

 $\Delta$  WARNING: All involved customers must be notified, all involved units must be corrected as per instructions herein.

#### Campaign no.: 2010–0005

June 7<sup>th</sup>, 2010 Subject: SE5 clutch sticking engaged

No. **2010-5** 

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2010	Spyder™ RS SE5	A2AE, A2AL, A2AV, B1AC, B1AF	See attached list
2010	Spyder™ RT SE5	A4AA, A4AE, A4AF, A4AG, A9AA, A9AC, A9AD, A9AF	See attached list

# PROBLEM

When bringing a vehicle equipped with the SE5 semi-automatic transmission to a full stop, the clutch may remain engaged stalling the engine. Once the engine is stalled, it could be impossible to re-start and the rear wheel could be blocked. If this happens, it may be impracticable to push the vehicle off the roadway increasing the risk of a crash possibly resulting in injury or death.

# SOLUTION

Update the centrifugal clutch assembly with new components as per following procedure.

# **PARTS REQUIRED**

PART	PART NUMBER	QUANTITY
Centrifugal weight roller	420 229 947	3
Gasket ring	420 430 623	2
Sealing washer	420 950 141	1
Gasket	420 651 242	1 (as required)
XPS™ synthetic blend oil (summer grade)	293 600 121	1

# PROCEDURE

READ ALL INSTRUCTIONS COMPLETELY BE-FORE BEGINNING THE PROCEDURE.

**NOTICE** The clutch housing and all clutch parts must be kept clean and free of all dirt and debris. Before installation of parts, remove all old threadlocker from fasteners and clutch shaft using a clean rag, wire brush and brake cleaner as specified. Remove any excess new threadlocker from hub retaining nut and shaft. Failure to follow these instructions may lead to clutch malfunction or failure.

### **Vehicle Preparation**

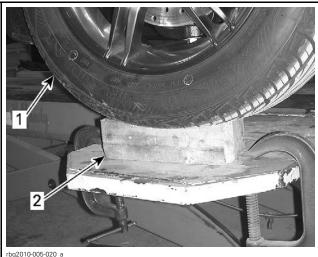
- 1. Ensure parking brake is set.
- 2. Remove body parts required to access the clutch cover located on the RH side of the vehicle. Refer to *BODY* subsection in the applicable shop manual for details.
- 3. Also remove the following body parts:
  - Frame support for RH middle side panels
  - Radiator deflector panel
  - Aft bottom pan.
- 4. Start engine and let run at idle for 30 seconds.
- 5. Lift RH front wheel off the ground.

Printed in Canada. (rbg2010-005 en JL)

©2010 Bombardier Recreational Products Inc. and BRP US Inc. All rights reserved.

®™ and the BRP logo are trademarks of Bombardier Recreational Products Inc. or its affiliates.

6. Place a 10 cm (4 in) wooden safety block under the RH front tire and lower the vehicle down onto the block.

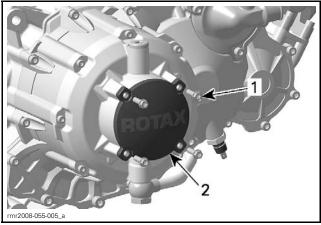


RH front tire 10 cm (4 in) wooden block 1. 2.

NOTE: Running the engine for 30 seconds and setting the RH front wheel on a wooden safety block will minimizing engine oil loss when the clutch cover is removed.

# **Clutch Cover Removal**

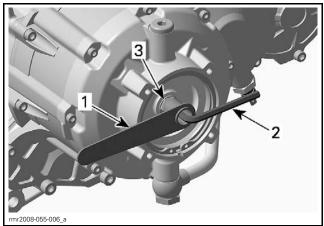
- 1. Install a drain pan under the clutch cover and oil line to catch engine oil spillage.
- 2. Remove hydraulic piston cover retaining screws.



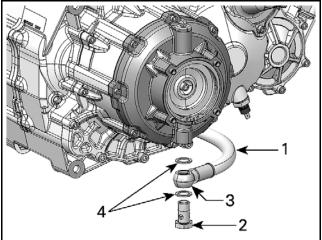
Screws (x4)

2. Hydraulic piston cover

3. Using a 17 mm deep offset wrench, unscrew the hydraulic piston nut while holding the clutch release shaft with a 5 mm Allen wrench.

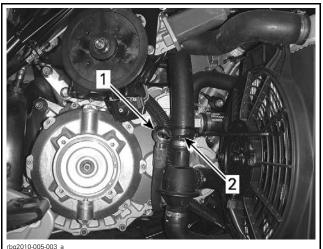


- Deep offset wrench 1
- Allen wrench
   Hydraulic piston nut
- 4. Remove oil hose from clutch cover.



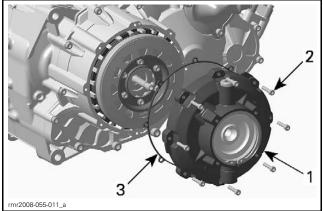
rbg2010-005-001\_

- Oil hose 1.
- 2. Banjo bolt 3. Oil hose fitting
- 4 Gaskets
- 5. Secure the oil hose to the side in and upwards position using a locking tie.



Oil hose 1. 2. Locking tie

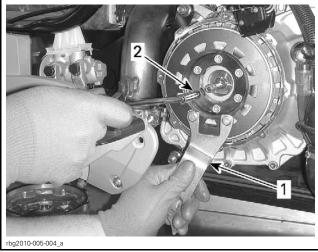
6. Remove clutch cover retaining screws.



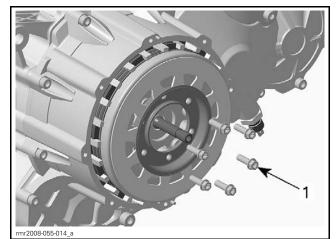
- Clutch cover
- Retaining screws Gasket 2. 3.
- 7. Remove clutch cover from the engine.

#### **Pressure Plate and Clutch Disk Spring Removal**

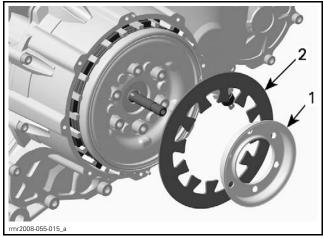
1. Use a common clutch holder tool to prevent the clutch from turning, then use a socket wrench to loosen and remove the inner plate retaining screws.



Common clutch holder tool used to hold clutch
 Appropriate socket wrench

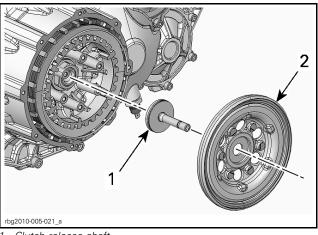


- Inner plate retaining screws (x6) 1.
- 2. Remove inner plate and disk spring.



- Inner plate
   Disk spring
- 3. Pull on the clutch release shaft and remove the:
  - Pressure plate
  - Clutch release shaft.

NOTE: Do not remove retaining ring from pressure plate.



Clutch release shaft
 Pressure plate

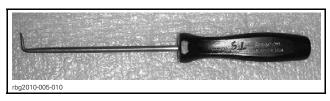
**NOTICE** Ensure the machined surfaces on the convex side of the pressure plate do not get damaged.

### **Clutch Plate Removal**

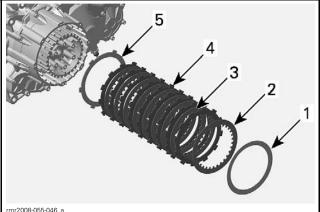
Remove the following parts from the clutch assembly:

- Disk spring
- Adjustment plate(s)
- Steel driven plates
- Friction plates
- Steel driven plate (2.5 mm (.098 in) thick).

NOTE: Two small hooked tools such as the one in the following illustration may used to help remove the clutch plates however, be very careful not to scratch or damage the clutch parts.



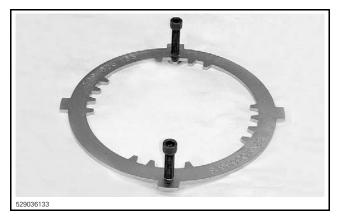
**NOTICE** Be sure to store the clutch plates in the same order they were removed.



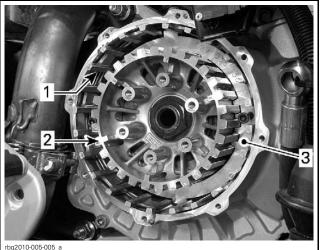
- Disk spring
- 2. 3. Adjustment plate Steel driven plates
- 4 Friction plates
- Steel driven plate (2.5 mm (.098 in) thick)

# Clutch Hub Removal

1. Install the CLUTCH ASSEMBLY HOLDER (P/N 529 036 133) to lock the clutch hub and clutch drum together.

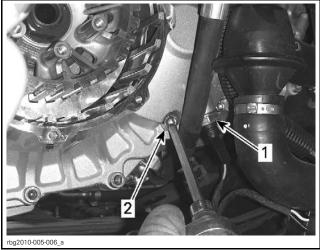


**NOTICE** Be sure to insert the clutch assembly holder in the long drum slots and to push it at least half way in. If this is not done, the clutch hub and clutch drum may crack later on.



Clutch drum

- 1 2. Clutch hub
- 3. Clutch assembly holder (P/N 529 036 133)
- 2. Remove the M8 socket head screw located just aft of the oil pressure switch.



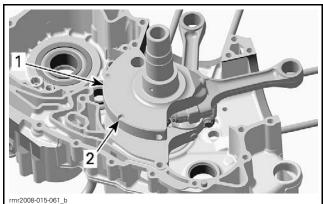
- Oil pressure switch M8 socket head screw to remove 2.

3. As you look through the screw hole in the crankcase, turn the crankshaft clockwise until you can see the notch in the crankshaft counterweight.



ROTATING CRANKSHAFT TO TDC Step 1: Socket wrench on clutch hub nut Step 2: Rotate crankshaft clockwise

NOTE: When the notch is visible in the crankcase screw hole, the rear cylinder is at TDC (Top Dead Center).



CRANKSHAFT ALIGNMENT TO TDC

- Counterweight 1.
- 2. Notch in counterweight to align in crankcase hole
- 4. Lock the crankshaft at the TDC position using the PULLER/LOCKING TOOL (P/N 529 036 098).

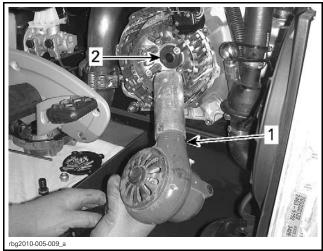


NOTE: Thread the locking tool in until it bottoms out in the crankshaft counterweight.

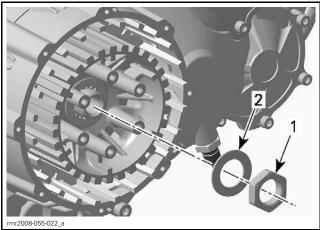


1. Puller/locking tool (P/N 529 036 098)

5. Using a heat gun, heat the hub retaining nut to approximately 100°C (212°F) to help break the hold of the threadlocker.



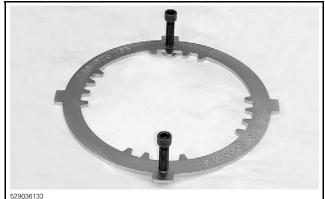
- Heat gun
   Hub retaining nut
- 6. Remove the clutch hub retaining nut and spring washer.



Clutch hub retaining nut 1.

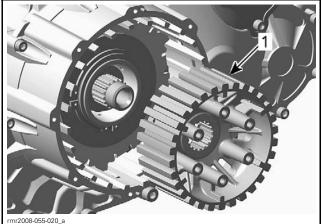
2. Spring washer

7. Remove the clutch assembly holder.



REMOVE CLUTCH ASSEMBLY HOLDER

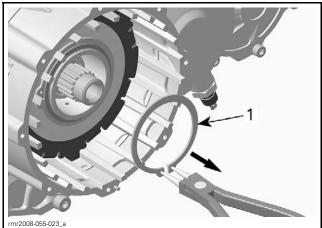
8. Remove the clutch hub.



1. Clutch hub

# **Centrifugal Clutch Removal**

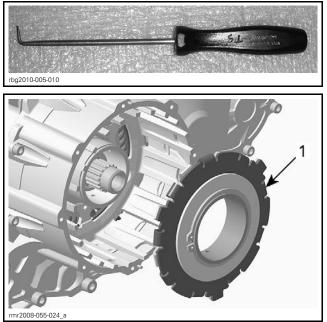
1. Remove the centrifugal clutch retaining ring.



- Retaining ring 1.
- 2. Remove centrifugal clutch assembly.

NOTE: Two small hooked tools such as the one in the following illustration may used to help pull the centrifugal clutch out.

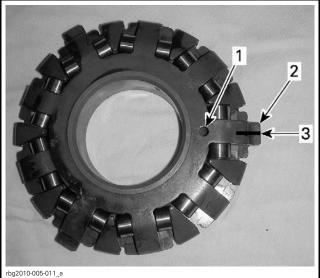
**NOTICE** Be very careful not to scratch or damage the clutch parts.



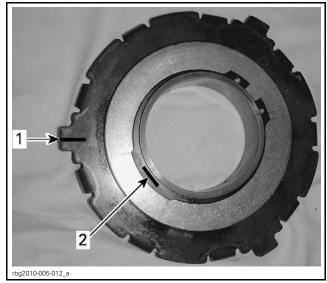
Centrifugal clutch assembly

# **Centrifugal Clutch Disassembly**

- 1. Clean and thoroughly dry the centrifugal clutch assembly to remove all lubricating oil.
- 2. Using a marker, make a mark on the long cam finger that has an alignment hole in it to indicate the position of the cam, and extend the line onto the pressure plate on the other side prior to disassembling them. Also make a mark on the retaining ring to indicate which side is outwards



- Alignment hole in cam
- 1. 2. 3. Long finger Alignment line with marker



Alignment line extended to same long finger on pressure plate 2. Mark on retaining ring

NOTE: This will help in realigning the centrifugal clutch with the clutch drum alignment pin.

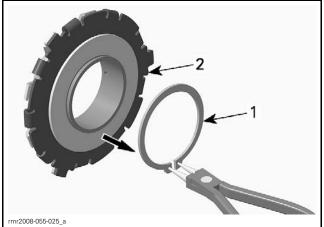
- 3. Lay the clutch assembly on a workbench with the cam facing downwards.
- 4. Remove the retaining ring that holds the clutch assembly together.

NOTE: Pressing down on the stop plate will ease retaining ring removal.



RETAINING RING REMOVAL

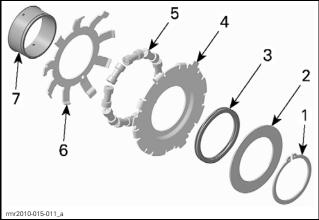
- Press down on stop plate 1
- 2. Remove retaining ring



- Retaining ring 1.
- 2. Centrifugal clutch assembly

- 5. Take hold of the pressure plate and pull the following parts from the bushing as an assembly:
  - Stop plate
  - Wave spring
  - Pressure plate.

**NOTICE** Be careful not to disturb the remaining parts. The clutch parts must be stacked in the same order and orientation as prior to removal for reassembly.



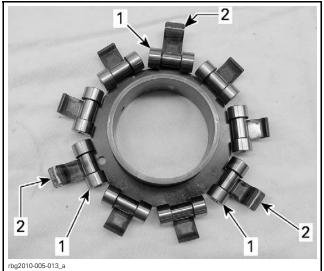
#### CENTRIFUGAL CLUTCH PARTS

- Retaining ring
- 1. 2. 3. Stop plate
- Wave spring
- 4. Pressure plate
- 5. Centrifugal weights
- 6. Cam 7. Bushing

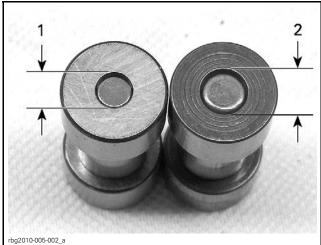
### **Roller Weight Replacement**

**NOTICE** Roller weights that are not replaced must remain in their original position.

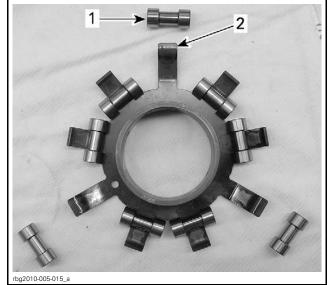
1. Remove the 3 roller weights that have red paint on them. They are mounted on the long cam fingers.



- Roller weights to remove (3) 1
- 2. Long cam fingers
- 2. Ensure each of the six remaining rollers have 4.8 mm (.19 in) pins. See following illustration.
- 3. Replace the removed rollers with new rollers (P/N 420 229 947) 4.8 mm (.19 in).



ROLLER WEIGHT IDENTIFICATION BY PIN SIZE 1. New roller weight to install (P/N 420 229 947) 4.8 mm (.19 in) 2. Old roller weight removed (P/N 420 229 945) 6 mm (.24 in)



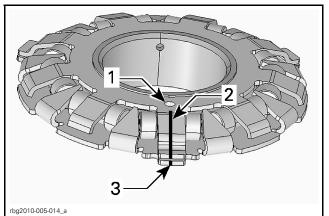
NEW ROLLER WEIGHT INSTALLATION POSITIONS New roller weight
 Long cam finger

### **Centrifugal Clutch Assembly**

**NOTICE** Assemble the centrifugal clutch with the utmost care. Failure to strictly follow procedures may cause parts to loosen and/or malfunction of the clutch, which may lead to serious engine damage.

- 1. Carefully position the following parts over the bushing, cam and rollers:
  - Pressure plate
  - Wave spring
  - Stop plate.

NOTE: Be sure to reassemble the cam and pressure plate so the longer fingers with the index marks made prior to disassembly are facing each other.



PRESSURE PLATE AND CAM ALIGNMENT

- Alignment hole
   Mark on pressure plate long finger
- 3. Mark on cam long finger



2. Using gloved hands, press down on the stop plate to compress the wave spring and install the retaining ring with the index mark facing outwards.



RETAINING RING INSTALLATION

Press down on stop plate

2. Install retaining ring with index mark facing outwards

**NOTICE** Make sure the retaining ring is fully and properly engaged in the bushing slot. The index mark made on the retaining ring prior to disassembly must be visible.

3. Lubricate the centrifugal clutch assembly with the recommended engine oil. Ensure all parts are properly lubricated.

**NOTICE** The centrifugal clutch assembly must be properly lubricated with the recommended engine oil before installing it in the clutch drum.

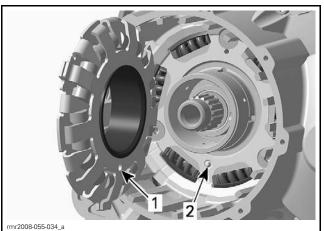
### **Centrifugal Clutch Installation**

1. Using a clean shop rag, wire brush and brake cleaner, remove all threadlocker from the threads on the end of the clutch shaft.

**NOTICE** Make sure the clutch housing, clutch drum, shaft and shaft bore are clean and free of all debris or threadlocker.

2. Install centrifugal clutch with cam alignment hole in line with clutch drum alignment pin.

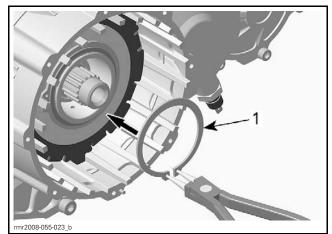
NOTICE Make sure centrifugal clutch is correctly positioned in the clutch drum. Clutch assembly must be completely pushed in the drum to ensure alignment pin engagement.



Alignment hole in centrifugal clutch

1. 2. Alignment pin on clutch drum

3. Install centrifugal clutch retaining ring.



Centrifugal clutch retaining ring

# **Clutch Hub Installation**

1. Using a wire brush and brake cleaner, remove all threadlocker from the threads in the hub retaining nut.



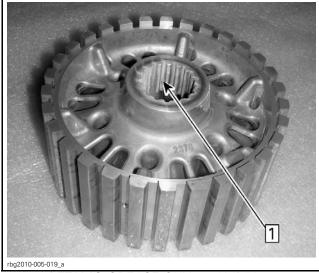
HUB NUT THREAD CLEANING 1. Wire brush and brake cleaner

2. Insert thrust washer on clutch shaft.

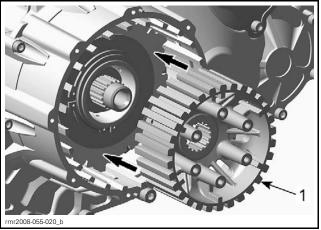


1. Clutch drum thrust washer

3. Apply PETAMO GREASE GHY 133N (P/N 420 899 271) on clutch hub splines.

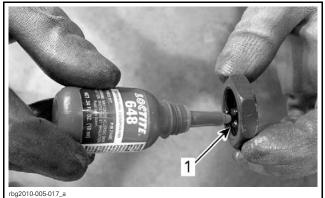


- 1. Apply PETAMO GREASE GHY 133N (P/N 420 899 271) on splines
- 4. Insert clutch hub on clutch shaft.



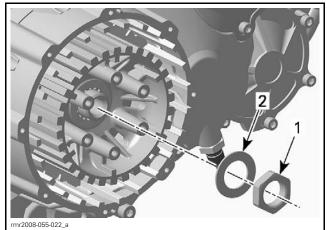
1. Clutch hub

- 5. Wipe off clutch shaft screw threads with a clean cloth and brake cleaner to ensure there is no residual grease or threadlocker.
- 6. Apply a thin line of LOCTITE 648 (GREEN) (P/N 413 711 400) on hub retaining nut threads.



1. Thin line of LOCTITE 648 (GREEN) (P/N 413 711 400) on hub retaining nut threads

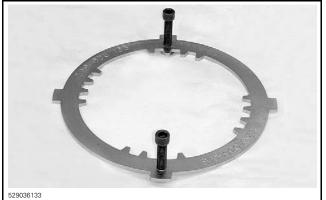
7. Reinstall spring washer and hub retaining nut. **NOTE:** Thread the hub retaining nut in until tension is felt.



Clutch hub retaining nut
 Spring washer

8. Install the clutch assembly holder tool.

**NOTICE** Be sure to insert the clutch holder tool in the long drum slots and to push it at least half way in.



INSTALL CLUTCH ASSEMBLY HOLDER

9. Torque hub retaining nut to 190 N•m (140 lbf•ft).



Step 1: Socket wrench on clutch hub nut Step 2: Torque hub nut

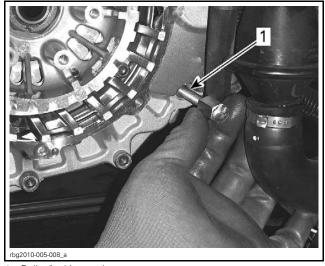
#### TORQUE FOR M24 HUB RETAINING NUT 190 N•m (140 lbf•ft)

10. Wipe off all excess threadlocker from the nut and shaft bore.



### **Clutch Plate Installation**

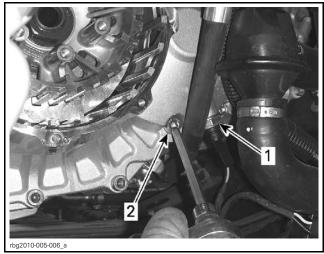
1. Remove the puller/locking tool used to lock the crankshaft.



1. Puller/locking tool to remove

2. Install the M8 socket head screw with a NEW sealing washer in the screw hole that the crankshaft locking tool was removed from.

#### **NOTICE** Make sure the M8 socket head screw is installed with a NEW sealing washer.

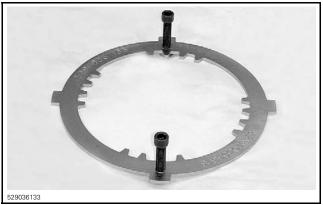


Oil pressure switch

1. 2. M8 socket head screw with NEW sealing washer

TORQUE FOR M8 SOCKET HEAD SCREW 19 N•m (168 lbf•in)

3. Remove the clutch assembly holder tool.

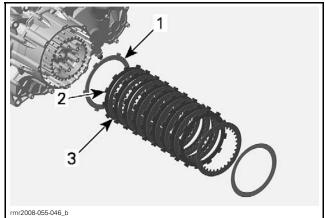


REMOVE CLUTCH ASSEMBLY HOLDER

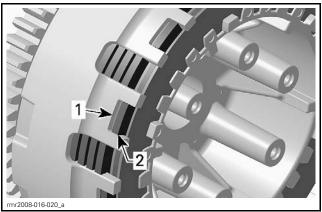
4. Insert the clutch plates in the clutch drum in the following manner.

NOTICE Be sure to insert the clutch plates as specified in the same order and orientation as when they were removed.

- 4.1 First, insert the 2.5 mm (.098 in) thick steel driven plate.
- 4.2 Then, beginning with a friction plate, install friction plates and steel driven plates in alternate order.
- 4.3 Place the tabs of the last friction plate into the shorter slots of clutch drum.



- Steel driven plate (2.5 mm (.098 in) thick)
- Friction plate
- Steel driven plate



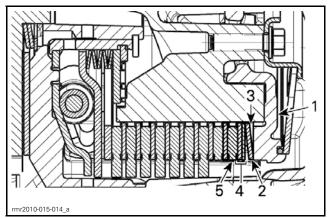
Shorter slot Last friction plate 1. 2.

#### **NOTICE** If the tabs on the last friction plate are not inserted in the shorter slots, the clutch will be noisy.

NOTE: Do not install the adjustment plate(s) or disk spring at this time.

- 5. Although the clutch pack dimension should not have changed much (if at all), carry out a CLUTCH FREE-PLAY ADJUSTMENT as described in the following topic. Then:
  - Install the calculated adjustment plate over the last friction disk.
  - Install the disk spring with the concave side facing outwards.

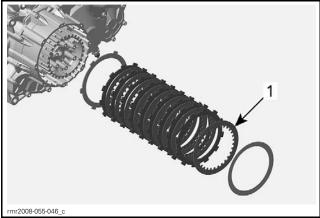
A CAUTION The disk spring must be installed with the concave side towards the pressure plate. An incorrectly assembled disk spring can cause a clutch malfunction. Clutch will not disengage.



- TYPICAL
- Pressure plate
- Disk spring Assembly direction of disk spring
- Adjustment plates 4.
- 5. Friction plate

### **Clutch Free-Play Adjustment**

**NOTE:** The clutch free play is adjusted by installing an adjustment plate(s) of the appropriate thickness. Adjustment plates of a variety of thicknesses are available for this purpose. The adjustment plates come in a kit of 11 plates (P/N 420 281 535). They range in thickness from 1 mm to 2 mm (.039 in to .079 in) in 0.1 mm (.004 in) increments.

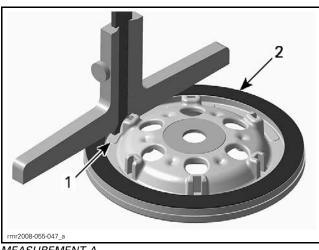


1. Adjustment plate

To determine the thickness of the clutch adjustment plate(s) required, carry out the following procedures for measuring the clutch parts.

#### Measurement A

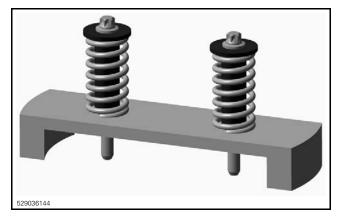
- 1. Install the disk spring on the pressure plate with the concave side facing the pressure plate.
- 2. Measure the distance from the top of the disk spring to the machined surface of the pressure plate.



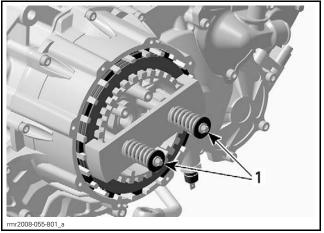
- MEASUREMENT A 1. Machined surface on pressure plate
- 2. Disk spring
- 3. Take note of the obtained measurement as "Measurement A".

#### Measurement B

Use the CLUTCH PACK COMPRESSION TOOL (P/N 529 036 144).

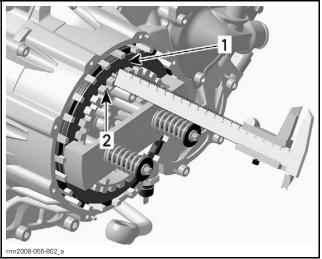


1. Install the compression tool over the plate assembly.



1. Tool installed

- 2. Alternately tighten tool screws to eliminate unevenness and to recover all play between plates.
- 3. Measure the distance from the top of the clutch hub to the top of the last friction plate.



MEASUREMENT B

- Top of friction plate
   Top of clutch hub
- 4. Take note of the obtained measurement as "Measurement B".

#### Calculation of Adjustment Plate Thickness

1. Use the following course of calculation to determine the thickness of the adjustment plate required.

CALCULATION OF ADJUSTMENT PLATE THICKNESS		
MEASUREMENTS	ADJUSTMENT PLATE REQUIRED	
B – A – 1 mm (.039 in) =	Calculated plate thickness	

NOTE: 1 mm (.039 in) equals the optimum clutch free-play.

EXAMPLE CALCULATION		
If B =	10.3 mm (.406 in)	
If A =	7 mm (.276 in)	
B minus A =	3.3 mm (.13 in)	
Minus the optimum clutch free-play	1 mm (.039 in)	
Calculated adjustment plate thickness =	2.3 mm (.091 in)	

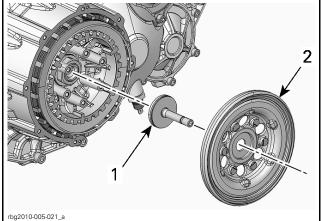
The above example requires the installation of a 2.3 mm (.091 in) thick adjustment plate.

**NOTE:** If necessary, 2 plates from the adjustment plate kit can be installed to achieve the proper thickness of the adjustment plate.

For example: To get a 2.3 mm (.091 in) thick adjustment plate install a 1.0 mm (.039 in) plus a 1.3 mm (.052 in) thick adjustment plate.

### **Pressure Plate Installation**

- 1. Ensure the following parts are installed as specified in *CLUTCH PLATE INSTALLATION* topic:
  - Calculated clutch free play adjustment plate (as required)
  - Disk spring.
- 2. Using a clean shop rag, a wire brush and brake cleaner, clean all threadlocker or grease from the screw threads of the clutch release shaft.
- 3. Also clean the M6 hexagonal screws to remove old threadlocker (inner plate retaining screws).
- 4. Insert the clutch release shaft through the convex side of the pressure plate.
- 5. Insert the pressure plate onto the hub with the concave side out.

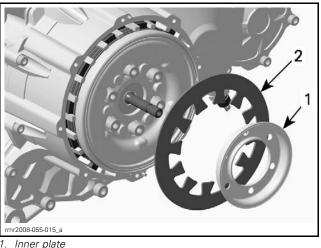


1. Clutch release shaft

2. Pressure plate (concave side out)

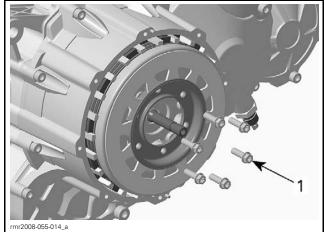
6. Install the disk spring and inner plate.

**NOTICE** The disk spring must be installed with the concave side towards the pressure plate.



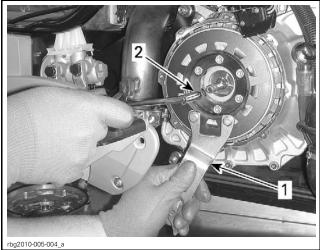
2. Disk spring

- 7. Apply a drop of LOCTITE 243 (BLUE) (P/N 293 800 060) on each inner plate retaining screw.
- 8. Install the inner plate retaining screws and tighten them until a tension is felt.



1. Inner plate retaining screws (x6) with LOCTITE 243 (BLUE) (P/N 293 800 060)

Use a common clutch holder tool to prevent the clutch from turning, then tighten retaining screws to  $11 \text{ N} \cdot \text{m}$  (97 lbf  $\cdot \text{in}$ ) using a crisscross pattern.

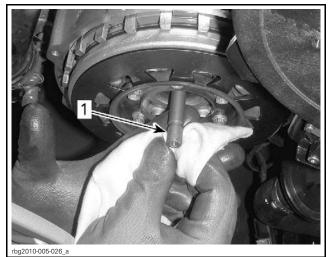


Common clutch holder tool used to hold clutch
 Appropriate socket wrench

TORQUE FOR INNER PLATE RETAINING SCREWS 11 N•m (97 lbf•in)

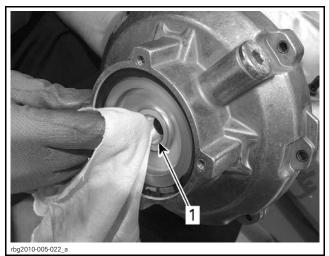
### **Clutch Cover Installation**

1. Ensure that all grease and threadlocker has been removed from the clutch release shaft threads. Use a wire brush, a clean rag and brake cleaner as required.



1. All grease and old threadlocker removed

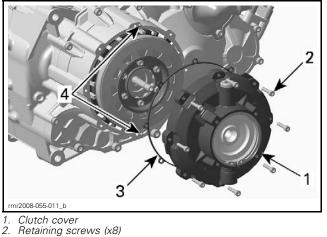
2. Wipe clean the seat of the hydraulic piston nut.



1. Seat of the hydraulic piston nut

- 3. Ensure the clutch cover gasket is in good condition and correctly positioned. Replace if necessary.
- 4. Ensure the clutch cover is properly positioned on the two alignment pins provided on the clutch housing.

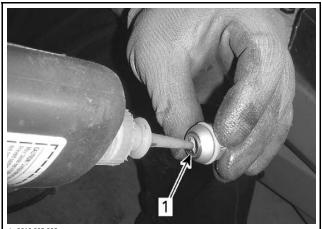
**NOTICE** The oil hose outlet must be at the 6 o'clock position.



- 2. 3. 4. Gasket
- Alignment pins

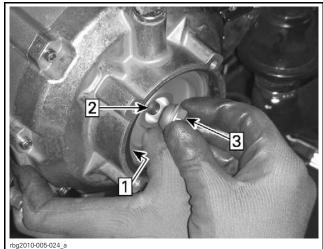
CLUTCH COVER RETAINING SCREW TOQUE 5 N•m (44 lbf•in)

5. Apply a drop of LOCTITE 243 (BLUE) (P/N 293 800 060) to the threads of the M10 hydraulic piston nut.

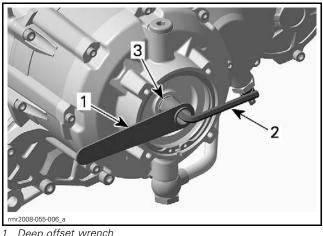


rbg2010-005-023 a M10 HYDRAULIC PISTON NUT

- 1. Loctite 243 (blue) on nut threads
- 6. Install the M10 hydraulic piston nut.



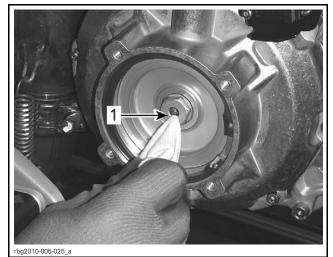
- Push the hydraulic piston in
   Expose the clutch release shaft
   Thread M10 nut on clutch release shaft
- 7. Using a 17 mm deep offset wrench, torque the hydraulic piston nut while holding the clutch release shaft with a 5 mm Allen wrench.



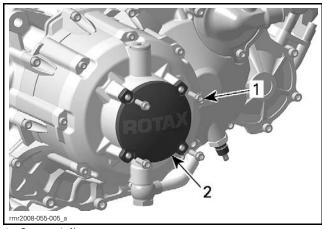
- Deep offset wrench Allen wrench Hydraulic piston nut 1. 2. 3.

HYDRAULIC PISTON NUT TOQUE 15 N•m (133 lbf•in)

8. Wipe off all excess threadlocker.



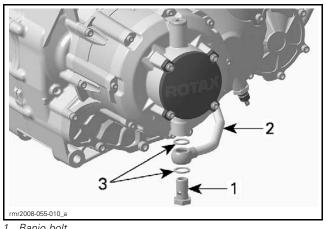
- 1. Excess thread locker
- 9. Install hydraulic piston cover.



- Screws (x4) 1.
- 2. Hydraulic piston cover

#### PISTON COVER SCREW TOQUE 11 N•m (97 lbf•in)

10. Install oil line with NEW gasket rings.

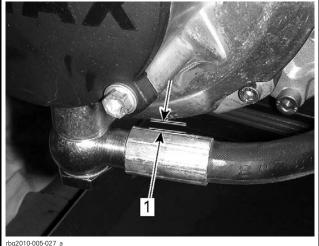


- Banjo bolt Oil hose
- 2. Oil hose 3. NEW gasket rings

#### BANJO BOLT TOQUE

30 N•m (22 lbf•ft)

11. When torquing banjo bolt, be sure to maintain a minimum gap of 5 mm (.2 in) between the oil hose and clutch cover.



OIL HOSE TO CLUTCH COVER GAP 1. 5 mm (.2 in)

### **Final Vehicle Preparation**

- 1. Remove wooden block from under RH front wheel.
- 2. Start engine and check for oil leaks.
- 3. Install all removed body parts.
- 4. Adjust engine oil level as described in the applicable shop manual.
- 5. Test drive vehicle to ensure proper clutch operation.

# WARRANTY

Submit a warranty claim using the following information:

CAMPAIGN NUMBER	2010-0005
Claim type	Campaign claim
Action	Repair
Flat Rate Time RS SE5 Model	1.4 hour
Flat Rate Time RT SE5 Model	1.5 hour

Click in the *REPAIR BOX* while completing your claim on BOSSWeb.

**NOTE:** This flat rate includes time for inspection and repair even if you perform the inspection only.

REPAIR	<ul> <li>✓</li> </ul>

### **Claiming Procedure**

For claiming procedure, refer to the *DEALER/DIS-TRIBUTOR WARRANTY GUIDE*.

**IMPORTANT:** Dealers must return defective parts to support their claims.

#### **Shipping Addresses**

USA DEALERS	BRP c/o Warranty Department 7575 Bombardier Court Wausau, WI 54401
CANADIAN DEALERS	BRP Warranty Parts Inspection Center 565 de la Montagne Valcourt, QC, J0E 2L0
OTHERS COUNTRIES	Contact your local distributor or BRP Regional Office.

# Warranty Shipping Address Decals

Warranty shipping address decals can be ordered if needed.

COUNTRY	P/N
U.S.A.	490 901 601
Canada	484 500 001

# **SERIAL NUMBER LISTING OF AFFECTED VEHICLES**

*Model: A2AE* 000001

*Model: A2AL* 000001

#### Model: A2AV

000006 From 000010 to 000011 000014 000016 000021 000023 From 000025 to 000027

#### Model: A4AA

000401 From 000403 to 000425 From 000569 to 000622 From 000624 to 000627 From 000629 to 000638 From 000640 to 000654 From 000656 to 000657 From 000659 to 000662 000665 From 000667 to 000675 From 000677 to 000690 From 000692 to 000698 From 000700 to 000701 From 000703 to 000705 From 000708 to 000714 From 000716 to 000737 From 000739 to 000740 From 000742 to 000780 From 000782 to 000784

#### Model: A4AE

From 000277 to 000492 From 000829 to 000860 From 000862 to 000915 From 000917 to 000948 From 001045 to 001062 From 001064 to 001075 From 001077 to 001080 From 001333 to 001352 From 001354 to 001355 From 001464 to 001467 From 001469 to 001472 001477 001480 001482 From 001484 to 001485 001488 From 001498 to 001499

#### Model: A4AE (cont'd)

From 001501 to 001504 From 001506 to 001511 From 001513 to 001523

#### Model: A4AF

000001 000003 From 000005 to 000007 From 000009 to 000011 000013 000015 From 000167 to 000196 From 000198 to 000204 From 000349 to 000485 From 000487 to 000521 From 000526 to 000592 From 000594 to 000607 From 000609 to 000770 From 000772 to 000791 From 000793 to 000798 From 000800 to 000816

#### Model: A4AG

From 000121 to 000124 From 000127 to 000164 From 000166 to 000204 From 000206 to 000229 From 000231 to 000245 000247 From 000253 to 000276 From 000285 to 000372 From 000375 to 000376 From 000378 to 000379 From 000387 to 000392 From 000394 to 000398 From 000400 to 000403 From 000405 to 000409 From 000411 to 000422 000425 From 000427 to 000430 From 000432 to 000435 From 000437 to 000440 From 000443 to 000471 From 000473 to 000475 From 000478 to 000480 000482 000484 From 000488 to 000490 From 000492 to 000495 From 000497 to 000498 From 000500 to 000512 From 000514 to 000530 From 000532 to 000540

#### Model: A9AA

From 000073 to 000084 From 000109 to 000184 From 000186 to 000192 From 000325 to 000341 From 000343 to 000360 From 000517 to 000535 From 000537 to 000541 From 000543 to 000564 From 000625 to 000657 From 000659 to 000672 From 000733 to 000734 From 000736 to 000740 From 000742 to 000743 From 000745 to 000754 000756 From 000884 to 000885 000889 000892 From 000895 to 000897 000899

#### Model: A9AC

From 000193 to 000216 From 000361 to 000385 From 000387 to 000396 From 000901 to 000912 000997 From 001000 to 001001 From 001007 to 001011 From 001007 to 001015 001017 001019 001022 From 001024 to 001026 From 001028 to 001029 001031

#### Model: A9AD

From 000517 to 000636 From 000781 to 000826 000828 From 001009 to 001044 From 001129 to 001131 From 001136 to 001176 From 001272 to 001279 From 001281 to 001307 From 001356 to 001358 001360 001362 From 001364 to 001365 001367 From 001369 to 001373 From 001380 to 001381 From 001383 to 001386 From 001389 to 001391

#### Model: A9AF

From 000049 to 000055 From 000057 to 000082 From 000084 to 000118 From 000120 to 000124 From 000126 to 000152 000154 000156 From 000638 to 000639 000641 From 000651 to 000649 From 000651 to 000656 From 000658 to 000665 From 000667 to 000670 000672 From 001392 to 001403

#### Model: B1AC

000149

#### Model: B1AF

From 000002 to 000005 000007 000009 From 000011 to 000013 000016 From 000018 to 000020 000022 000024