INSTALLATION GUIDE

Harley-Davidson
Milwaukee 8

Doc ID: 191-285B
Revision: 012022

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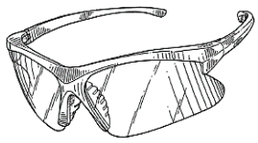
Table of Contents

OVERVIEW

This kit replaces many of the OE (Original Equipment) or “stock” clutch parts. These parts are designed specifically for your motorcycle to ensure optimal performance. The following is a summary of what is replaced:

- OE friction disks
- OE drive plates
- OE Pressure plate springs

INSTALLATION TIPS



- Read the separate included Safety Information document before operating the vehicle with the product installed.
- This kit is compatible ONLY with the OE or Rekluse clutch components.
- Read this entire document before performing any steps.
- If you install this product for a customer or another person, instruct them to read the **Safety Information** document and the **Installation Guide** before operating the bike with the product.
- Protect eyes and skin – wear safety glasses and work gloves.
- Use the torque values listed in the instructions. Otherwise, use the torque specifications found in your OE service manual.
- Different spring options may be available purchased from Rekluse (depending on the bike model) for:
    - Motorcycles with taller gearing or modified engines with increased horsepower
    - Customers looking for a lighter lever pull

- For optimal clutch performance Rekluse recommends using fresh, clean oil that **meets JASO-MA** oil rating requirements. Rekluse offers Factory Formulated Oil™ developed specifically for Rekluse products. Rekluse Factory Formulated Oil is a perfect complement to any OEM or aftermarket wet clutch. Visit www.rekluse.com to learn more.

TOOLS

- Hex key set (Standard SAE)
- Torx bit set, including T27
- Torque wrench
- 10 mm socket
- End wrenches (Standard SAE)
- 2 dental picks

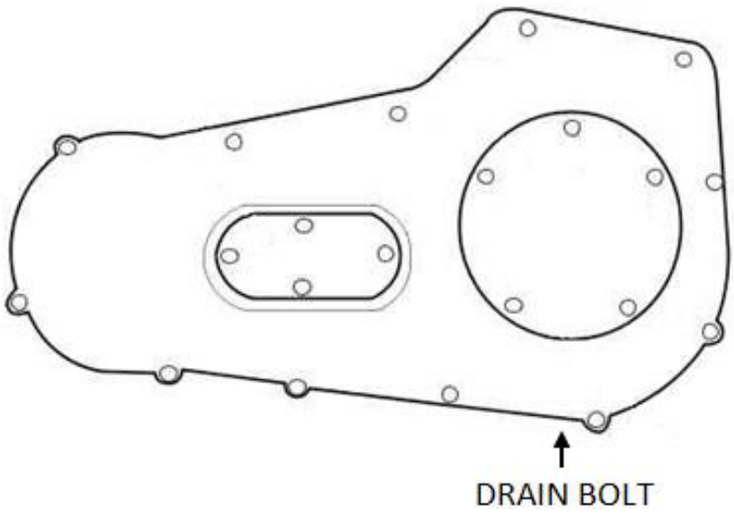
INCLUDED PARTS

Refer to the included **Parts Fiche** for a detail of the components. Visit www.rekluse.com/support for a full parts fiche illustration and part numbers.

PREPARE BIKE FOR INSTALLATION

1. Stand the bike up on a lift or suitable bike stand.

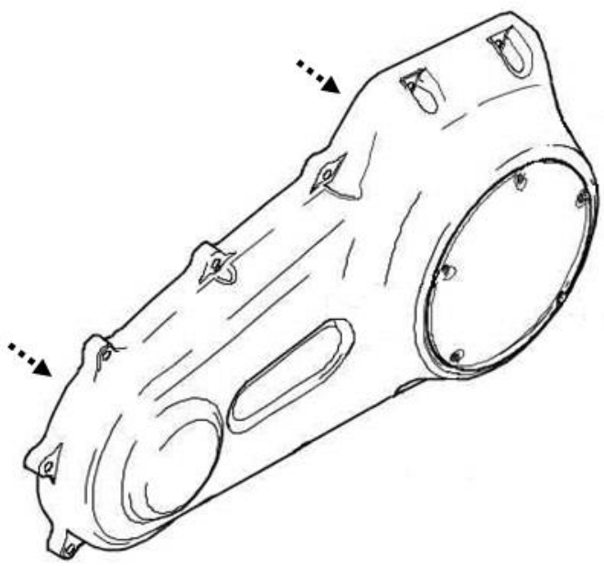
2. On the primary chaincase, use a wrench to remove the oil drain plug, then drain the oil into a suitable container.



3. Remove any parts that are attached or blocking the primary chaincase cover. These may include the left floorboard, foot peg(s), shift lever, and/or the side stand.

   Note: *Before removing the shift lever, shift the bike into 5th gear.*

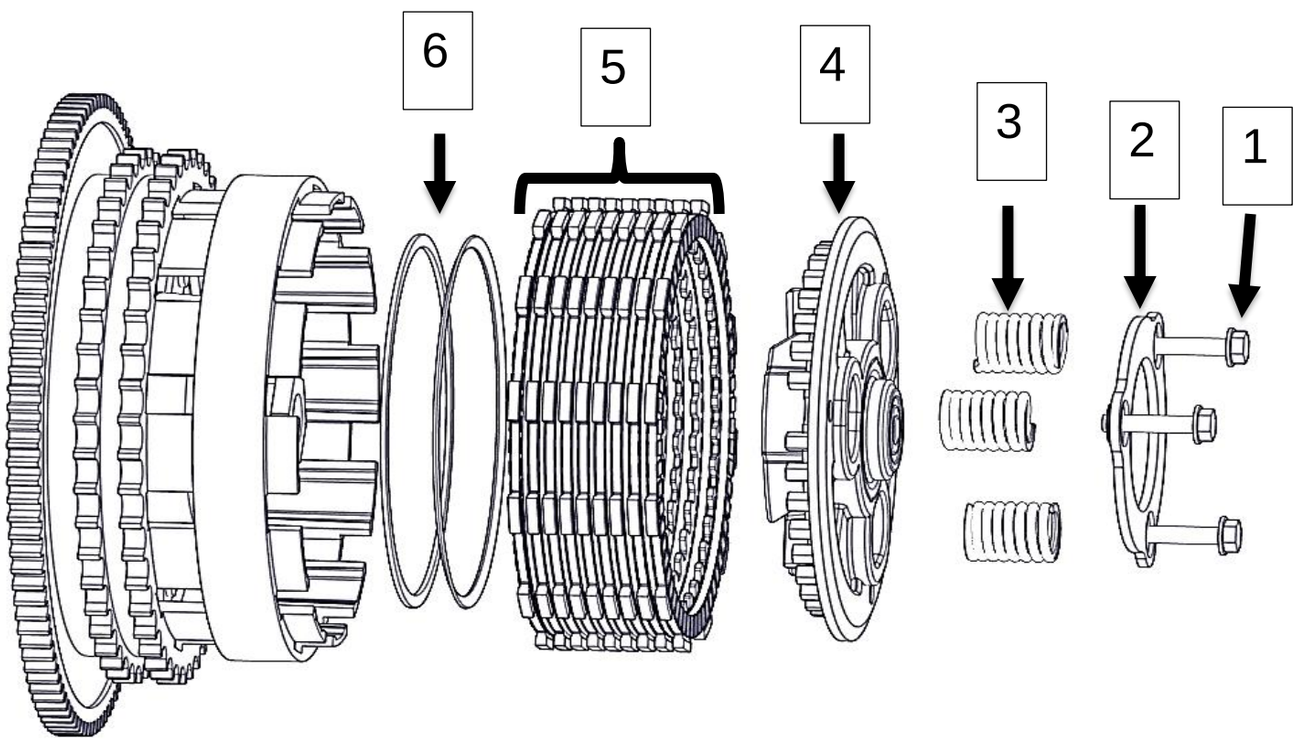
4. Remove the primary chaincase cover.



DISASSEMBLE CLUTCH

1. Soak the TorqDrive® friction disks in new primary chaincase oil for 5 minutes. Make sure the friction disks are coated on both sides.

2. Remove the following OE parts. *You may need to use dental pick tools to reach and remove the bottom plates and damper (judder) spring.*



1	Pressure plate bolts
2	Spring hold-down ring
3	Pressure plate springs
4	Pressure plate
5	Clutch pack
6	Damper (judder) spring and seat

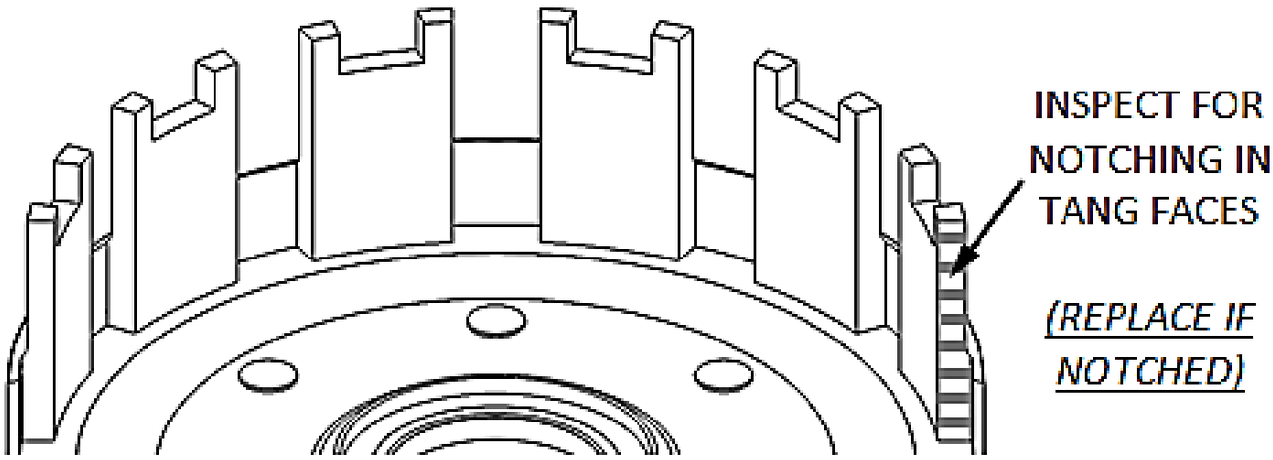
Note: *Set the pressure plate bolts, spring ring, pressure plate, and damper spring seat and spring aside. They will be reused.*

INSPECT THE BASKET

⚠WARNING

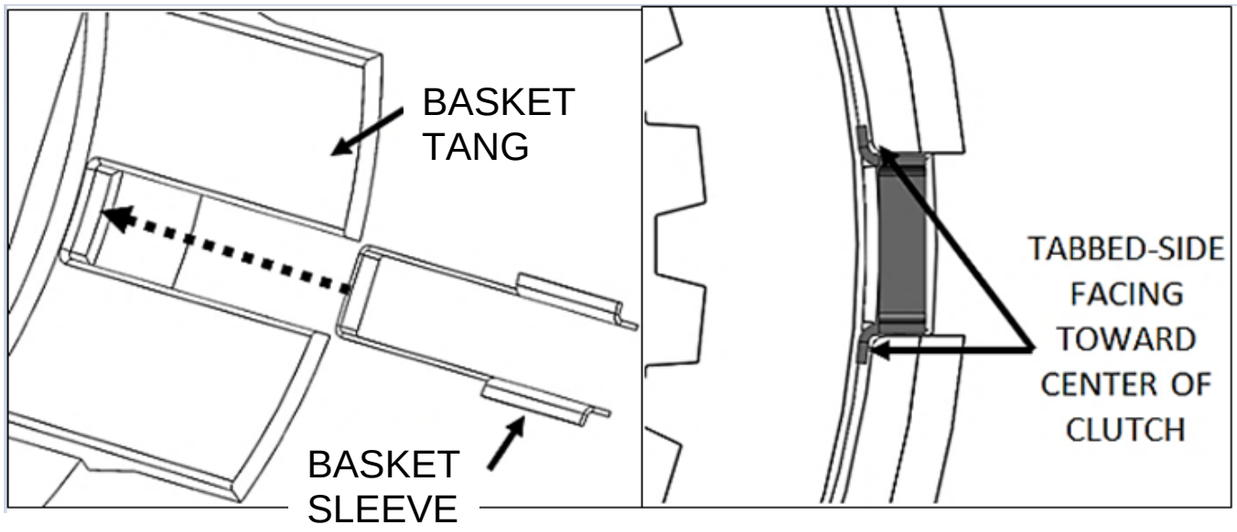
Failure to inspect the basket and replace it if necessary could result in death, serious injury, and/or property damage.

Inspect the clutch basket for notching. Do not install sleeves or use products with a notched basket. Notched basket tang faces can cause the sleeves to break. Do not use baskets that have been filed, machined, or modified on the tangs. Replace basket if necessary.



INSTALL THE BASKET SLEEVES

Install **ALL** the Rekluse basket sleeves into the OE basket slots. Make sure the sleeve tabs sit against the inside of the basket, then push the sleeves down until they contact the bottom of the tang slot. See pictures for reference.



⚠WARNING

Rekluse basket sleeves are designed to be installed into an OE or Rekluse clutch basket ONLY. The use of non-Rekluse aftermarket clutch baskets may cause clutch damage or failure.

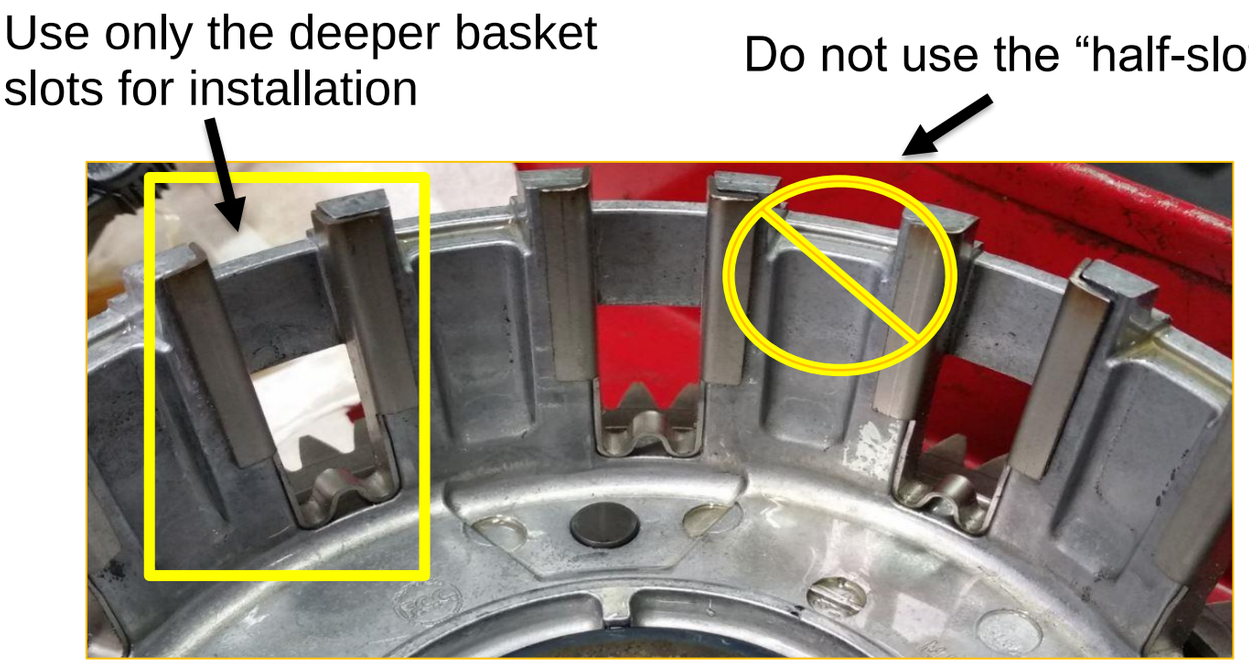
Note: *In some models, the sleeves will stick slightly above the top of the basket. This is normal.*

INSTALL THE CLUTCH PACK

Refer to the included **Setup Sheet** for a breakdown of the clutch pack.

Notes for installation

- Some friction disks are marked with a small colored dot. This mark is used for processing and can be ignored.
- Some OE baskets have “half slots” at the top of the basket tangs. Rekluse products require the entire clutch pack to be installed into the MAIN (deeper) basket slots. Installing the pack in the “half slots” will cause performance issues.

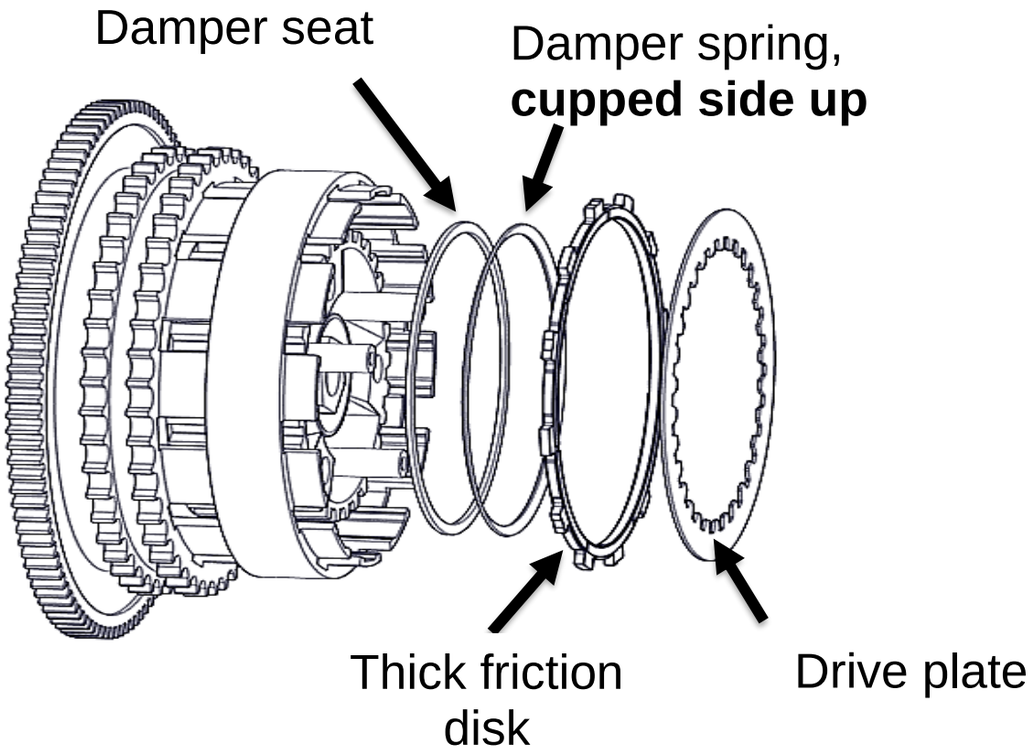


- When assembling the clutch pack, it is important to line up the alignment notches on the friction disk tabs. *Correct alignment is critical for optimal performance.*

Clutch Pack

Note: *Using dental picks can help control the basket sleeves during the installation of the clutch pack.*

1. Reinstall the damper (judder) seat, then reinstall the damper spring, cupped side up, into the clutch basket.



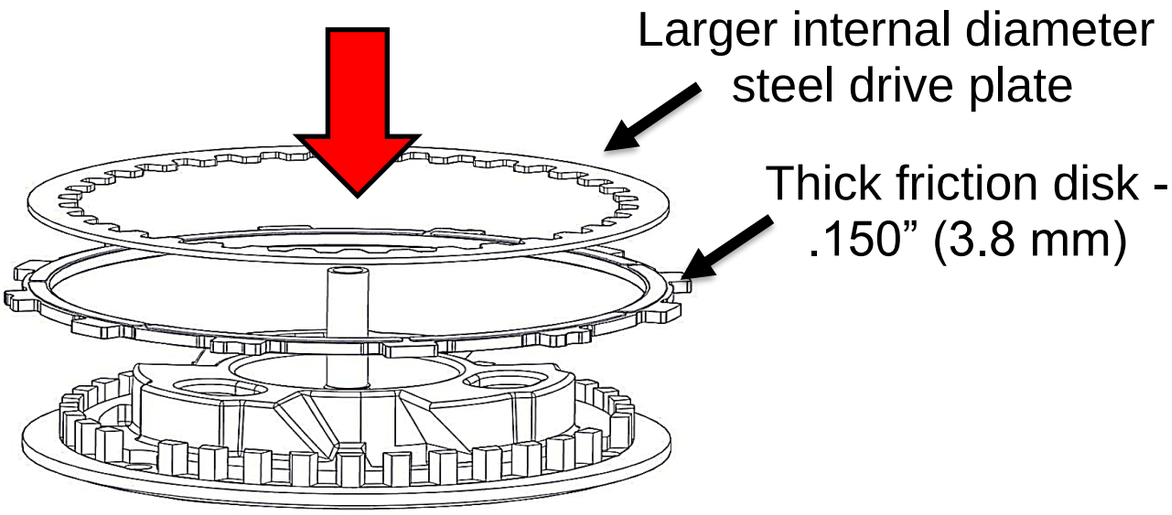
2. Install the rest of the clutch pack one plate at a time. Follow the **Setup Sheet** at the back of the manual for the order of clutch pack disk installation.

3. Do not install the last friction and the last drive plate. These will be placed on the pressure plate in the next step.

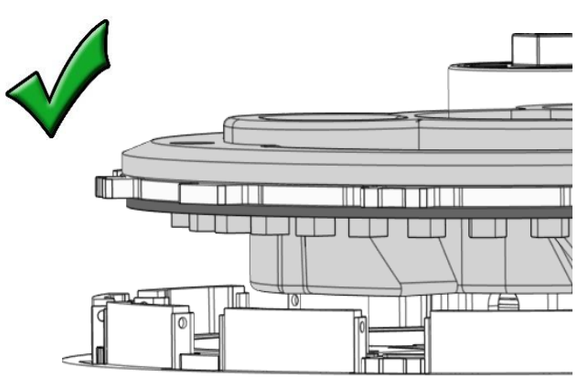
INSTALL THE PRESSURE PLATE

1. Install the remaining .150” (3.8 mm) thick friction on top of the pressure plate.

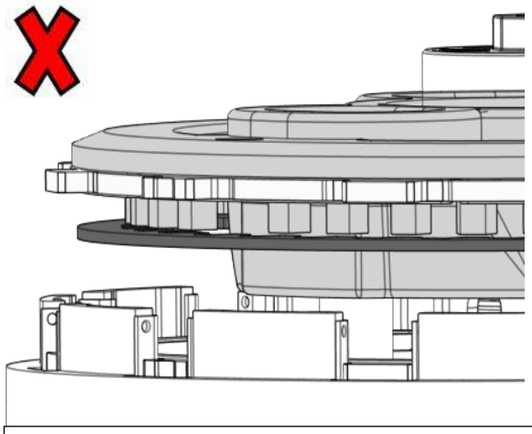
2. Install the narrow steel drive plate on top of the thick friction disk. Make sure the drive plate fits on the teeth of the pressure plate



3. Install the assembled pressure plate onto the clutch pack.



Correct: Steel is indexed to pressure plate



Incorrect: Steel has slipped off

4. Make sure the steel stays indexed on the pressure plate. If this plate slips off, damage can occur.

Note: *Be sure that the adjuster assembly collar and throw-out stay in place and do not become unindexed when installing the pressure plate onto the clutch. An unindexed collar could cause damage to the clutch when setting the installed gap.*

INSTALL THE CLUTCH SPRINGS

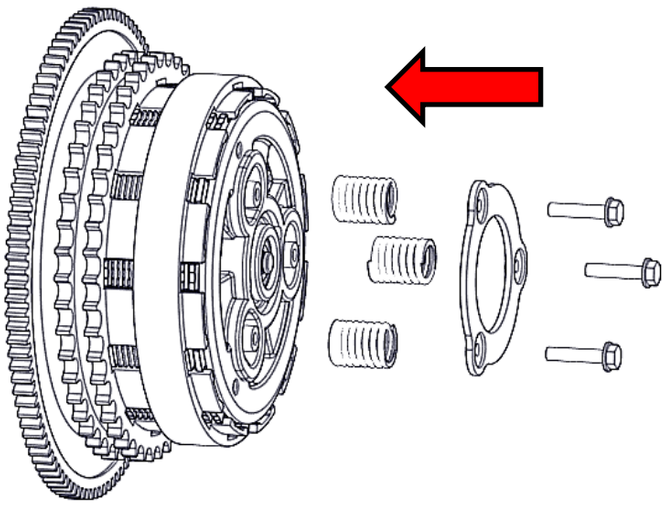
1. Select which pressure plate springs are best suited for your motorcycle and riding style using the table below. *For reference, the factory 3 spring clutch is rated to hold approximately 135 ft-lbs of engine torque.*

	Torque Capacity (ft-lb)	Change in Lever Pull	Spring Option	Spring Color
RMS-285	**200.0**	+4%	Standard Spring (744-126)	Black Stripe
	175.0	-10%	Light Spring (744-124)	Purple Stripe
	135.0	-30%	Extra Light Spring (744-125)	White Stripe

Note: If you own a Trike or plan to tow with your motorcycle, Rekluse recommends selecting the “Standard” spring option unless your engine exceeds the rated torque capacity for that spring configuration. If your engine produces more than 200 ft-lbs of torque, please contact our customer service team for higher torque capacity spring options.

For hydraulic clutch owners looking to reduce their clutch lever pull without affecting the clutch’s torque capacity, please see Rekluse’s 30% lighter pull Manual Slave Cylinder, product number RMS-2415050 (M8 Models) or RMS-2415051 (’13 -‘16 HD Models), at https://rekluse.com/

2. Install the Rekluse pressure plate springs, OE spring ring, and OE pressure plate bolts.



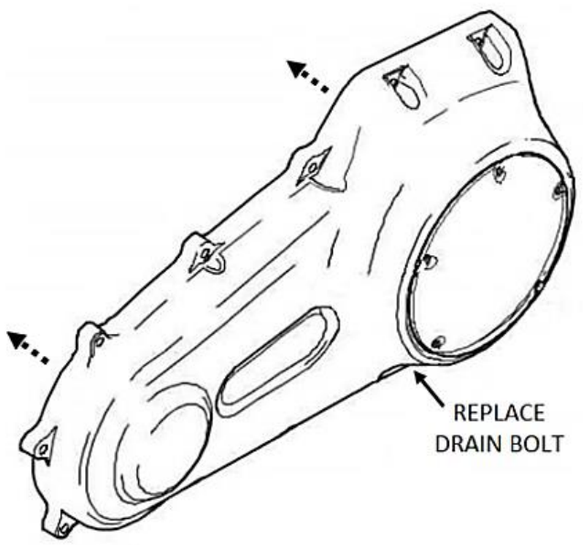
3. Using a 10 mm socket, torque the pressure plate bolts to **90-110 in-lb (10-12 N-m)**.

INSTALL THE PRIMARY COVER

1. Thoroughly clean the mating surfaces of the primary cover and the engine case.

2. Reinstall the primary gasket (or new gasket).

3. Reinstall the primary cover, then torque the cover bolts to **84-108 in-lb (9.5-12.2 N-m)**.

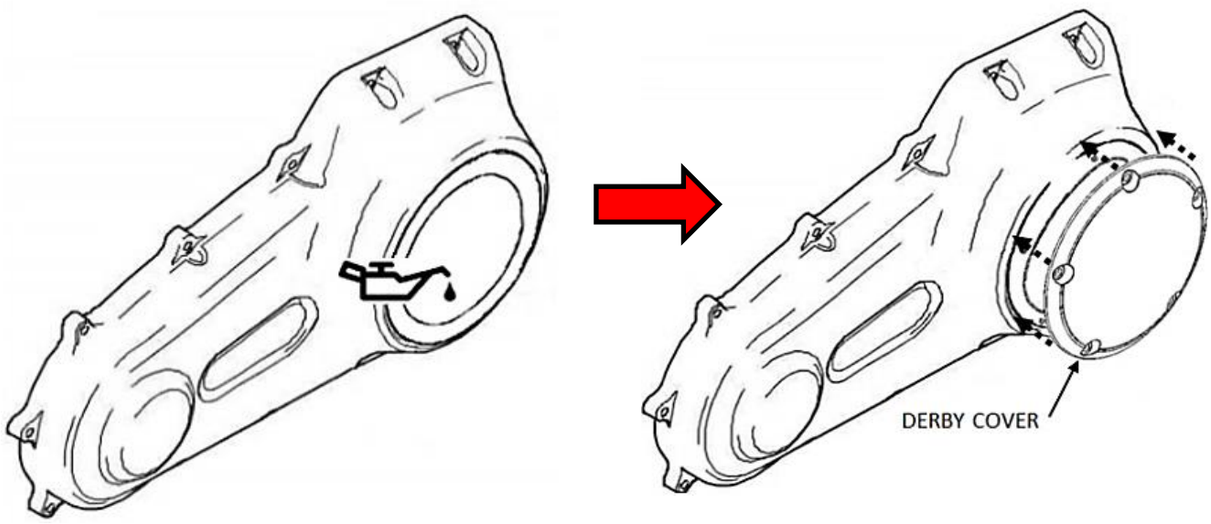


4. Reinstall the drain bolt, then torque the drain bolt to **36-60 in-lb (4-6.8 N-m)**.

5. With the primary cover installed, use a T-27 Torx bit to remove the derby cover.

6. Using a funnel, add 1.25 quarts of oil to the primary case through the derby cover cavity. Use the OE recommended oil or any quality primary oil.

7. Reinstall the derby cover and torque bolts to **84-108 in-lbs. (9.5-12.2 N-m).**



BREAK IN THE NEW CLUTCH

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 the break-in.

MAINTENANCE

To keep your clutch performing at its best, perform regular maintenance on your bike and clutch.

- Keep up with regular oil changes according to the bike manufacturer's recommendations. Clutch performance and longevity depend on oil quality. Tired, dirty, or worn oil may cause excessive clutch drag or noise.
- Use oil recommended by the manufacturer of your bike.
- For optimal clutch performance, Rekluse recommends using fresh, clean oil that **meets JASO-MA** oil rating requirements.
- Inspect all of your clutch parts for signs of wear or excessive heat, and replace components as necessary. This includes your basket sleeves. Clutch wear is dependent on the rider's use.
- Replace friction disks if they measure below specifications or if the disks are glazed and/or burnt.
- Repeat the break-in procedure anytime you replace the frictions disks. Always soak friction disks in oil for at least 5 minutes before installing.
- Replace the drive plates if they show signs of excessive heat.

Disk inspection examples

When inspecting the clutch pack, the following pictures can be used as a reference. **These are best viewed in color by viewing this install document on www.rekluse.com/support.**

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. Not all drive plates look the same and may look different than pictured.

Normal Heat

High Heat (Blue)

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 the inspection, look for glazing of the friction material. Glazing will appear shiny and feel like glass, even after the oil is cleaned from the friction disk. Not all friction disks look the same and may look different than pictured.

Normal Friction

Glazed Friction

TROUBLESHOOTING

Clutch Drag:

- *Cold Drag Only* – Cold drag is normal. The clutch will usually 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 the oil. Check for warped or non-flat drive plates in the clutch pack.

Clutch Slip:

If clutch slip occurs, inspect the clutch for signs of wear or heat.

NEED ADDITIONAL HELP?

Website

www.rekluse.com/support

Phone

(208) 426-0659

Monday thru Friday: 8 am – 5 pm Mountian Time

Email

tech@rekluse.com

REKLUSE
SlaveCylinder

INSTALLATION MANUAL

Harley Davidson
Manual Slave Cylinder Kit

Doc ID: 194-2415050A
Revision: 050422

Rekluse Motor Sports, Inc.
customerservice@rekluse.com

TABLE OF CONTENTS

OVERVIEW

This kit replaces the OE (Original Equipment) or “stock” clutch slave cylinder. This part is designed specifically for your motorcycle to ensure optimal performance.

INSTALLATION TIPS

- Read this entire document before performing any steps.
- Protect eyes and skin – wear safety glasses and work gloves.
- Use the torque values listed in the instructions. Otherwise, use the torque specifications found in your OE service manual.
- Visit Rekluse.com/support for a full parts fiche illustration and part numbers.

CLUTCH FLUID TYPE

⚠CAUTION

Failure to use the correct clutch fluid type will cause seal damage. Read the information located on your bike's clutch fluid reservoir cap to determine which fluid was installed with your bike.

IMPORTANT CLUTCH FLUID NOTE:

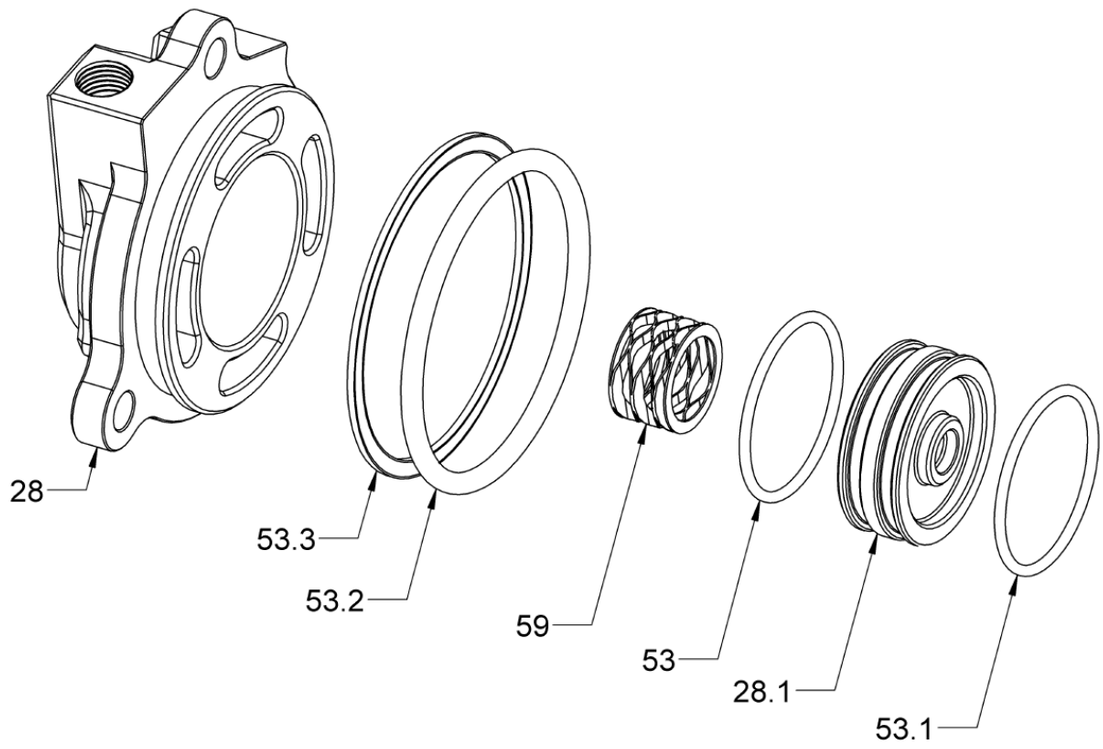
- Harley Davidson recommends using **DOT 4 fluid** from a sealed container

TOOLS NEEDED

- 5/16, 3/8, 7/16, 1/2, & 9/16 wrenches
- 1/2 & 9/16 sockets
- 3/16 hex driver
- Phillips screw driver
- Torque wrench (in-lbs & ft-lbs, or N-m)
- DOT 4 fluid from sealed container
- Rubber gloves & safety glasses
- Shop towels
- Plastic sheet

INCLUDED PARTS

The manual slave cylinder that comes in your kit may look different than pictured. Please visit Rekluse.com/support for a full parts fiche illustration and part numbers for your bike model.



Item	Description	Qty
28	Slave Cylinder Housing	1
53.3	Buna-N Backup Ring	1
53.2	Buna-N O Ring	1
59	Wave Spring	1
53	EPDM O-Ring	1
28.1	Slave Cylinder Piston	1
53.1	Viton O-Ring	1
Not shown	Clear vinyl tube	1

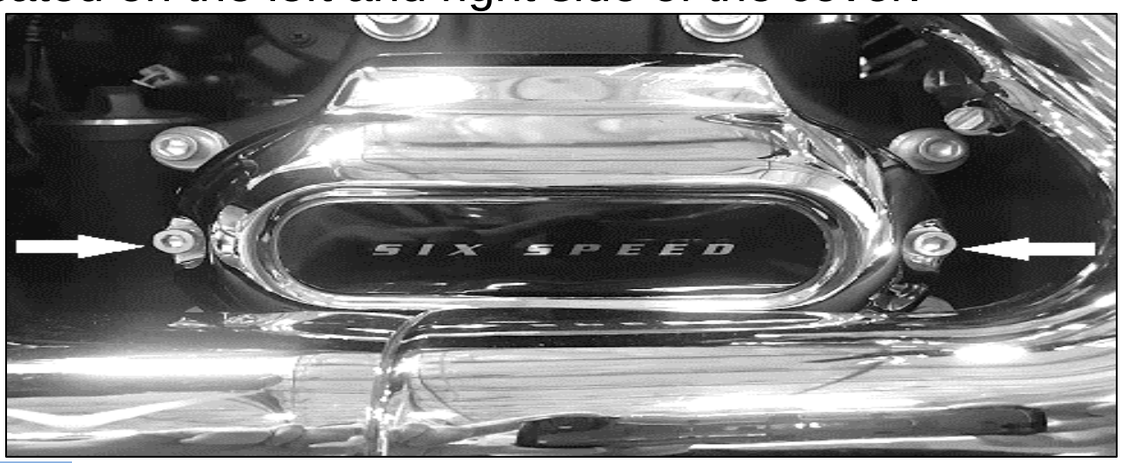
REMOVE THE OE SLAVE CYLINDER

Installing the new Rekluse slave cylinder takes several steps. Please read the entire section before beginning the process to ensure you have the right equipment and clutch fluid needed for the replacement. Rekluse recommends wearing gloves and safety glasses for the install.

1. Stand the bike up on a suitable bike stand or lift.

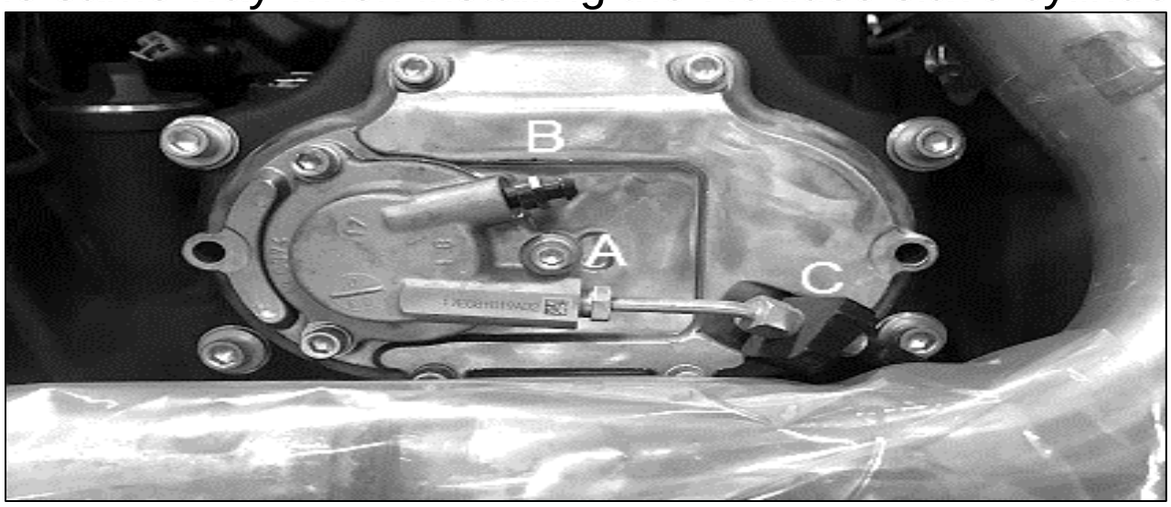
2. Loosen the exhaust system (muffler and header assembly) to gain access to the transmission side cover. Removing the exhaust heat shields will also give more clearance and help prevent damage from brake fluid.

3. Remove the two transmission side cover bolts located on the left and right side of the cover.



Note: *Brake fluid is highly corrosive, it is recommended to cover the exhaust with plastic. Perform the following steps quickly. This method retains the fluid inside the line and makes the final bleeding much easier.*

4. While leaving the OE slave cylinder (secondary clutch actuator) attached to the transmission inner side cover, use a wrench to loosen the hydraulic line assembly (A). The bleed screw (B) will not be reused. Note the location of the rubber grommet (C), it will need to be positioned the same way when installing the Rekluse slave cylinder.

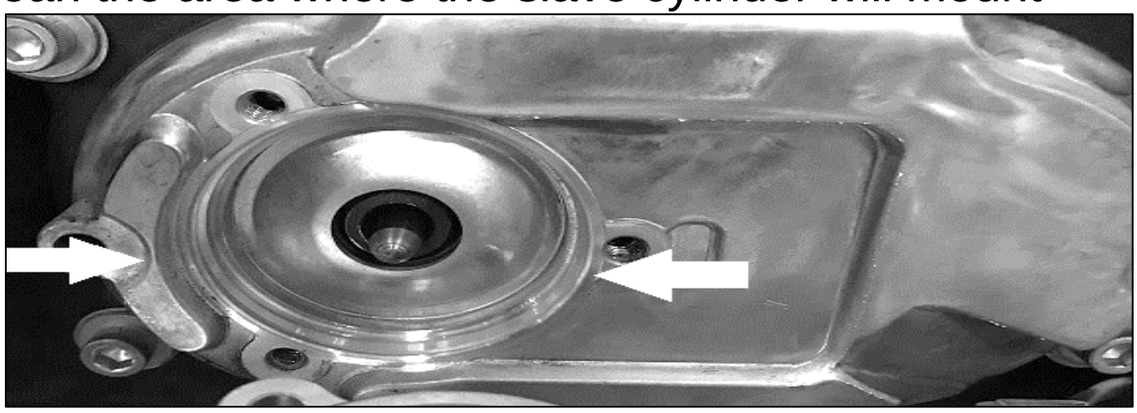


5. Remove the OE slave cylinder from the transmission inner side cover.

6. Remove the hydraulic line assembly from the OE slave cylinder.

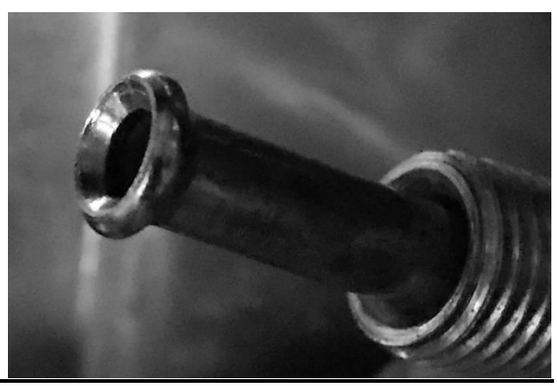
SLAVE CYLINDER INSTALLATION

1. Clean the area where the slave cylinder will mount



2. Attach the hydraulic line to the Rekluse slave cylinder and finger tighten.

Note: *Some models use a flared hydraulic line and are still compatible with the Rekluse slave cylinder. The flared crush washer is not reused.*



3. Mount the Rekluse slave cylinder to the transmission case using the OE bolts, correctly returning each bolt to its original location and positioning the hydraulic line rubber grommet. Tighten the bolts in small increments. Torque to **84-108 in-lbs (9.5-12.2 Nm).**

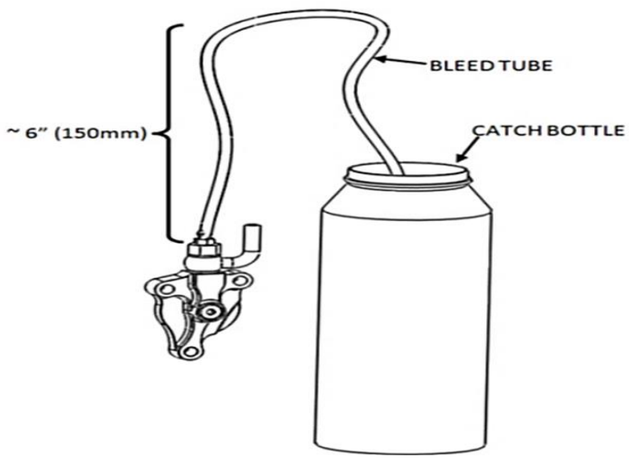
Note: *The seal fitment on the Rekluse Slave Cylinder is tighter than the OE slave cylinder. It is easiest to install the slave using the OE bolts, tightening in small increments, to gently press the slave into the case. The OEM rubber boot will not be reused with the Rekluse Slave Cylinder.*

4. Tighten the hydraulic line to OE specifications

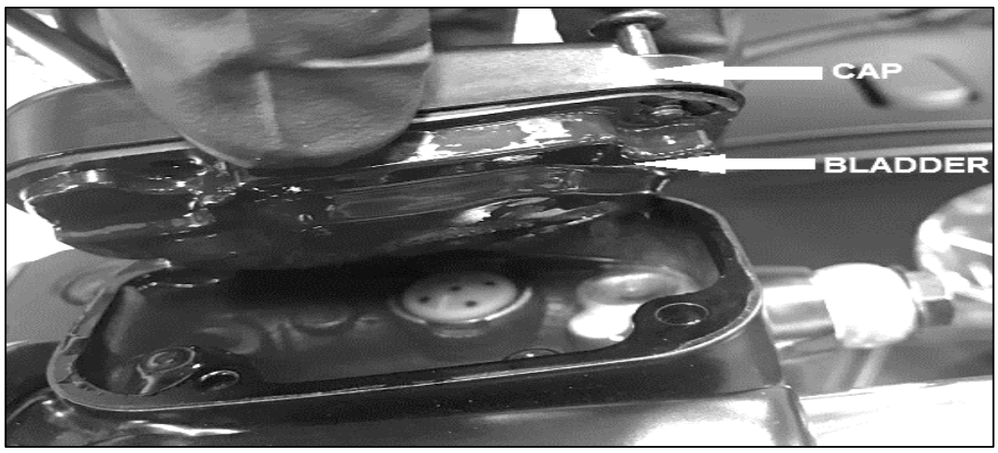
   Note: *Do not reattach the transmission side cover, it will be reattached after the bleeding process.*

BLEEDING THE CLUTCH LINE

1. Attach one end of the supplied bleed tube to the bleed screw, then loop the opposite end into a suitable catch bottle.

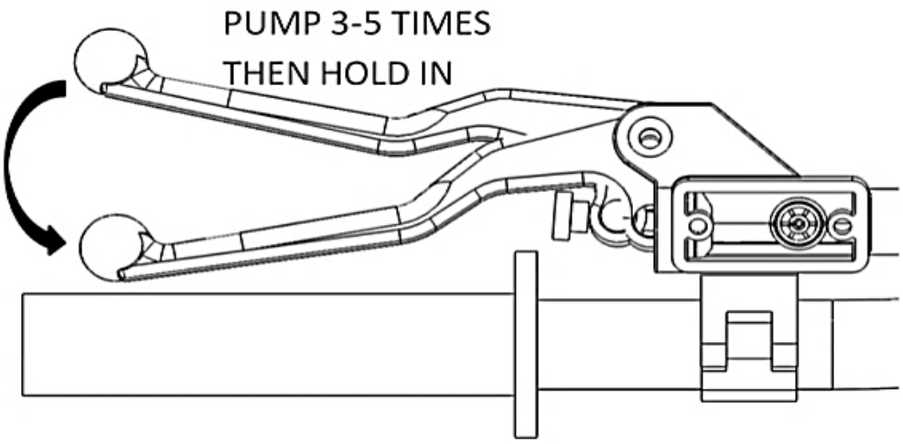


2. On the handlebar, adjust the clutch master cylinder reservoir so that it is somewhat level. Remove the cap and bladder from the clutch master cylinder.



3. Fill the master cylinder with **Dot 4** fluid until it is 75% full.

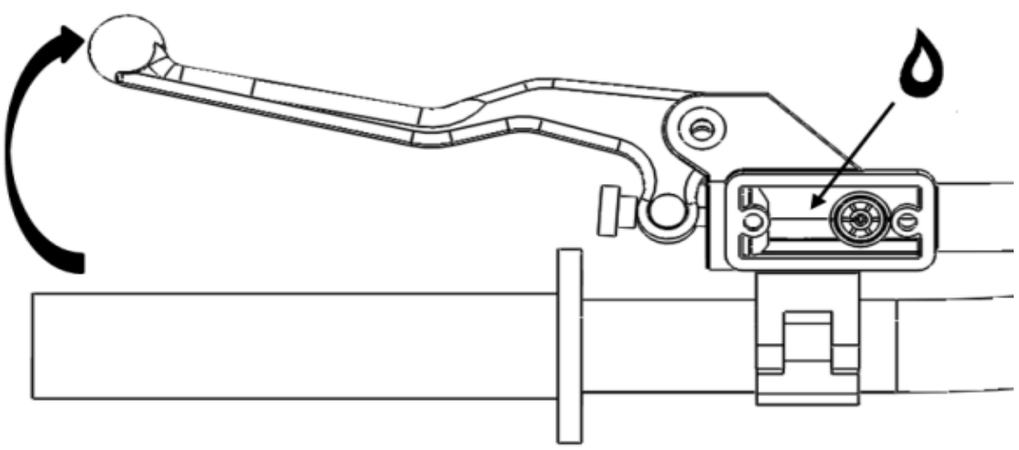
4. Pump the clutch lever 3 to 5 times, then hold it against the handlebar/grip.



5. While still holding the clutch lever against the handle bar, use a wrench to open the slave cylinder bleed port. Air and fluid should flow into the bleed tube.

6. Before releasing the clutch lever, tighten the bleed port.

7. Slowly release the clutch lever and check the fluid level in the clutch master cylinder. Fill if necessary.

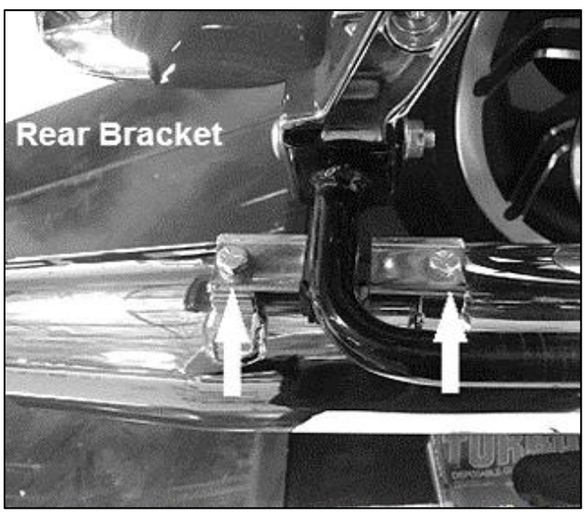


8. Repeat steps 4 - 7 until air no longer comes out of the bleed port and the clutch feels normal.
9. Check that the clutch master cylinder is 75% full, then secure the reservoir bladder and cap with the original screws.
10. Remove the bleed tube from the bleed bolt and remove the bottle.
11. Torque the bleed screw to **150 in-lb (17 N-m)** with a socket or the closed end of an 3/8 wrench.

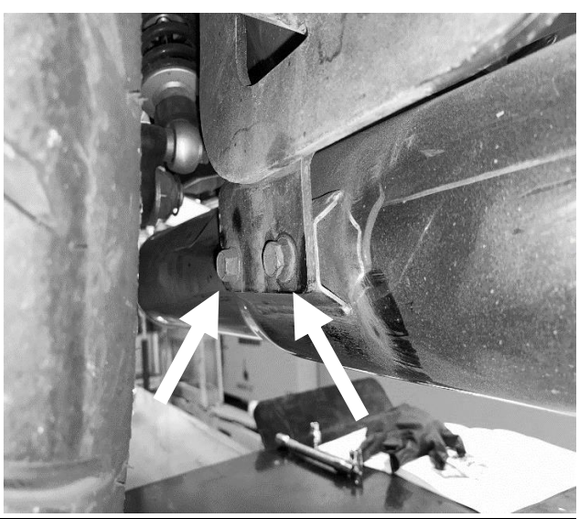
Note: *Be sure to use a socket or closed end wrench when torqueing the bleed screw. Using an open-ended wrench can strip the hex screw*.

Transmission Cover and Exhaust

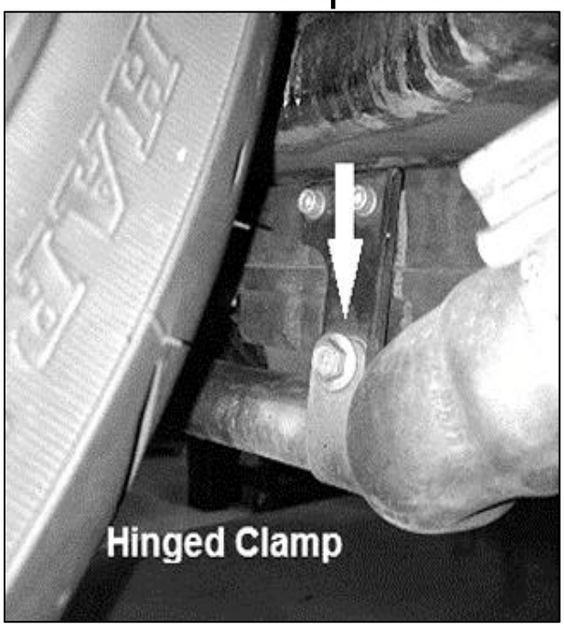
12. Check for leaks around the bleed port and hydraulic line.
13. Attach the transmission inner side cover. Torque bolts to **84-108 in-lbs (9.5-12.2 Nm)**.
14. Tighten the exhaust system using the method listed below.
    a. Muffler
        i. Tighten Rear mounting bracket and torque to **25 ft lbs**



OR



ii. Apply Loctite to the hinged clamp bolt and torque to **25 ft lbs**

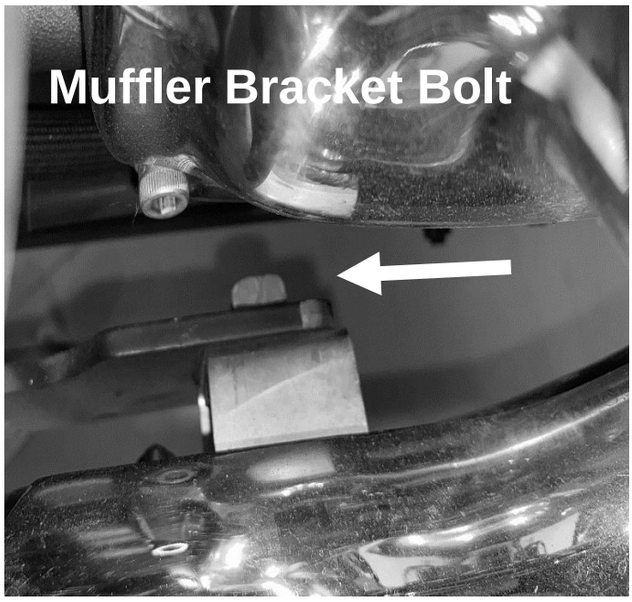


OR

iii. Torque to the specific value for the type of mount.

- Muffler bracket strap **18 ft lbs**
- Muffler bracket bolt **25 ft lbs**

OR



b.<u>Header Assembly</u>

i. Starting with the front cylinder torque the top exhaust flange nut to **9-18 in-lbs (1.0-2.0 Nm)**

ii. Next torque the lower exhaust flange nut to **100-120 in-lbs (11.3-13.6 Nm)**

iii. Now torque the top exhaust flange nut to **100-120 in-lbs (11.3-13.6 Nm)**

iv. Repeat steps **i-iii** for the rear cylinder exhaust flange nuts

NEED ADDITIONAL HELP?

Website
www.rekluse.com/support

Frequently Asked Questions
www.rekluse.com/faq

Support Videos
www.rekluse.com/support/videos

Phone
(208) 426-0659

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

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

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