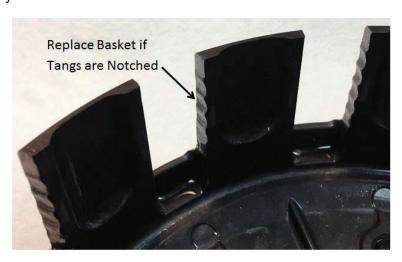


# **READ ME FIRST**

### **BASKET WEAR**

The Rekluse TorqDrive clutch employs basket sleeves to protect the basket from wear caused by the friction disks. With the sleeves, the basket will no longer notch, which may give the appearance that the basket is not wearing and does not need to be replaced.

Before installation of the basket sleeves, inspect the clutch basket for notching. Do not install sleeves or use product 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. The basket should also be inspected for any fatigue cracking at the tang bases. Replace basket if necessary.



### **DAMPER WEAR**

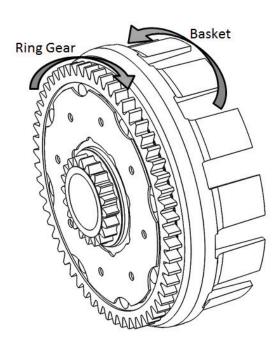
Inspect the clutch basket for damper and/or spring rotational play. Dampers/springs should not be loose. The rubber dampers in the basket assembly will still wear and will eventually breakdown. This is a normal wear item that is usually evident by notching of the basket from the OE friction disks. Since the basket sleeves prevent notching, the basket and dampers should be inspected periodically. This is done best with the basket out of the engine.

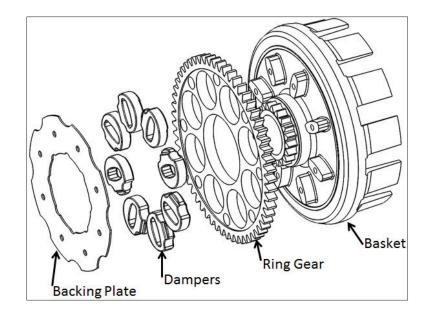
### To inspect the dampers:

- Remove the basket from the engine, hold the ring gear in one hand and the basket in the other and twist in opposite directions. The rotational play is sometimes accompanied by an audible "click" sound when rotating back and forth.
- If any rotational play can be felt between the basket and the ring gear, the dampers are
  worn and either the dampers and/or basket assembly need to be replaced. If worn
  dampers are not replaced, accelerated wear can occur to the rest of the clutch.

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# Rotate basket and ring gear in opposite directions to check for any rotational play in the dampers





### PRESSURE PLATE SPRINGS

The Rekluse TorqDrive clutch comes with two sets of pressure plate springs so the rider can choose to have either a lighter lever pull or more torque transfer through the clutch. **DO NOT** use higher force springs than those included in the kit. Clutch and/or engine damage could occur from higher force springs which could result in bike damage, injury and/or death.

### **NEW FRICTION DISK BREAK-IN**

### **AWARNING**

Failure to follow the oil screen/filter inspection process after break in could cause motor oil delivery failure which can result in motor failure, serious injury, or death.

Following the installation of a new set of friction disks, there will be a short break in period during which the friction disks will wear in somewhat. Following this wear in period, it is vital to inspect the oil screens and/or oil filter.

- Soak new friction disks in oil for at least 5 minutes
- Install new friction disks
- Ride the bike for an initial period
- Inspect the oil screens and/or oil filter, and change oil as necessary

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# INSTALLATION & USER'S GUIDE

TorqDrive® Clutch Pack
For BMW S1000/S1000RR/S1000XR/HP4

Doc ID: 191-2809001 Revision: 101519

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### **OVERVIEW**

This kit replaces the OE (Original Equipment) clutch pack with a Rekluse TorqDrive<sup>®</sup> clutch pack. The following parts are replaced:

- All OE steel drive plates will be replaced with Rekluse steel drive plates.
- All OE friction disks will be replaced with Rekluse TorqDrive<sup>®</sup> disks.
- The OE pressure plate springs & spring retainers are replaced with Rekluse springs & screw sleeves.

# **INSTALLATION TIPS**



 Read the safety information sheet included with your kit.



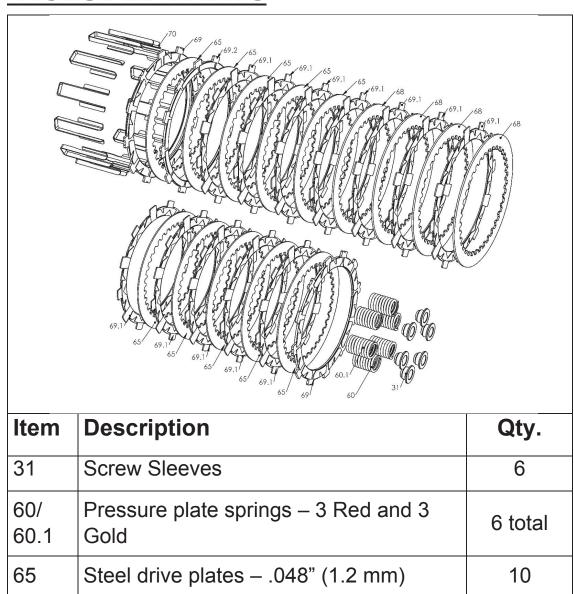
- Protect eyes and skin wear safety glasses and thin disposable work gloves.
- Read this entire document before performing any steps.
- Place motorcycle on its side stand. This makes the clutch work easier and eliminates the need to drain the oil.
- For optimal clutch performance Rekluse recommends using 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 NEEDED**

- 5 mm Allen
- T25 Torx
- T30 Torx
- Torque wrench
- Pick set
- 10mm Wrench
- Standard Screwdriver

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# **INCLUDED PARTS**



Visit <a href="www.rekluse.com/support">www.rekluse.com/support</a> for a full parts fiche illustration and part numbers.

Steel drive plates – .060" (1.5 mm)

Thick friction disks - .110" (2.8 mm)

Friction disk judder - .110" (2.8 mm)

4

2

12

1

12

9

68

69

69.1

69.2

Not Shown

70

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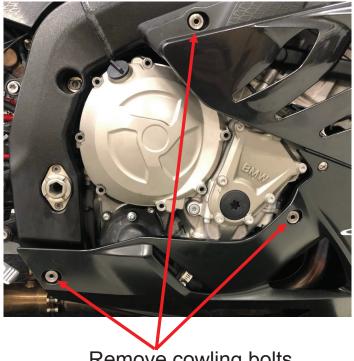
TorqDrive® friction disks

Basket sleeves

**Clutch Cover Bolts** 

# **DISASSEMBLE THE CLUTCH**

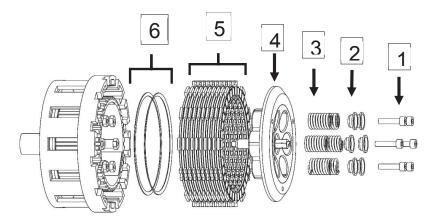
1. Remove the 3 bolts securing the right side cowling to the frame using a T25 torx.



Remove cowling bolts

- 2. With the bike on its side stand, use a T30 Torx to remove the clutch cover bolts. There are 2 bolts behind the rightside cowling.
- 3. With all the clutch cover bolts removed gently remove the clutch cover. Set the OEM clutch cover bolts to the side they will not be reused.

### 4. Use a 5 mm Allen to remove the following OE parts:



1	Pressure plate bolts
2	Pressure plate spring retainer
3	Pressure plate springs
4	Pressure plate
5	Clutch pack
6	Judder seat and spring

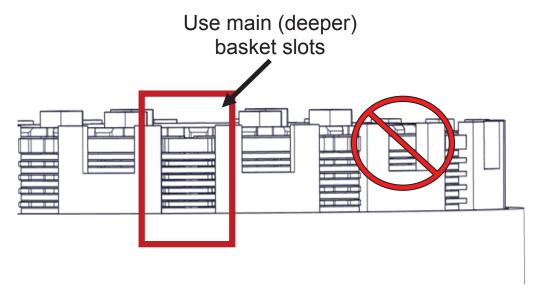
**NOTE:** Item 2, 3, & 5 are not reused with the Rekluse clutch pack and can be set aside.

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# **CLUTCH PACK INSTALLATION**

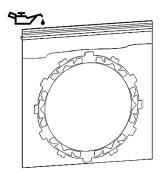
### **Notes for installation**

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



# Install the clutch pack

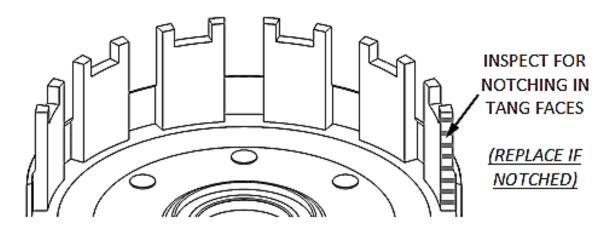
1. Soak the Rekluse friction disks in new oil for at least 5 minutes. Make sure the friction disks are coated on both sides.



2. Inspect the clutch basket for notching. Do not install sleeves or use product 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.

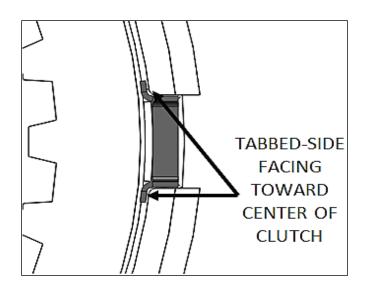
### **AWARNING**

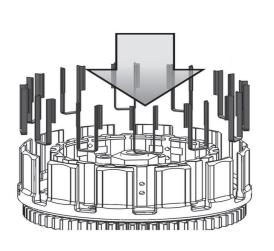
Failure to inspect the basket and replace if necessary could result in death, serious injury, and/or property damage.



 Install ALL the Rekluse basket sleeves into the 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.

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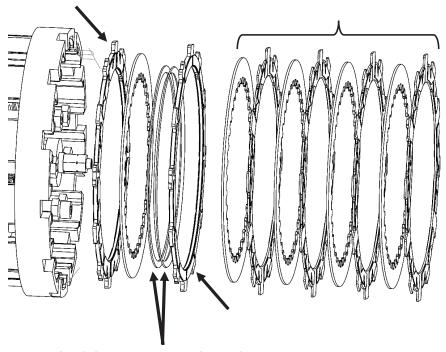




- 4. Install a thick Rekluse friction disk into the clutch basket.
- 5. Install a .048" (1.2mm) steel drive plate into the clutch basket.
- Install the judder Rekluse friction disk into the clutch basket.
- Install the judder seat, then install the judder spring, cupped side up.
- 8. Next, install a .048" (1.2 mm) steel drive plate followed by a thin friction disk.
- 9. Continue to alternate 3 additional .048" (1.2 mm) steel drive plates with 3 additional thin friction disks.

10. On top of the last friction disk, install a .060" (1.5 mm) steel drive plate followed by a thin friction disk.

Alternate - 4 .048" (1.2 mm) steel Thick friction disk drive plates and 4 friction disks

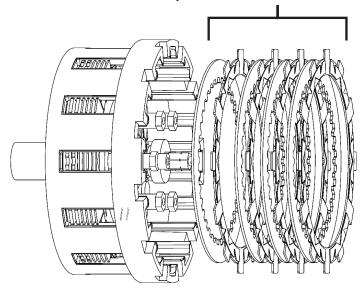


Judder seat and spring

11. Alternate the remaining 3 - .060" (1.5 mm) steel drive plates with 3 additional thin frictions.

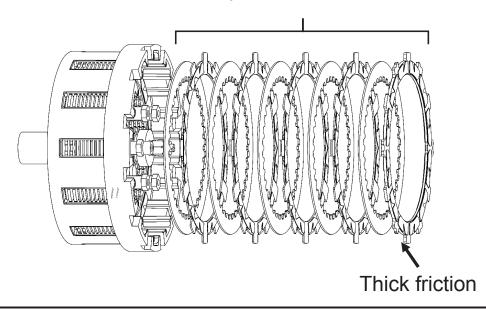
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# Alternate a total of 4 - .060" (1.5 mm) steel drive plates with 4 friction disks



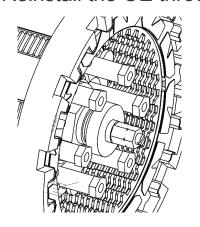
- 12. On top of the last friction disk, install a .048" (1.2 mm) steel drive plate.
- 13. Alternate the 4 remaining thin frictions with the 4 remaining .048" (1.2 mm) drive plates.
- 14. On top of the last steel drive plate, install the last thick friction disk.

Alternate 5 - .048" (1.2 mm) steel drive plates and 5 friction disks



### **INSTALL PRESSURE PLATE**

1. Reinstall the OE throw-out rod into the main shaft.

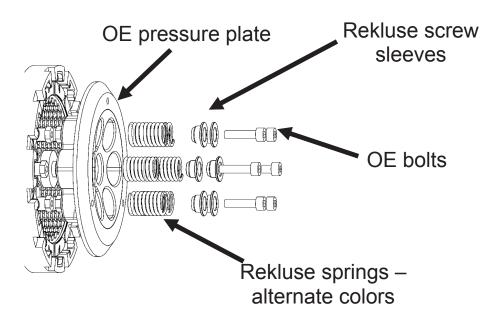




- 2. Install the pressure plate making sure the alignment teeth index into the hub.
- 3. Install the Rekluse pressure plate springs.

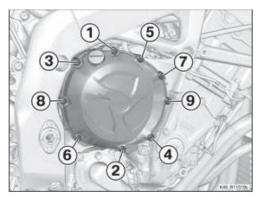
**Note:** Be sure to alternate springs if you are using two different color springs to keep even pressure on the clutch.

4. Reinstall the OE pressure plate bolts using Rekluse provided screw sleeves.



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- 5. Lightly tighten the bolts, then torque them in a diagonally opposite sequence, working clockwise to apply final torque of 89 in-lb (10 N-m).
- 6. Verify and adjust lever free play to OEM specifications
  - OEM clutch lever free play: 0.02" 0.04" (0.5mm 1mm)
- 7. Reinstall the clutch cover, then lightly tightening the cover bolts in the following pattern. Tighten bolts in small increments before torqueing the cover bolts. <u>DO NOT REUSE ORIGINAL BOLTS.</u> Use rekluse provided bolts or order new bmw bolts part # 1114724485 Qty: 9
  - Rekluse provided bolts 80 in-lb (9 nm)
  - New OEM bolts 26 in-lb (3nm) + 90°.



8. Reinstall the 3 side cowling bolts.

# **MAINTENANCE**

### **Clutch wear**

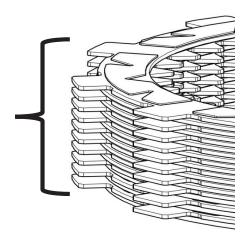
Rekluse clutch packs are built using high quality materials but do wear based on the rider's use, type of terrain, and natural wear and tear.

- Clutch longevity and performance is greatly increased with oil quality and other bike factors that reduce engine heat.
- Riding style, such as speed, engine RPM, and terrain can also affect the life of the clutch pack.
- To keep your clutch performing at its best, perform regular maintenance on your bike and clutch based on your riding style.

### **Clutch parts**

Inspect all your clutch parts at regular intervals for signs of wear or excessive heat and replace components as necessary.

 Measuring the clutch pack can help determine if the components need replacing. The clutch pack is measured with the entire clutch pack together. Include the friction pad in the measurement. See the Setup Sheet at the back of the manual for clutch pack measurements.

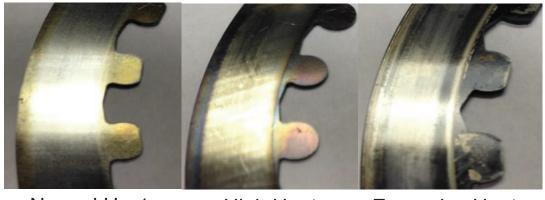


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# **INSPECT THE CLUTCH PACK**

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 our website at 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 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. Not all friction disks look the same and may look different than pictured.



**Normal Friction** 



Glazed Friction

### **Preventive Maintenance**

- 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.
- Keep up with regular oil changes as per the bike manufacturer's recommendations. Clutch performance and longevity depend on oil quality.
- Change the oil filter and/or clean the oil screen with every oil change.

### **Basket:**

 Inspect and replace basket sleeves if they appear to be notched from friction disks. Rekluse recommends replacing them according to the maintenance schedule, or every time friction disks are replaced.

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# **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

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