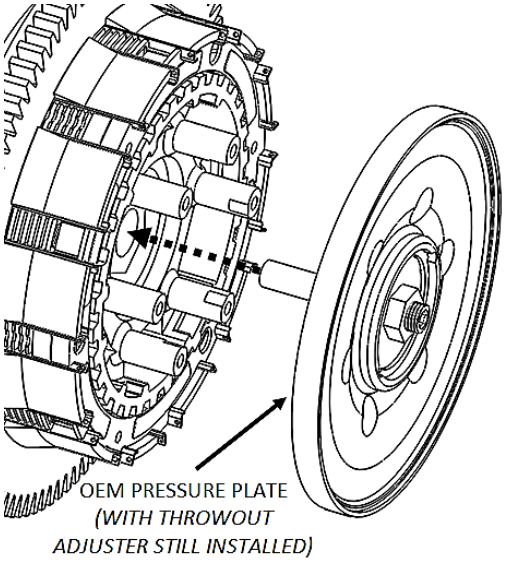
PRESSURE PLATE INSTALLATION

9. ***For cable-actuated bikes only*:** fully collapse the in-line cable adjuster, so that the cable slack makes the clutch lever become very sloppy at the perch. This ensures that the pressure plate adjustment performed in the next few steps will not place undue tension on the clutch cable.

The cable adjuster can be found alongside the front frame tubes.



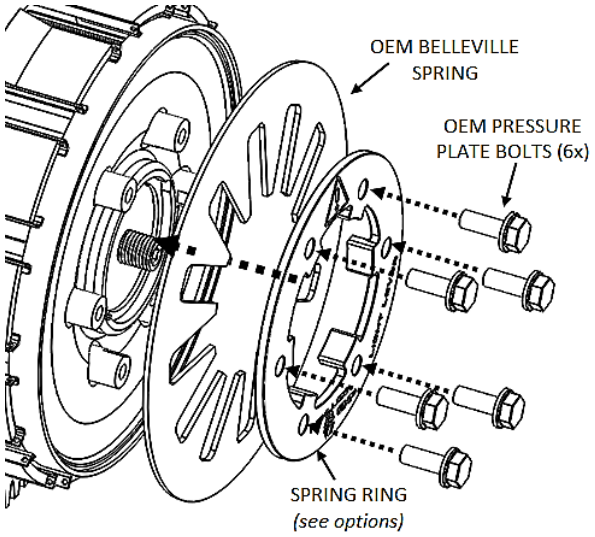
10. Reinstall the OEM pressure plate without removing any of the components attached to it.



11. Install the OEM Belleville spring using the provided High-Torq Spring Ring [#30].

NOTE: For high-output engines, refer to the **Belleville Spring Options** section on the next page to determine the best Belleville spring choice for your particular engine's output.

NOTE: If you have a 96in³ engine or smaller and you prefer a lighter clutch lever pull, an optional Light-Lever Spring Ring can be purchased from Rekluse. See the **Belleville Spring Options** section on the next page for more information.



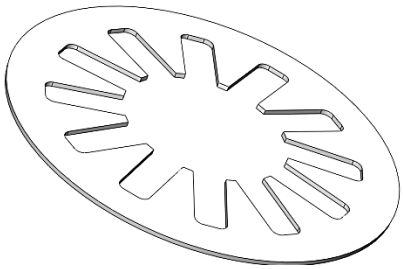
12. Using a 10mm socket, torque the pressure plate bolts to OEM specification.

BELLEVILLE SPRING OPTIONS

BELLEVILLE SPRING DATA:

Note: Typically, you will reuse the OEM Belleville spring that was installed in your bike. However, if you have a highly-modified engine and your OEM clutch currently does not provide enough torque capacity, alternate springs can be purchased from Harley-Davidson to optimize your clutch setup.

The following numbers reflect the engine torque output that the clutch can comfortably withstand using the provided spring ring for each given clutch spring.



TorqDrive Clutch Torque Capacity			
Spring Part Number	Spring Marking	Max Engine Output Torque (ft-lb)	
		'98-'06 Models (excluding '06 Dynas)	07+ Models (including '06 Dynas)
37882-06	Blue	117	124
37871-04	Yellow	140	149
37807-03	Pink	170	181
37951-98 (Screamin' Eagle After-Market Only)	None	187	199

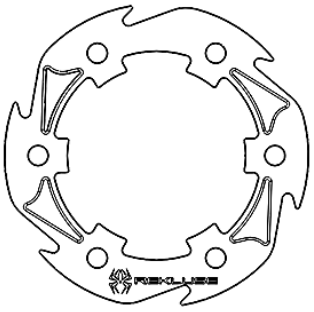
Note: All Belleville spring adjustments can be performed through the derby access without removing the primary cover.

ADDITIONAL OPTIONS AVAILABLE FROM REKLUSE:

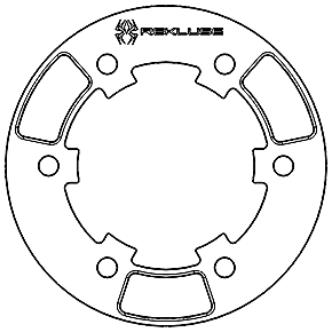
The spring ring provided with this kit is desinged to provide maximum torque capacity without increasing lever pull effort. Rekluse also offers a Light-Lever Spring Ring as an available purchase option, which can decrease the clutch lever pull effort by up to 30% ligher than stock. **If you have a 96 in³ engine or smaller, you may desire to purchase the Light-Lever Spring Ring from Rekluse for the added benefit of a lighter clutch lever pull.** This ring clamps the OEM Belleville spring in a way that reduces the spring force on the clutch pack, and is a great option for Dynas and Softails.

The chart below shows that:

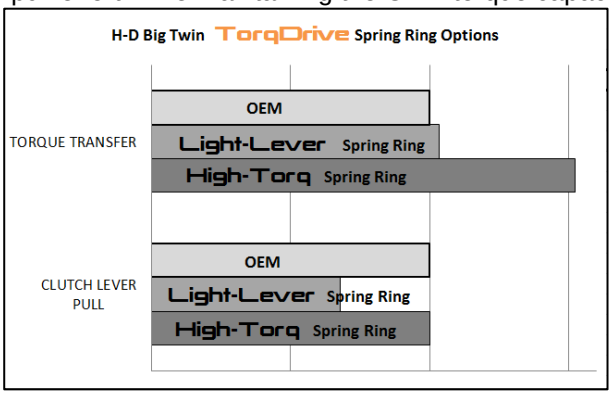
- High-Torq Ring (provided in this kit): Retains stock lever pull effort while delivering nearly 50% more torque capacity than OEM.
- Light Lever Ring: Provides up to a 30% decrease in lever pull effort while maintaining the OEM torque capacity.



REKLUSE SPRING RING [#31.1]
LIGHT LEVER PULL



REKLUSE SPRING RING [#31.2]
HIGH TORQUE CAPACITY



TorqDrive Clutch Torque Capacity					
Spring Part Number	Spring Marking	High-Torq Spring Ring (provided) Max Engine Output Torque (ft-lb)		Light-Lever Spring Ring (option) Max Engine Output Torque (ft-lb)	
		'98-'06 Models (excluding '06 Dynas)	07+ Models (including '06 Dynas)	'98-'06 Models (excluding '06 Dynas)	07+ Models (including '06 Dynas)
37882-06	Blue	117	124	89	94
37871-04	Yellow	140	149	98	104
37807-03	Pink	170	181	112	119
37951-98 (Screamin' Eagle After-Market Only)	None	187	199	112	119

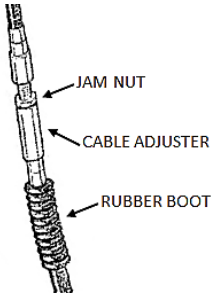
ADJUSTING THE CLUTCH

NOTICE

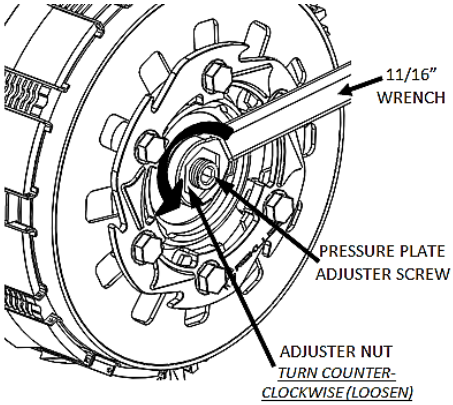
Failure to check and verify Free Play Gain can cause failure or damage to this product. Setting the correct gap is critical for clutch performance.

Note: This section applies to cable-actuated bike models only. Hydraulic models self-adjust, so these owners may skip to the next section.

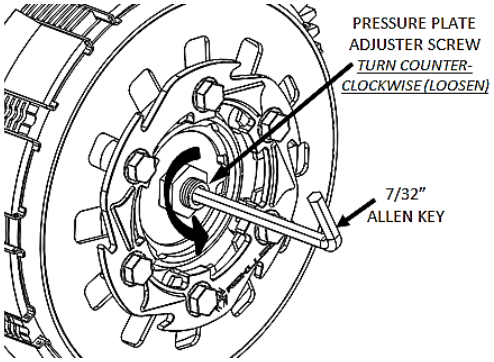
13. Ensure that the inline cable adjuster is fully collapsed (the clutch lever should be floppy and you'll be able to move it freely all the way to the handlebar).



14. Loosen the adjuster nut using an 11/16" wrench or socket, so that the adjuster screw can be turned freely in the next step.

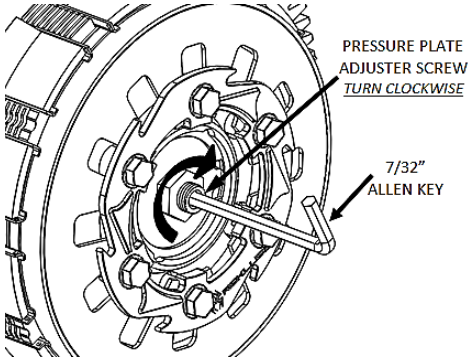


15. Turn the adjuster screw counterclockwise (out) until it spins freely with little effort.

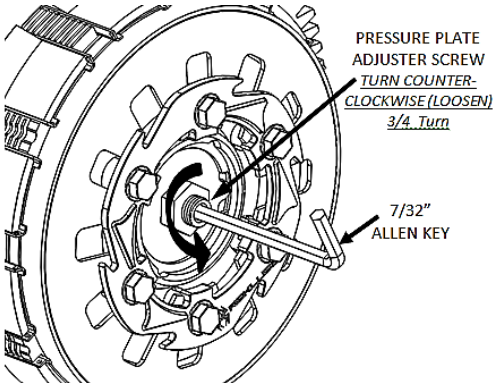


16. Using the long end of a 7/32" Allen key, gently turn the adjuster screw clockwise until it stops under moderate pressure. You are trying to feel for the point at which it bottoms out and starts to lift the pressure plate (you will feel an abrupt increase in turning effort).

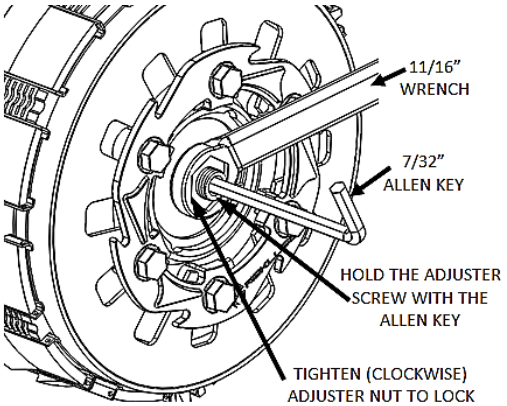
This position is called your starting point.



17. From this starting point, loosen (turn counterclockwise) the adjuster screw ¾ of a turn.



18. Holding the adjuster screw with the Allen Key, tighten the jam nut on the adjuster with an 11/16" wrench.

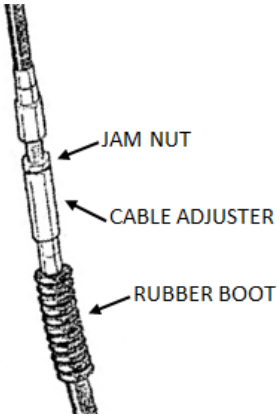


SET CLUTCH LEVER FREE PLAY

(Clutch cable adjustment, for cable models only)

"Lever Free Play" is essentially the "slack" in the clutch cable before it starts actuating the clutch. Applying a light finger pressure will take up this slack.

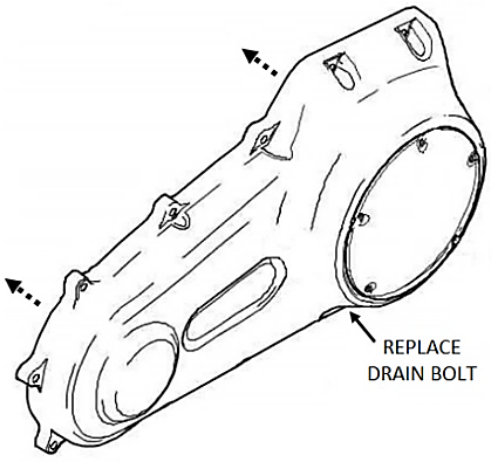
1. Expand the in-line adjuster until the cable slack is between 1/16" and 1/8" at the lever perch.



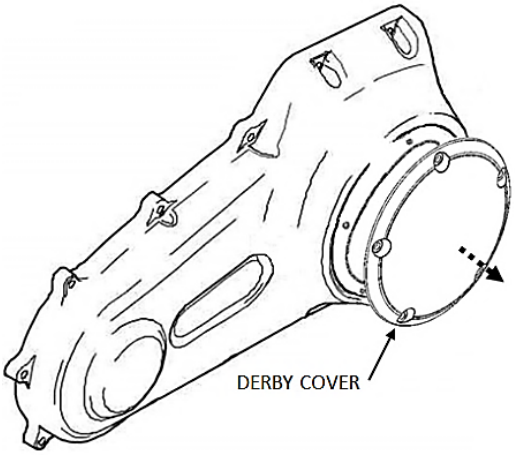
PRIMARY COVER INSTALLATION

2. To avoid leaks, thoroughly clean both mating surfaces on the primary cover and the engine case.

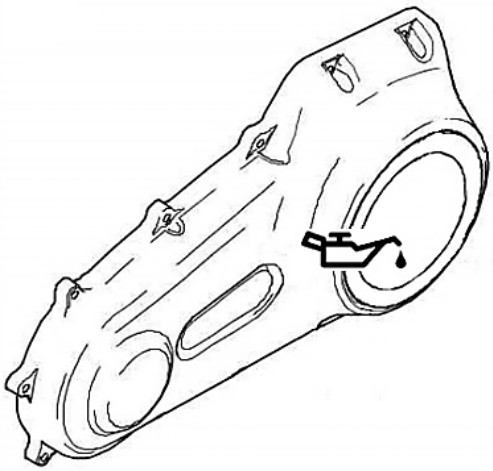
3. Reinstall the drain bolt and the primary cover.

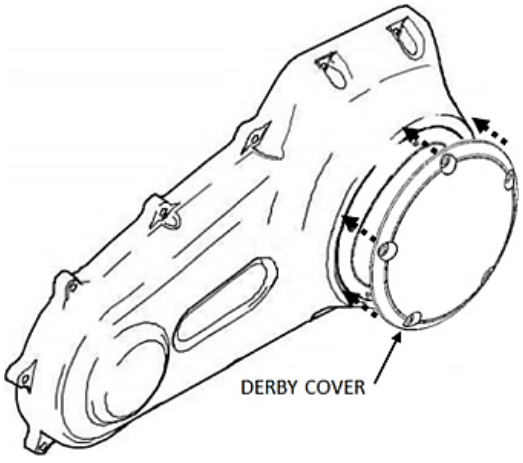


4. With the primary cover installed, remove the derby cover using a T-27 Torx bit.



5. Using a funnel, add 1 quart of oil to the primary case through the derby cover cavity. **See "Oil Selection" section** for suggestions**.** Then, reinstall the derby cover.





BREAK – IN

- The clutch will break in within 100-200 miles of normal riding. Until break-in is complete, you may experience more clutch drag than normal.

- It is recommended to do an oil change after the first 1,000 miles to drain any excess clutch debris that occurred from break-in.

OIL SELECTION

NOTICE

Proper clutch function is dependent upon the primary chaincase oil viscosity, chemistry, and quality.

Harley-Davidson Big-Twin motorcycles have **3 separate oil compartments:**

1. Engine (top and bottom end)
2. Transmission
3. Primary Chaincase (where the clutch is housed)

Regardless of the oil(s) you choose to employ in your engine and transmission, the primary chaincase oil should be treated differently. For your primary chaincase, Rekluse recommends only JASO-MA or JASO-MA2 certified oils for use in a wet-clutch environment. Typically, heavier gear oils are ideal, such as 80-90wt., as they help reduce clutch noise. Keep up with regular oil changes as per the bike manufacturer's recommendations. The suggested amount is 1 quart (~1 liter).

TROUBLESHOOTING

Clutch Drag:

- *Cold Drag Only* – Cold drag is normal. The clutch will likely always have some amount of drag before the oil warms to operating temperature. Be sure to warm up the bike before riding.
- *Hot and Cold Drag* – Change oil. Check for warped or non-flat plates in the clutch pack.

Clutch Slip:

- Inspect the clutch for signs of wear or heat.

Use of the High-Torque spring ring will reduce the chance of clutch slipping and/or excessive heat. If this is already in place and the problem persists, refer to the ***Belleville Spring Options*** section of this document for more information.

MAINTENANCE

- Keep up with regular oil changes as per the bike manufacturer's recommendations. Tired, dirty, or worn primary chaincase oil can hinder clutch performance and may cause excessive clutch drag or noise. See "Oil Selection" section for more details.

- Re-adjust the clutch and lever free-play every 5,000 miles.

- Inspect your clutch parts at the interval prescribed by the bike manufacturer's service manual for signs of wear or excessive heat, and replace components as necessary.

- If you find yourself making frequent cable adjustments to fix drag or performance, it is likely time to replace worn disks. Measure your friction disks and replace as necessary [minimum allowable thickness = **0.068" (1.73mm)**]

- Excessive heat or clutch slip can cause premature clutch failure. Once extreme temperatures are reached, irreversible damage will occur. Inspect your clutch plates; if the friction disks look burnt or glazed, or the drive plates are warped or colored as described below, it is best to replace the entire clutch pack.

- Repeat the break-in procedure anytime that any clutch disks are replaced. Always soak friction disks in oil for at least 5 minutes before installing.

When inspecting the clutch pack, the following pictures can be used as reference:

Drive Plates – If the clutch pack is getting high amounts of heat, purple, blue, or black color can be seen on the drive plate teeth. See Pictures below.

Normal Heat

High Heat (Blue/Purple)

Excessive Heat (Black)

Friction Disks – Due to the dark color of the friction material, the friction disks will appear almost black as soon as they are put in oil. During inspection, look for glazing of the friction material. Glazing will appear shiny and feel like glass, even after oil is cleaned from the friction disk.

Normal Friction Pad

Glazed Friction Pad

NEED ADDITIONAL HELP?

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www.rekluse.com/support

Frequently Asked Questions
www.rekluse.com/faq

Support Videos
www.rekluse.com/support/videos

Phone
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Technical Support
Contact Technical Support for questions related to product installation, tuning, and performance.

Hours:
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Mountain Time zone
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Customer Service
Contact Customer Service for additional product information, orders, and returns.

Hours:
Monday thru Friday: 8:00 a.m. - 5:00 p.m.
Mountain Time zone
Email: customerservice@rekluse.com