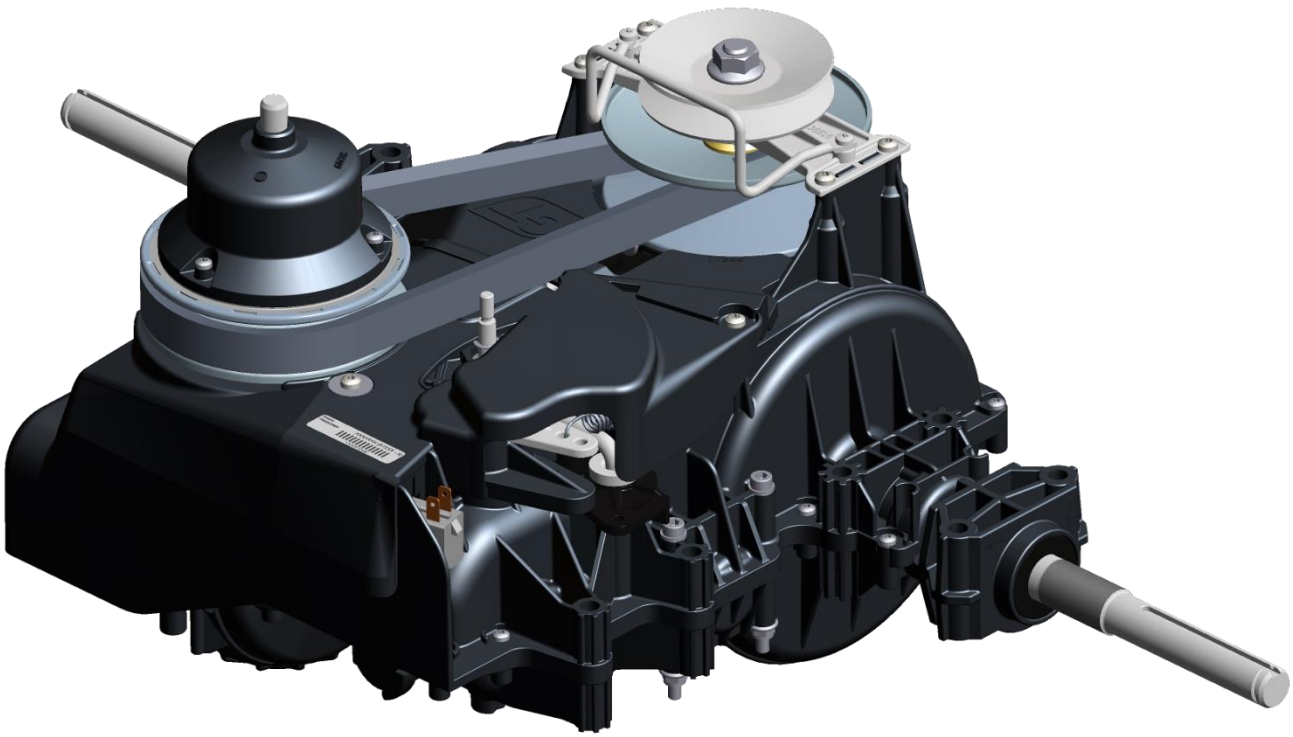
Transaxle Type RS800P



Service and Repair Manual

39008-D
Apr. 2019

Table of contents

Introduction

I- General Transmissions presentation

With 3 production sites, Mexico, China, France, and a policy of focusing on product quality and continuous innovation, General Transmissions became a world leader in the design and manufacture of gearboxes and transaxles, for lawn and garden equipment.

II- Manual introduction

The purpose of this manual is to provide service and repair information for the RS800P transaxle. Also included are exploded views, troubleshooting and repair procedures.

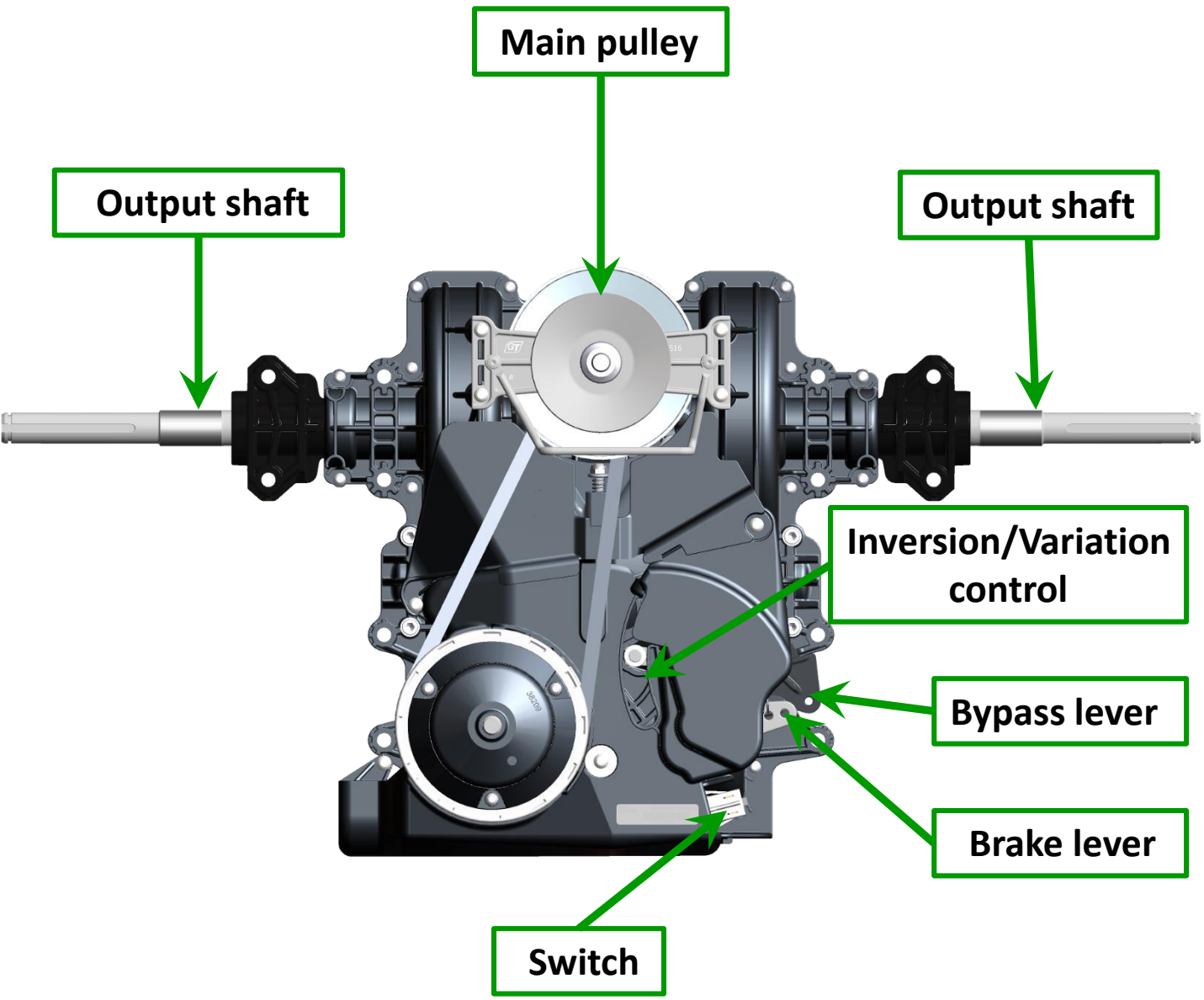
III- RS800P transaxle general description

The RS800P transaxle is designed to provide an infinitely variable speed range and reverse operation through a single pedal control. This transaxle also offers an integrated differential function.

IV- How to use this manual

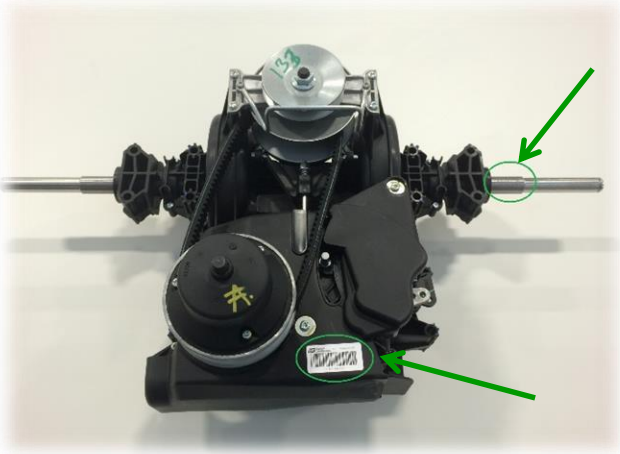
General Transmissions recommends, before tearing down the RS800P transaxle, to make sure that you have a clean and organized work area, as well as the required specific tools.
General Transmissions also recommend to carefully read the general instructions provided in the manual (p.5), before starting any repair.
After detecting the potential defective component, using the troubleshooting, follow the repair procedures. It is necessary to complete the Preliminary operation, to be able to make the Replacement operation (see troubleshooting p.7).
A defective component might cause premature wear or deterioration of other components. Make sure that all necessary kits have been replaced.
For all service or repair operations, respect the shop and government safety rules.
General Transmissions explicitly refuses any type of liability for accidents or damages caused by information provided in this document.

External Controls and Functions



Product identification

-The product identification number is located on the top of the bar-code sticker and engraved on the left output shaft.



Safety

Personal Safety

Safety precautions must be observed while servicing or repairing the transmission. This section is to be used in conjunction with all other safety material which may apply, such as:
-Local and shop safety rules.
-Government safety laws and regulations.

Do not place speed above safety.

Wear appropriate clothing. Loose or hanging clothing can be hazardous. Use the appropriate safety equipment.

Tool Safety

Use the proper tools and equipment for the tasks.

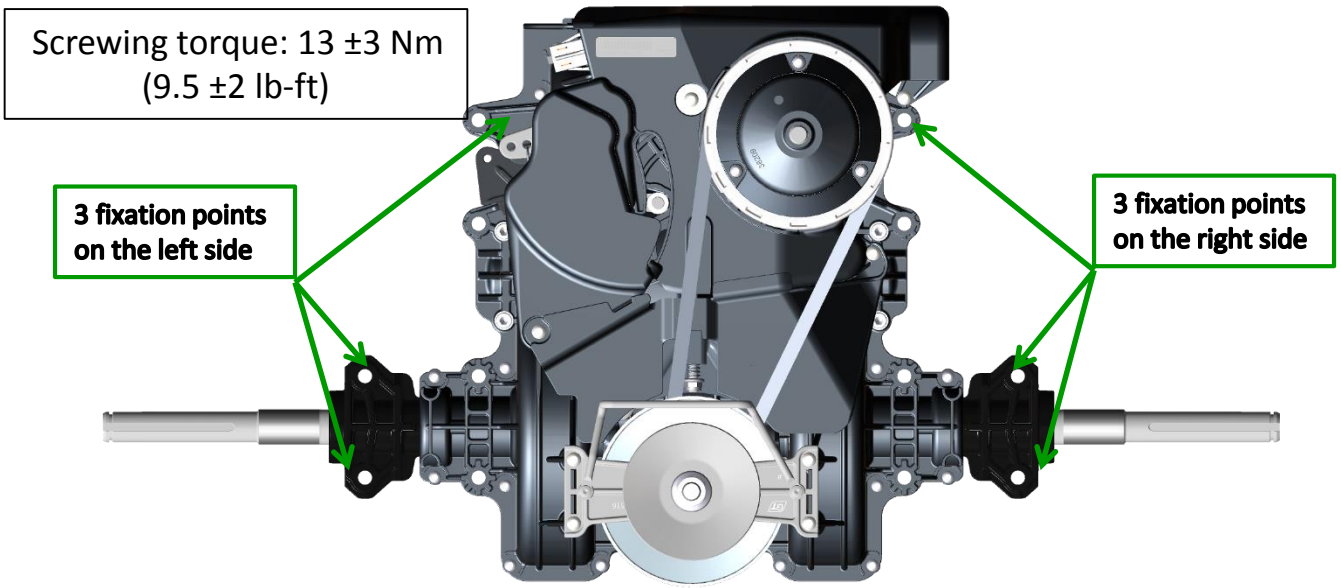
Servicing Safety

Certain procedures may require the vehicle to be disabled.

General Instructions

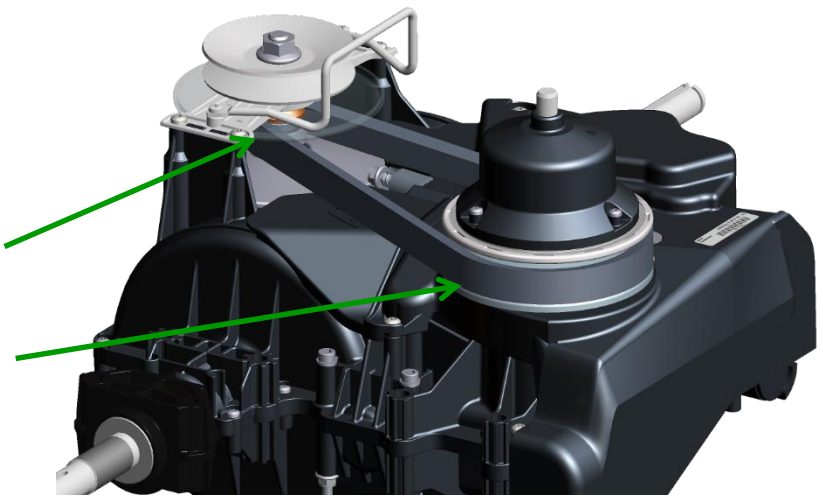
Preliminary checks before tearing down the transmission

- Clean up the transmission
- Check all the controls between tractor and transmission (see owner manual)
- Check the belt routing
- In case of failures in cold conditions, check the transmission functionality after a while in a dry place. The failure might come from a frozen control system.
- Check the correct installation of the transmission (see view below)

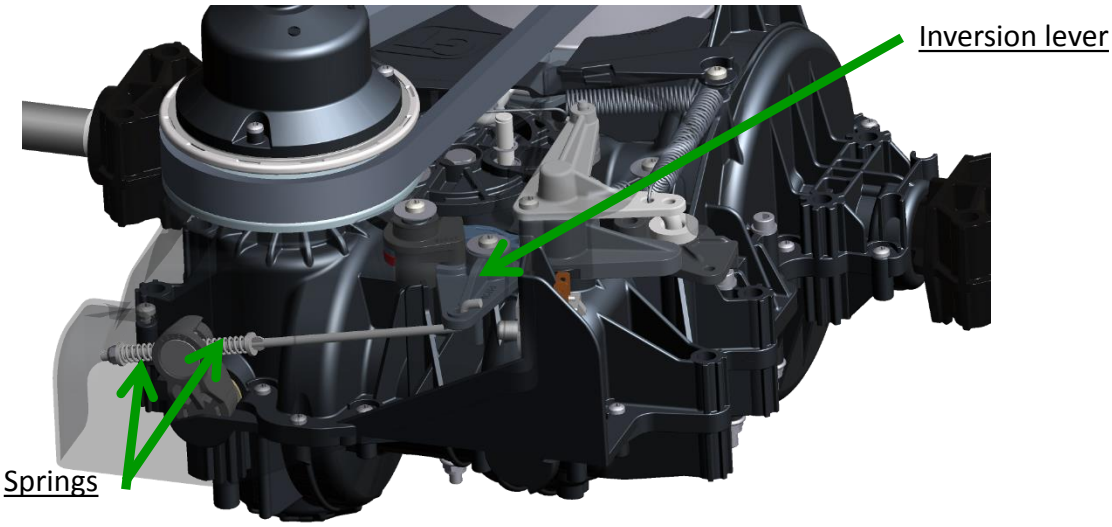


Preliminary checks before re-installing the transmission

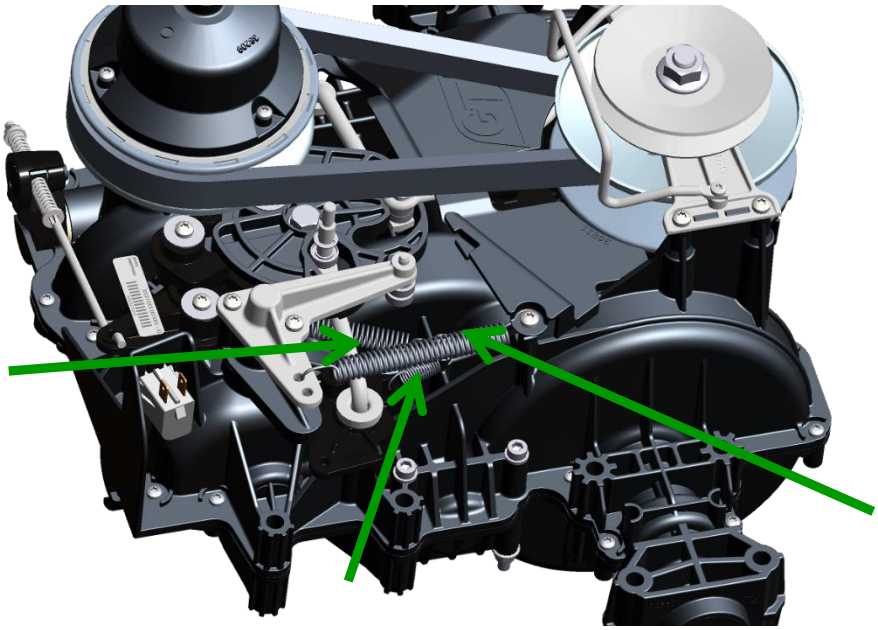
- Ensure that the variation belt is in the correct position.



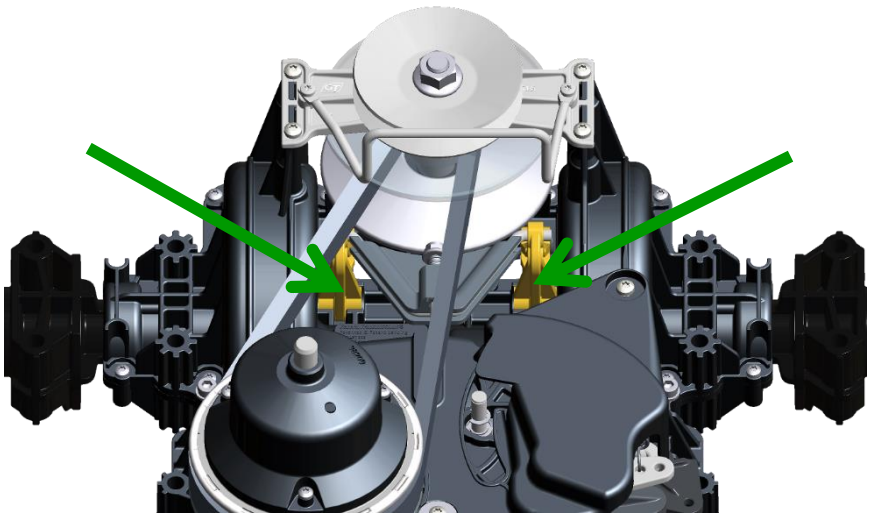
- Make sure that the inversion rod is properly seated in the inversion lever, and has its 2 springs.



- Verify the presence of the 3 springs.



- Ensure that both variation levers are in the correct position.



Troubleshooting

Troubleshooting checklist				p. 10	p. 11	p. 12	p. 13	p. 14	p. 15	p. 16	p. 17	p. 18	p. 19
Customer complaints	**Potential failure**	**Item to replace**	**PN**	**OP1 Driver**	**OP2 Driven**	**OP3 ISSS**	**OP4 Cover**	**OP5 Variation**	**OP6 Brake**	**OP7 Control**	**OP8 Bypass**	**OP9 Inversion**	**OP10 Cleaning**
loss of traction: 'no drive'	Ground drive belt tension	Ground Drive belt	X										
	Pedal linkage disconnected	Reconnect the rod to the transmission	X										
	broken driver shaft	Driver Kit	GT79452	R									
	broken driven variator	Driven Kit	GT79253	R									
	broken control cam	Control Kit	GT79256		P		P		P	R			
	broken guidance rod				P		P		P	R			
	broken control rods axle				P		P		P	R			
	broken variation lever	Variation Kit	GT79453	P				R					
	broken variation rod			P	P		P	R					
	loss of variation clip	Hardware kit	GT79323		P		P						
	loss of control rods clip	Hardware kit	GT79323										
	variator belt failure	Variator belt	GT37401	R									
	Internal failure	Transmission											
loss of inversion function: 'tractor won't go into reverse/ forward'	inversion lever disconnected	inversion Kit	GT79258		P		P		P	P	P	R	
	broken inversion rod	Inversion Kit	GT79258		P		P		P	P	P	R	
	broken inversion rod spring				P		P		P	P	P	R	
	broken inversion lever 2	Control Kit	GT79256		P		P		P	R			
trouble to inverse: 'hard shift'	Debris under Driver variator	Clean Driver variator	x	P									R
	Broken Driver variator	Driver Kit	GT79452	R									
	White lever out of position	Control Kit	GT79256		P		P		P	R			
	stop plate stuck on the control cam	Clean cam and stop plate	X		P	P				R			
	inversion security system failure	Inversion security system set	GT79186		P	R							
	Internal failure	Transmission											

R = **R**eplacement operation / **P** = **P**reliminary operation

Troubleshooting

Troubleshooting checklist				p. 10	p. 11	p. 12	p. 12	p. 13	p. 14	p. 15	p. 18	p. 19	p. 20
Customer complaints	**Potential failure**	**Item to replace**	**PN**	**OP1 Driver**	**OP2 Driven**	**OP3 ISSS**	**OP4 Cover**	**OP5 Variation**	**OP6 Brake**	**OP7 Control**	**OP8 Bypass**	**OP9 Inversion**	**OP10 Cleaning**
Tractor not stopping in neutral position	Debris under Driver variator	Clean Driver variator	GT79452	P									R
	Pedal not returning to neutral	Verify that the pedal is free	x										
	Broken Driver variator	Driver Kit	GT79452	R									
Loss of rolling resistance in neutral position	Pedal linkage pulling the brake lever in neutral	check and free the brake lever	x		P		P		R				
	control cam not returning to neutral	Control Kit	GT79256		P		P		P	R			
	broken brake spring	Brake Kit	GT79255		P		P		R				
	broken brake lever				P		P		R				
Loss of brake function	Pedal linkage disconnected	check the linkage to the brake lever	x										
	broken aluminum brake lever	Brake Kit	GT79255		P		P		R				
	Internal failure	Transmission											
Loss of speed range	broken driven variator spring	Driven Kit	GT79253		R								
	driver shaft lower bearing failure	Driver Kit	GT79452	R									
	loose nut on control / variation rod	Retighten nuts	GT79256		P		P		P	R			
	Mis-adjustment of the speed (screw)	Adjust speed	X	R									
trouble to return to the neutral position	broken neutral spring	Variation Kit	GT79453		P		P	R					
	broken neutral position spring	Control Kit	GT79256		P		P		P	R			
	broken neutral position lever				P		P		P	R			
can't disable the bypass with the brake pedal	broken bypass spring	bypass Kit	GT79257		P		P					R	
loss of bypass function	broken brake lever				P		P		P	P		R	
	broken bypass lever				P		P		P	P		R	
	Pedal not returning to neutral	clean and free the pedal to return to neutral	x										

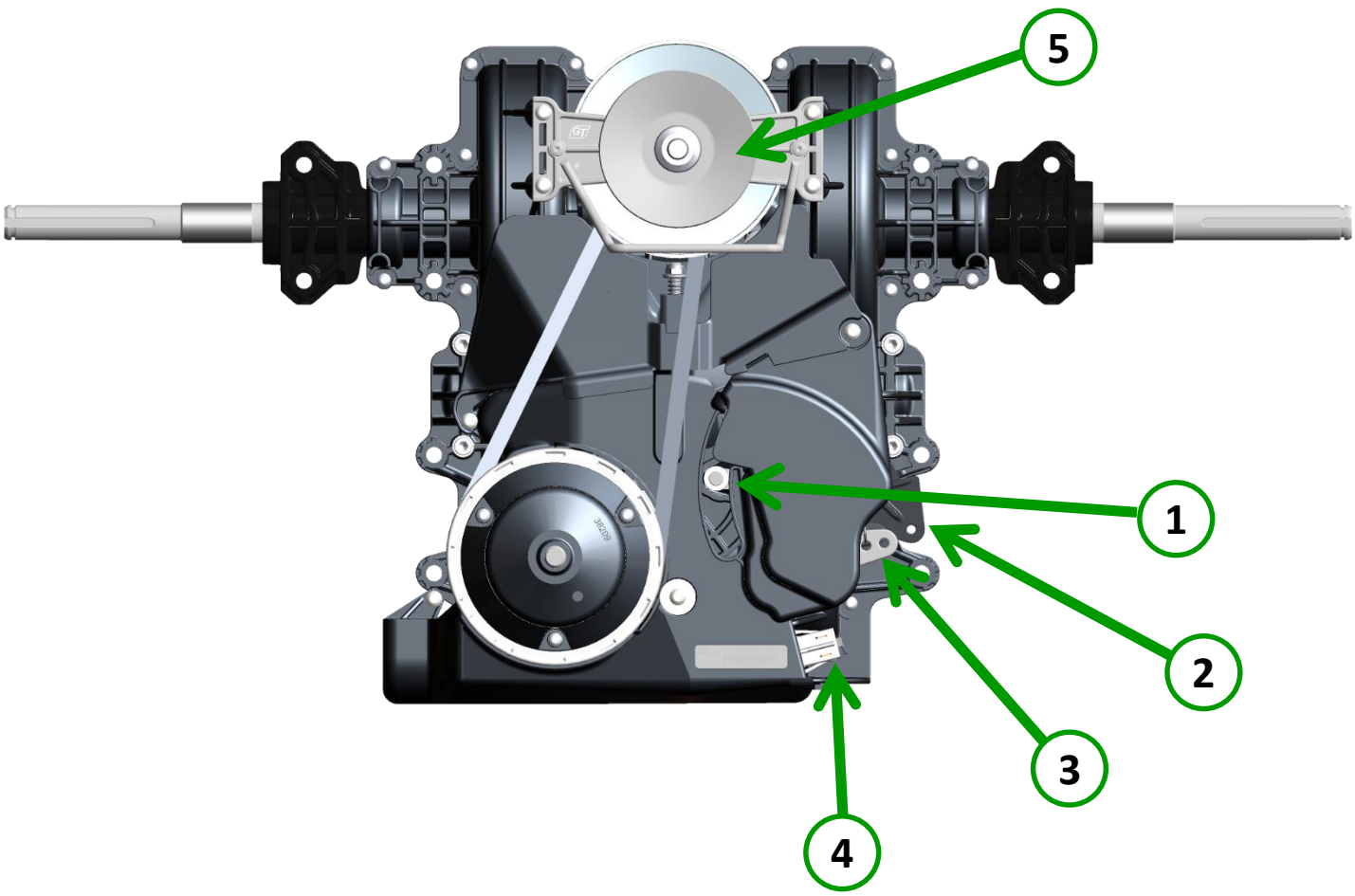
R = **R**eplacement operation / **P** = **P**reliminary operation

Transmission Tear Down

- Remove cutting deck (see owner manual)
- Lift up the rear of the tractor, then remove both rear wheels.
- Disconnect the variation rod (1).
- Disconnect the switch (4).
- Disconnect the bypass rod (2).
- Disconnect the brake spring (3).
- Activate and lock the parking brake, to slacken the belt , and remove it from the main pulley (5).
- Remove the mounting bolts, to separate the transmission from the frame.

We recommend to keep 2 bolts partially unscrewed, to prevent the transmission from falling.

- Lower the rear of the tractor until the transmission lightly touches the ground, then remove the 2 last bolts.
- Lift up the rear of the tractor to release the transmission.

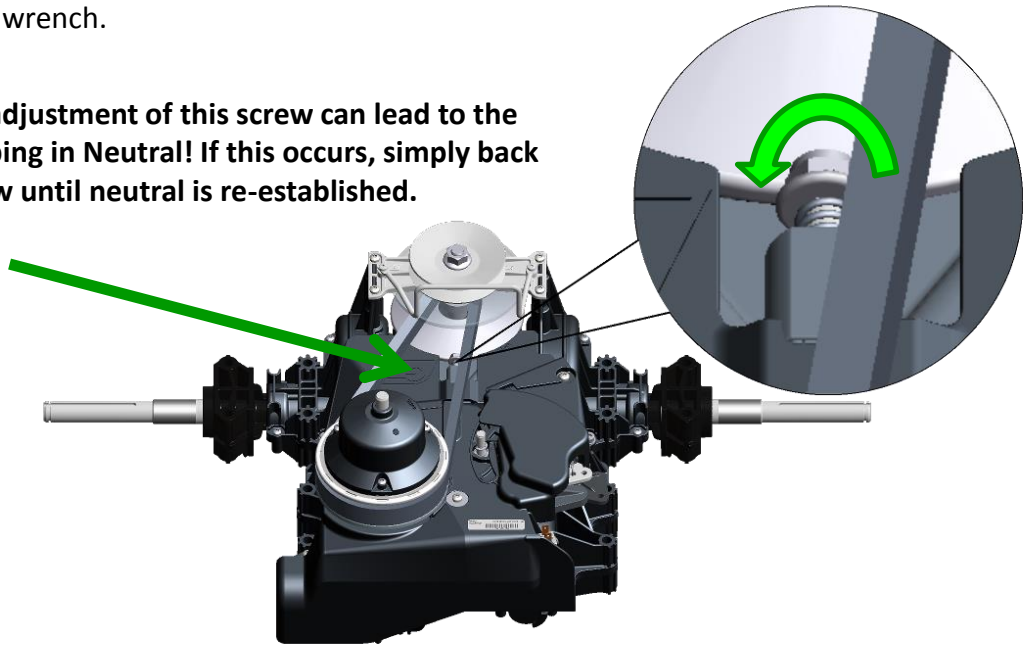


Repair Procedures

OP 1. Driver kit replacement (view p.24)

- In case of speed down, the adjusting nut located on the variation rod allows to slightly increase the speed.
- Use a 10mm wrench.

- **Note: Over-adjustment of this screw can lead to the tractor creeping in Neutral! If this occurs, simply back out the screw until neutral is re-established.**



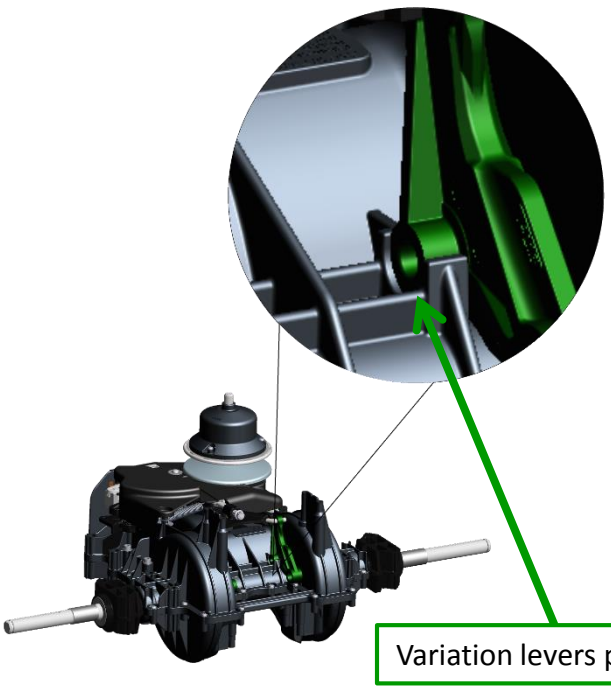
-Remove the 4 screws as shown below to liberate the driver kit, then the 2 screws to release the debris shield.

-At reassembly of the kit, make sure that:

Both variation levers are properly seated.

The belt is in the pulley.

Screwing torque: 3.2 ±0.1 Nm
(2,4 ±0.1 lb-ft)

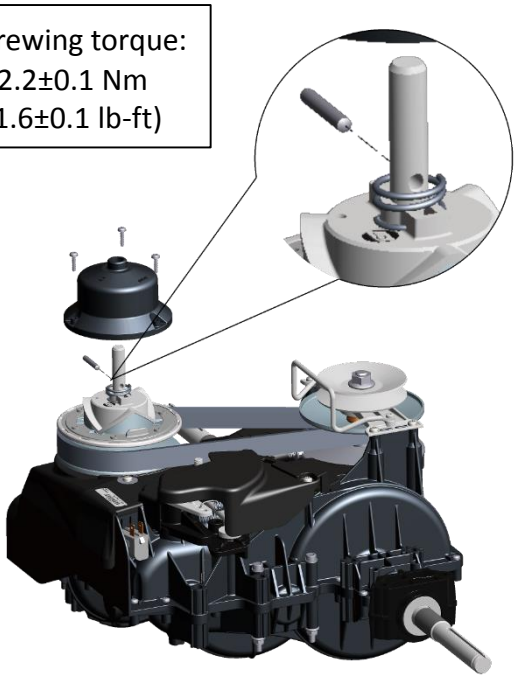


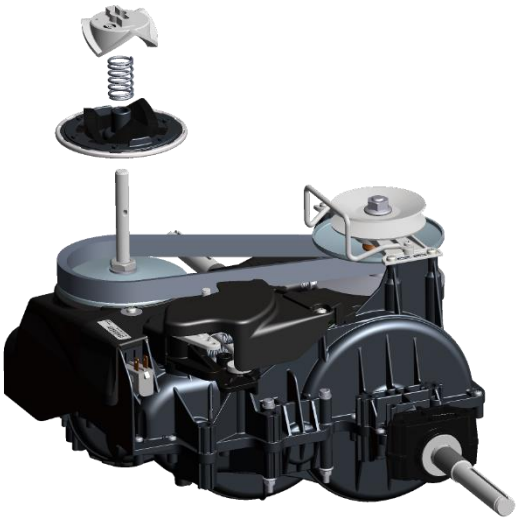
Repair Procedures

OP 2. Driven kit replacement (view p.25)

-Remove the 3 screws to liberate the cover, press the aluminum ramp to compress the spring and liberate the pin, then remove the aluminum ramp, spring and mobile flange

Screwing torque:
2.2±0.1 Nm
(1.6±0.1 lb-ft)

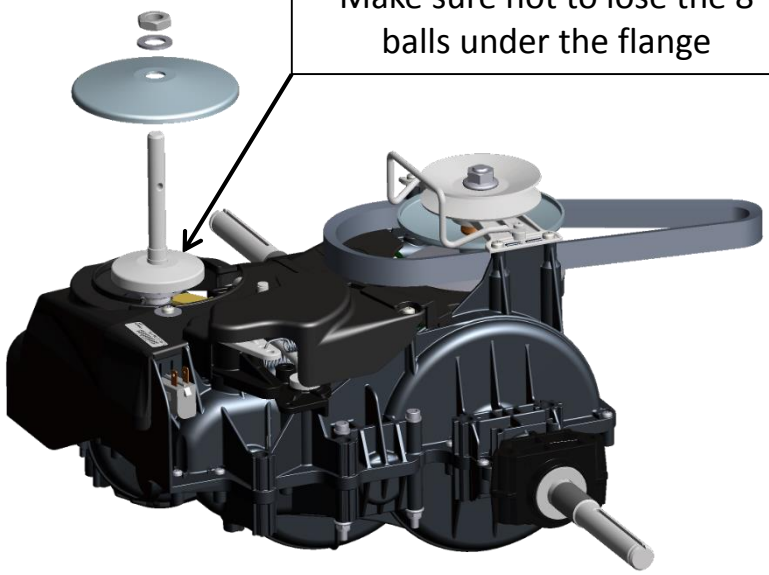




-Unscrew the nut using the special tool P/N 79252 (see p.19), then remove the fixed flange.

Screwing torque: 53,5 ±2 lb-ft

⚠ Make sure not to lose the 8 balls under the flange



When re-installing the components:

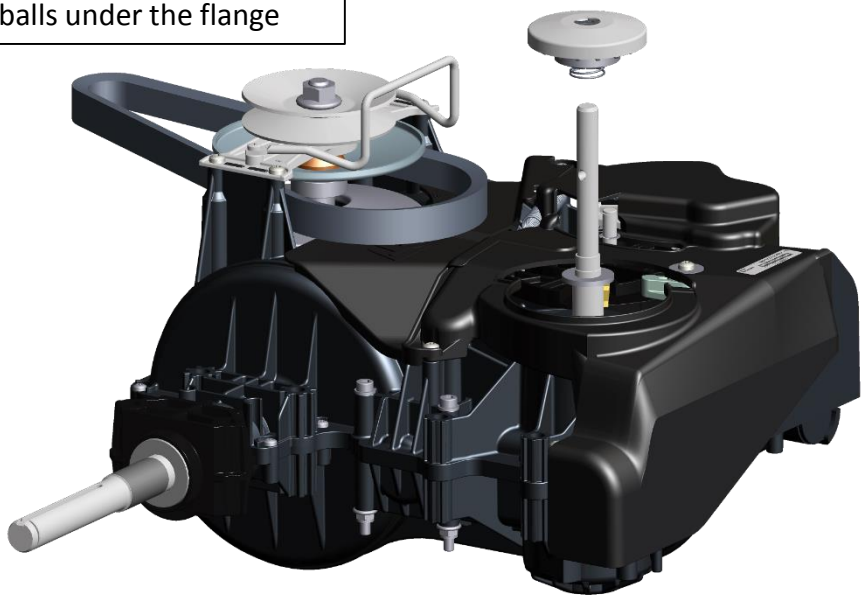
-Make sure the 8 balls are present under the flange.
-Respect the torques of the nut and screws.
-Make sure the belt is properly positioned in the pulley.
-Ensure that the spring is between the mobile flange and the aluminum ramp.

Repair Procedures

OP 3. Inversion security system replacement (view p.28)

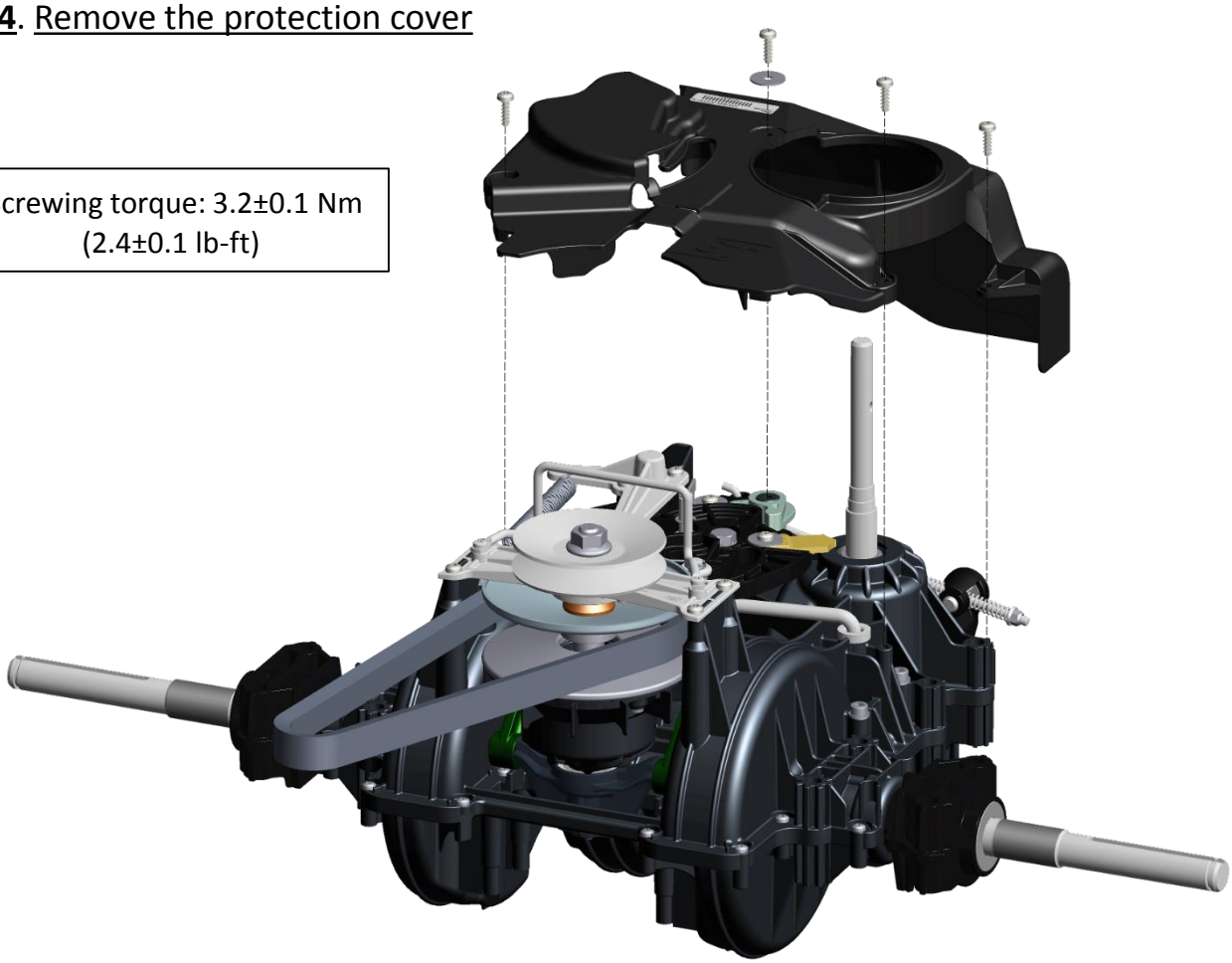
-Remove the inversion security system.

⚠ Make sure not to lose the balls under the flange



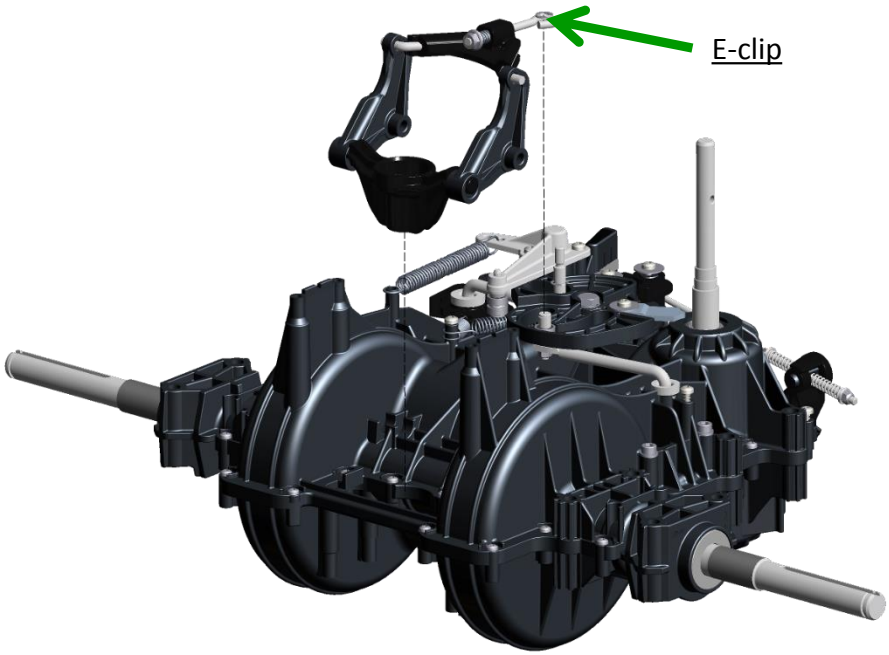
OP 4. Remove the protection cover

Screwing torque: 3.2±0.1 Nm (2.4±0.1 lb-ft)



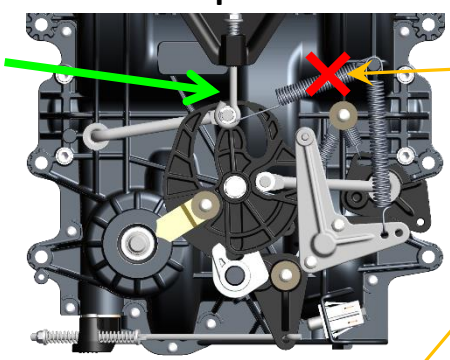
Repair Procedures

OP 5. Variation kit replacement (view p.26)
-Remove the e-clip to liberate the variation rod.

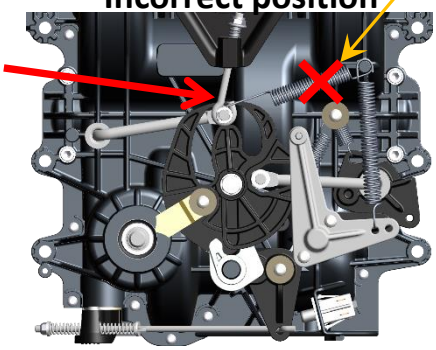


When re-assembling the components, make sure that:
-Both variation levers are correctly seated on the upper case.
-The variation rod is properly positioned.

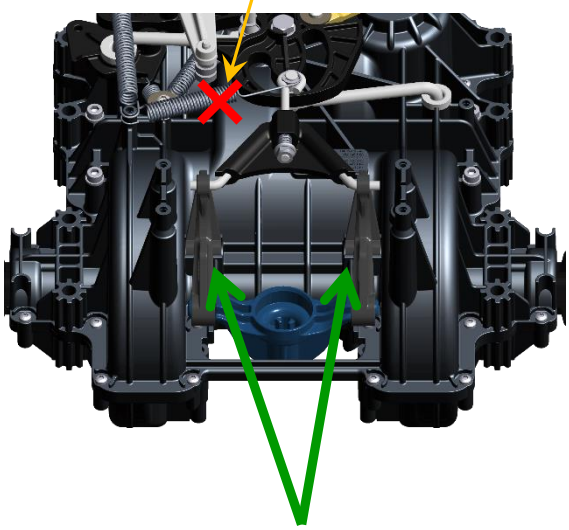
Correct position



Incorrect position



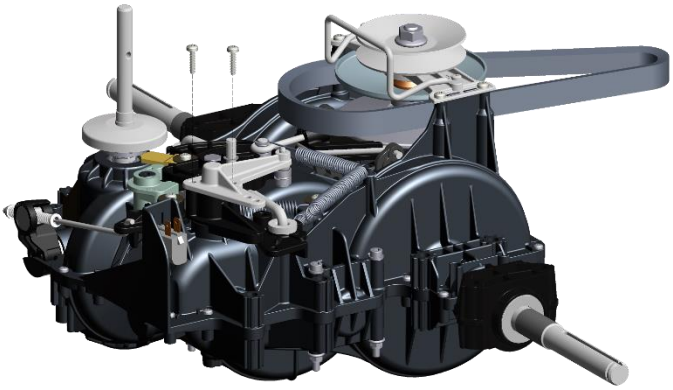
Information
Neutral spring is no longer needed and is not available in any kit



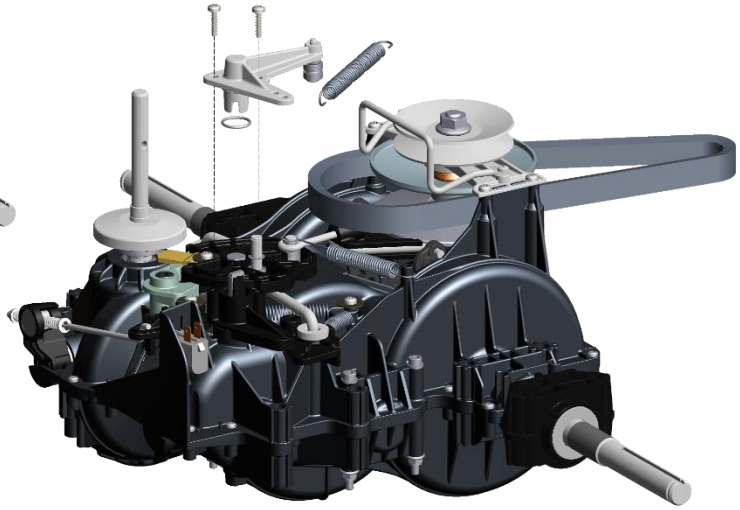
Repair Procedures

OP 6. Brake kit replacement (view p.27)

-Disconnect the brake spring, then remove the screws, to liberate the aluminum lever.

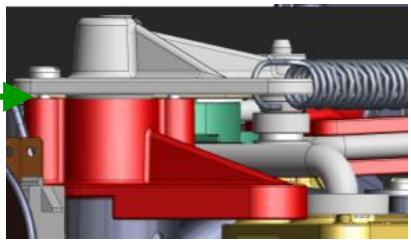


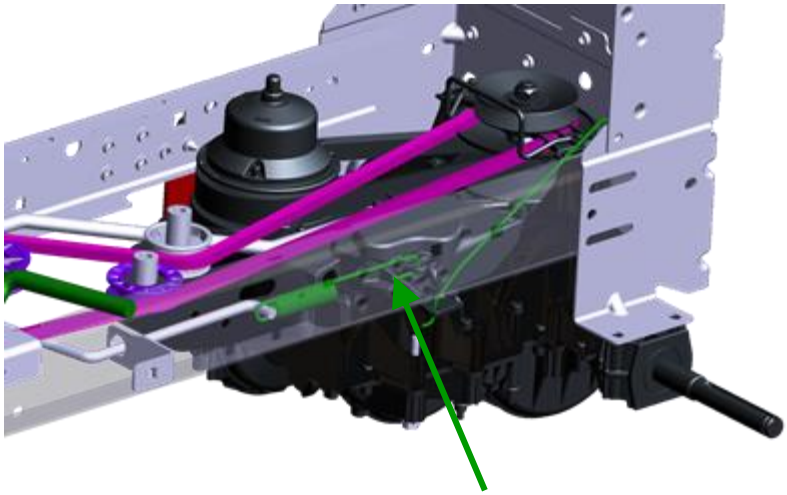
Screwing torque: 3.2±0.2 Nm
(2.4 ±0.1 lb-ft)



-As the aluminum lever has a conical shape, it might be hard to remove.

When re-installing the components:
-Verify the presence of the O-ring
-Gap between both lever is normal.
-Respect screwing torque.



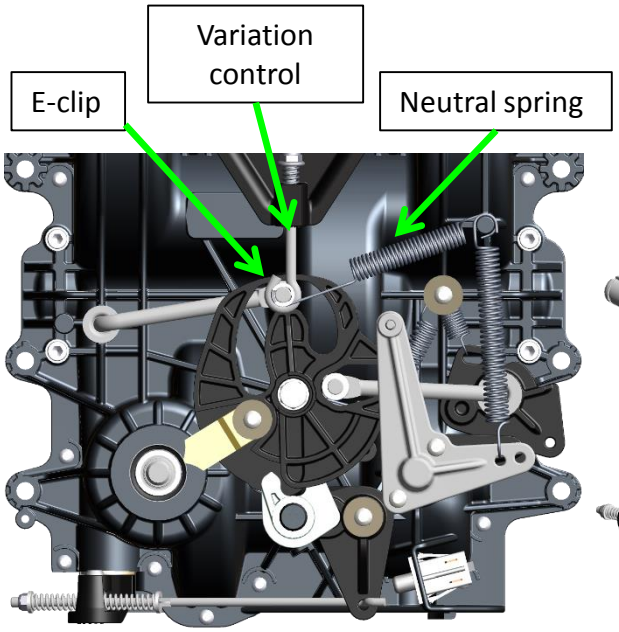


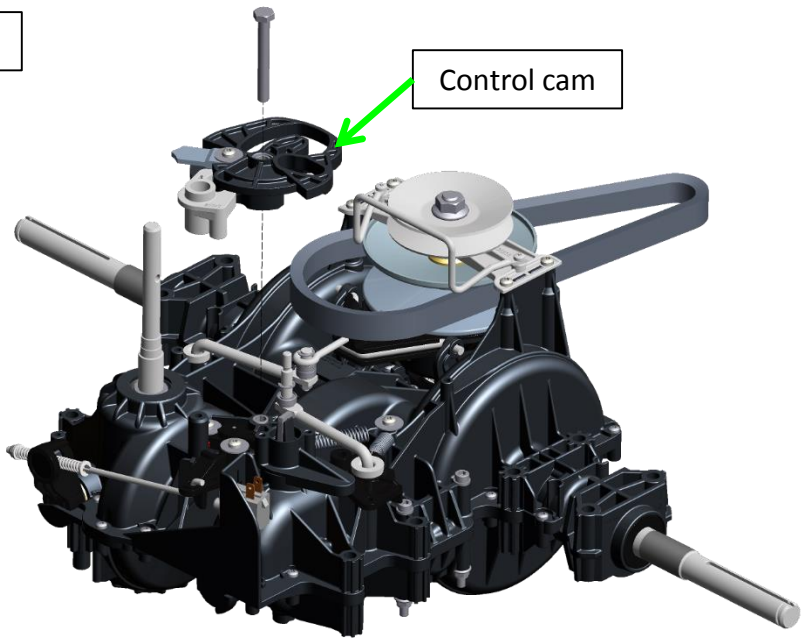
Once you connect the spring to the brake lever, make sure there is no tension between the spring and the lever in neutral position.

Repair Procedures

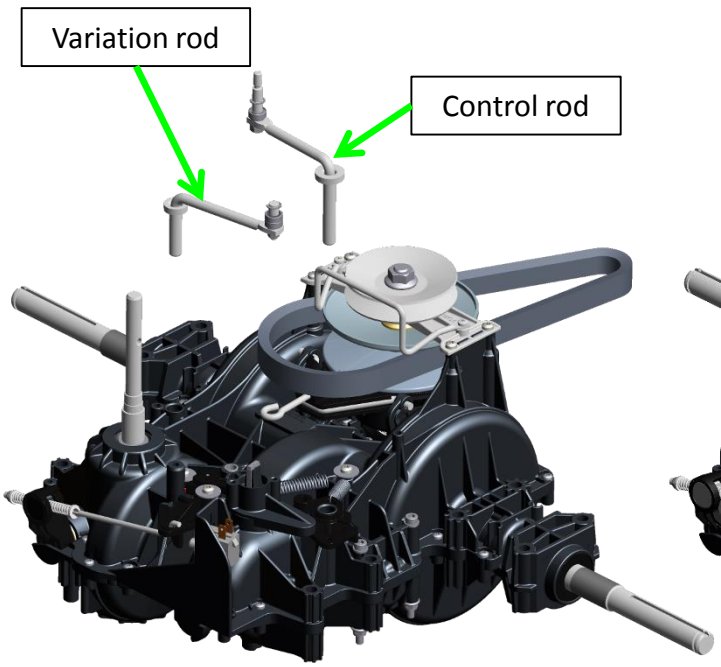
OP 7. Controls kit replacement (view p.29)

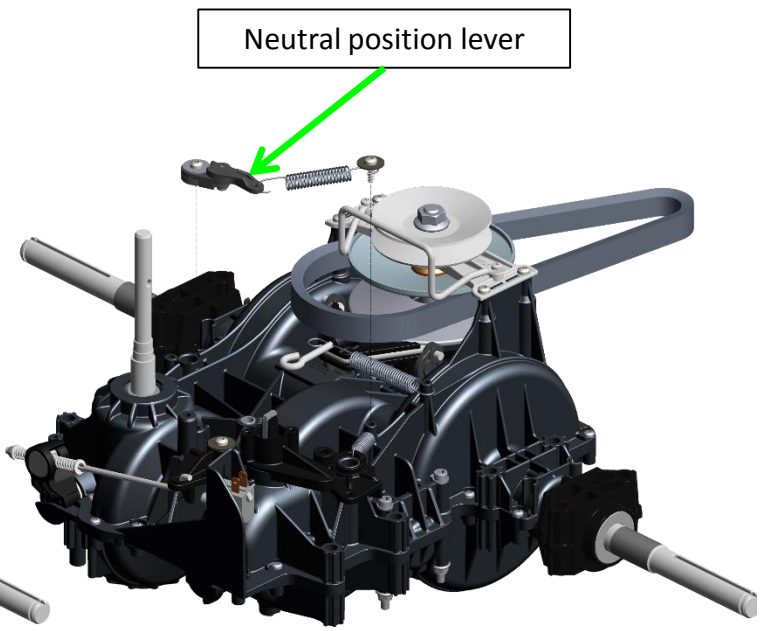
-Remove the e-clip to liberate the neutral spring and the variation control.
-Remove the M8 screw, the control cam and the inversion lever (white).
-Remove the screw to liberate the 2nd inversion lever.
-Remove both control and variation rods.
-Remove the 2 screws to liberate the neutral position lever and its spring.





Information
Neutral spring is no longer needed and is not available in any kit





Repair Procedures

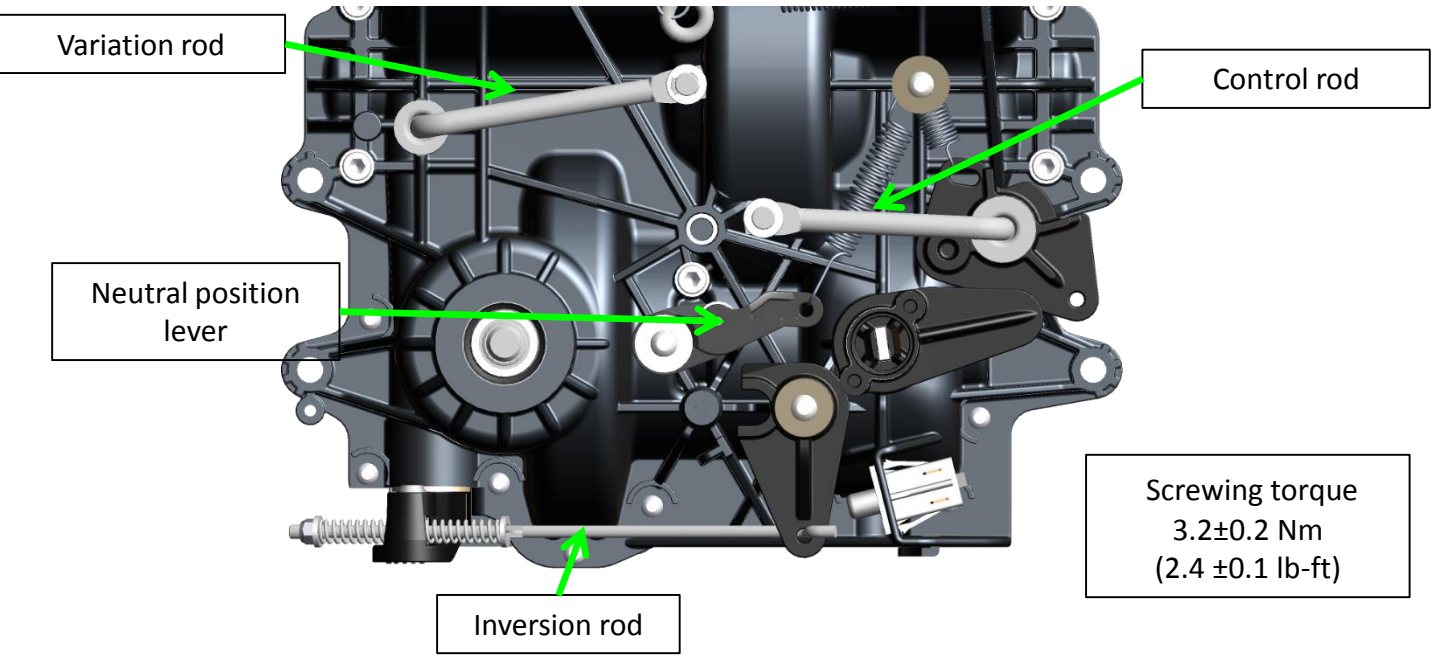
OP 7. Controls kit replacement

When re-installing the components:

-Verify the position of the neutral position lever.

-Insert the inversion rod in the inversion lever before putting it on the upper case..

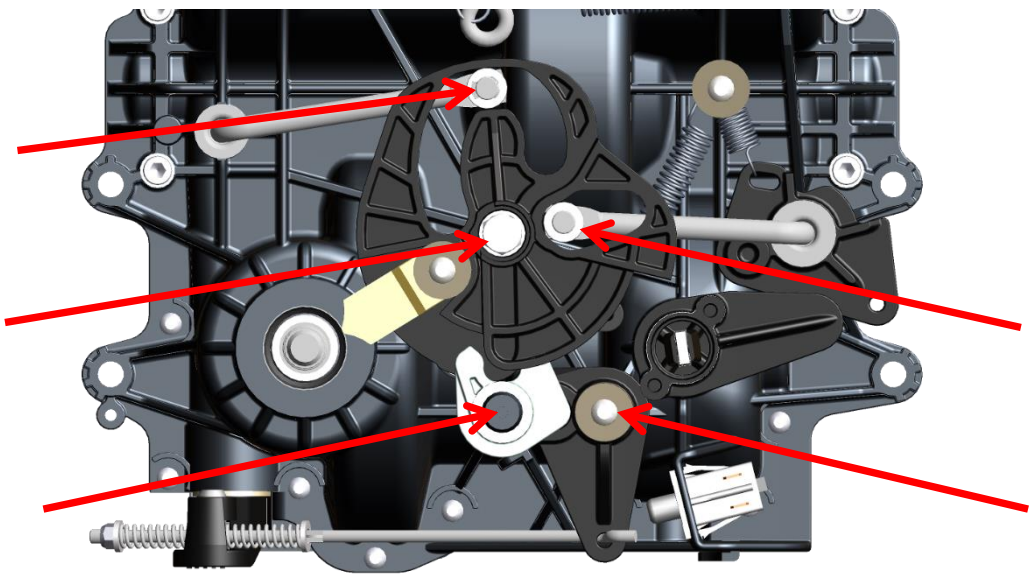
-Insert both control and variation rods on the upper case.



-The cam and the inversion lever must be installed at the same time.

-This assembly must be positioned at the same time on the pivot cam, inversion pivot lever and rods (5 points at the same time).

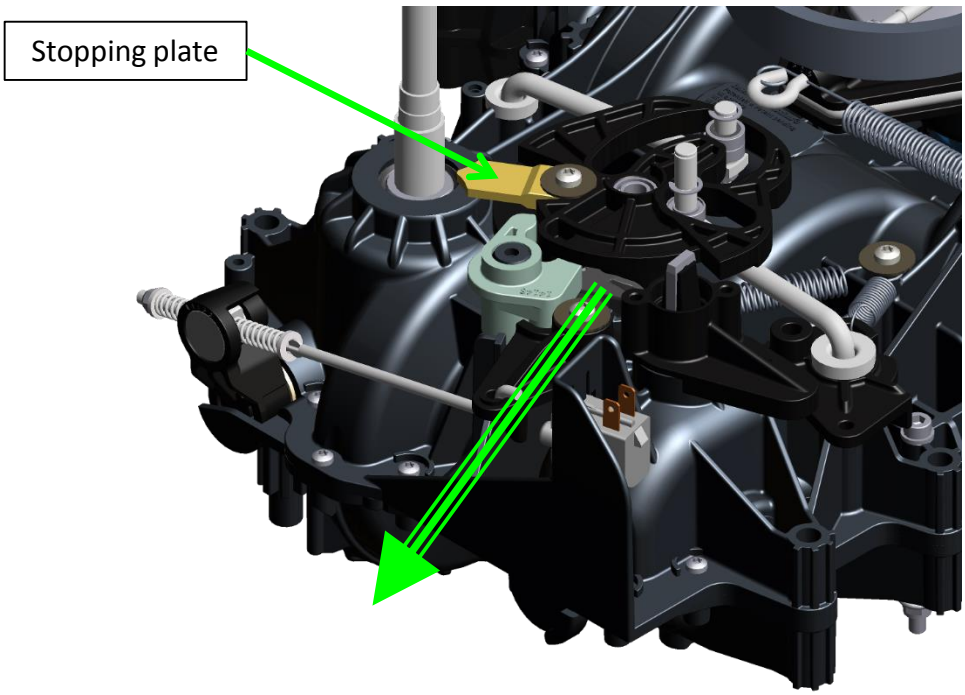
-Verify the position of the variation control and its spring.



Repair Procedures

OP 7. Controls kit replacement

-The neutral position lever must be maintained to properly positioned the cam.

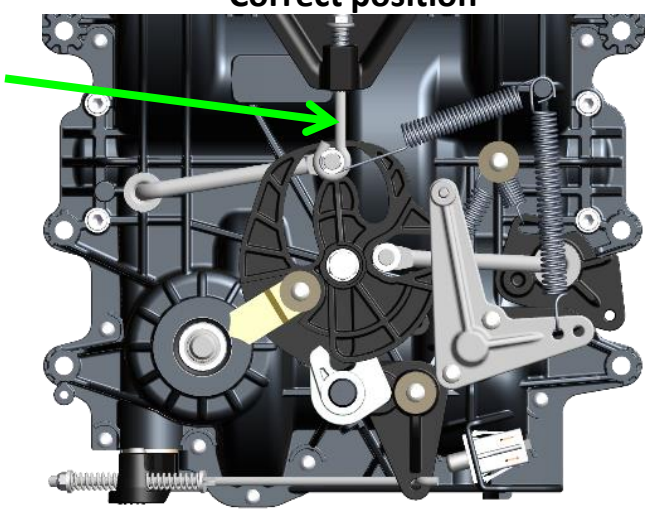


Screwing torque: 6±1Nm
(4.4 ±.1 lb-ft)

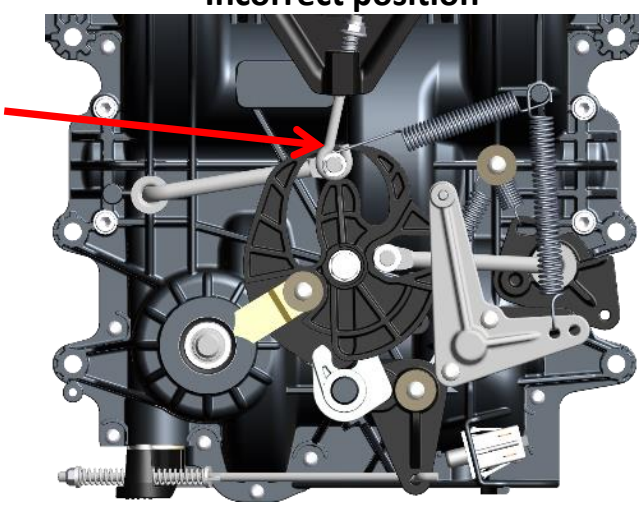
- Respect the tightening torque.
-As the variation control has not been attached, the cam should rotate freely.
-The stopping plate must be free in rotation on the control cam.

-Verify the position of the variation control.

Correct position



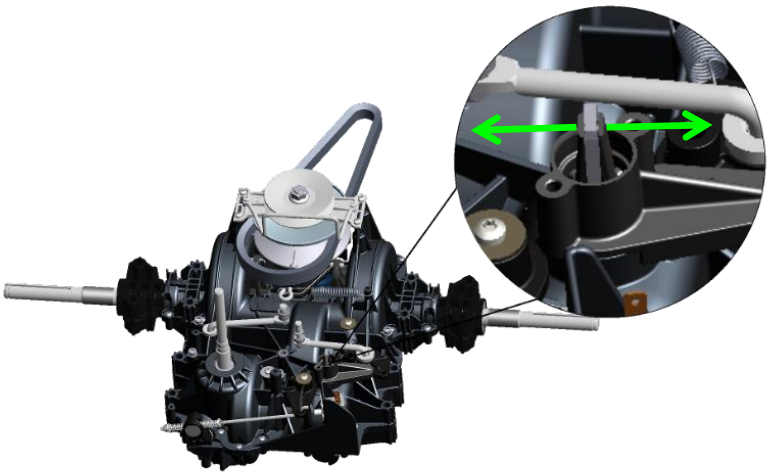
Incorrect position

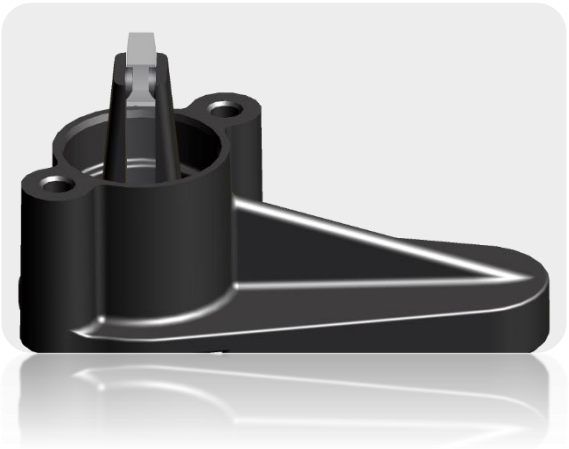


Repair Procedures

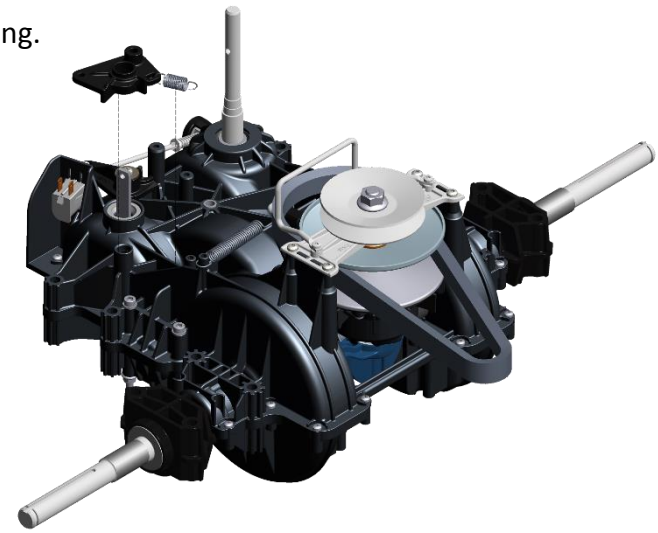
OP 8. Bypass kit replacement (view p.30)

-Separate and hold the 2 strips of the lever, to release the two studs and allow the lever removal.

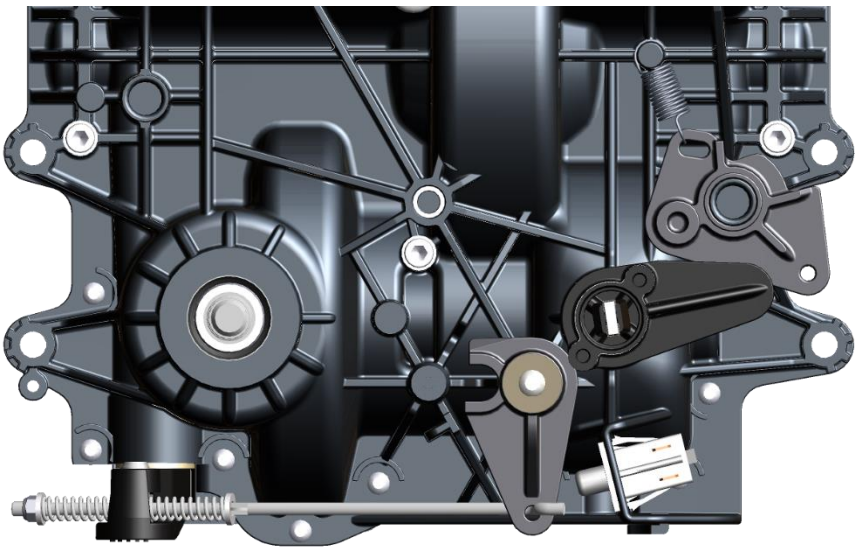




- Remove bypass lever and its spring.



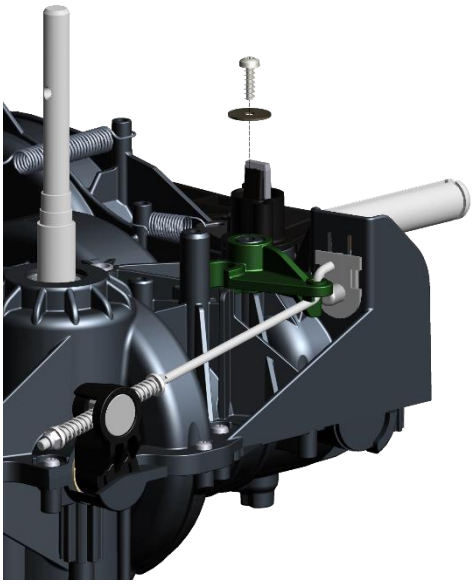
- Correct position of the bypass lever and spring.



Repair Procedures

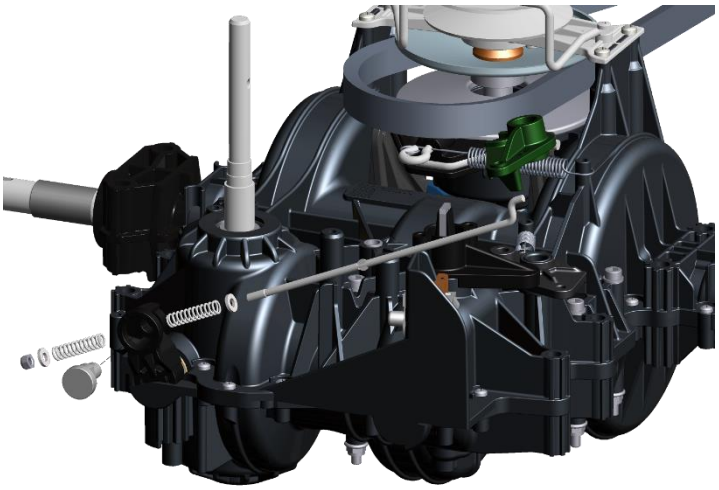
OP 9. Inversion kit replacement (View p.31)

- The inversion kit is located in front of the transmission.

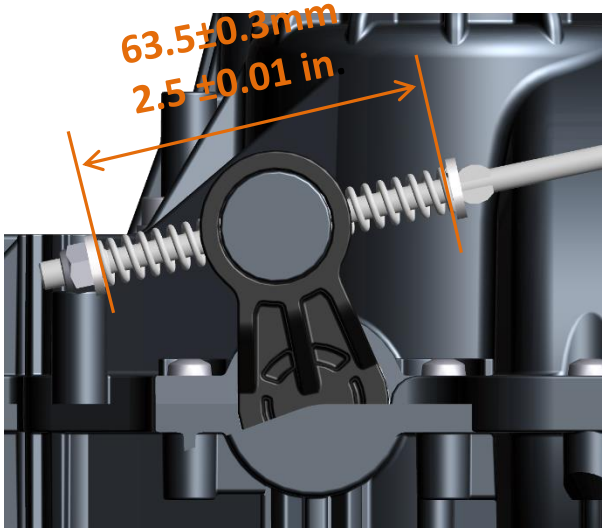


Screwing torque: 3.2±0.2 Nm
(2.4 ±0.1 lb-ft)

-Remove the inversion lever



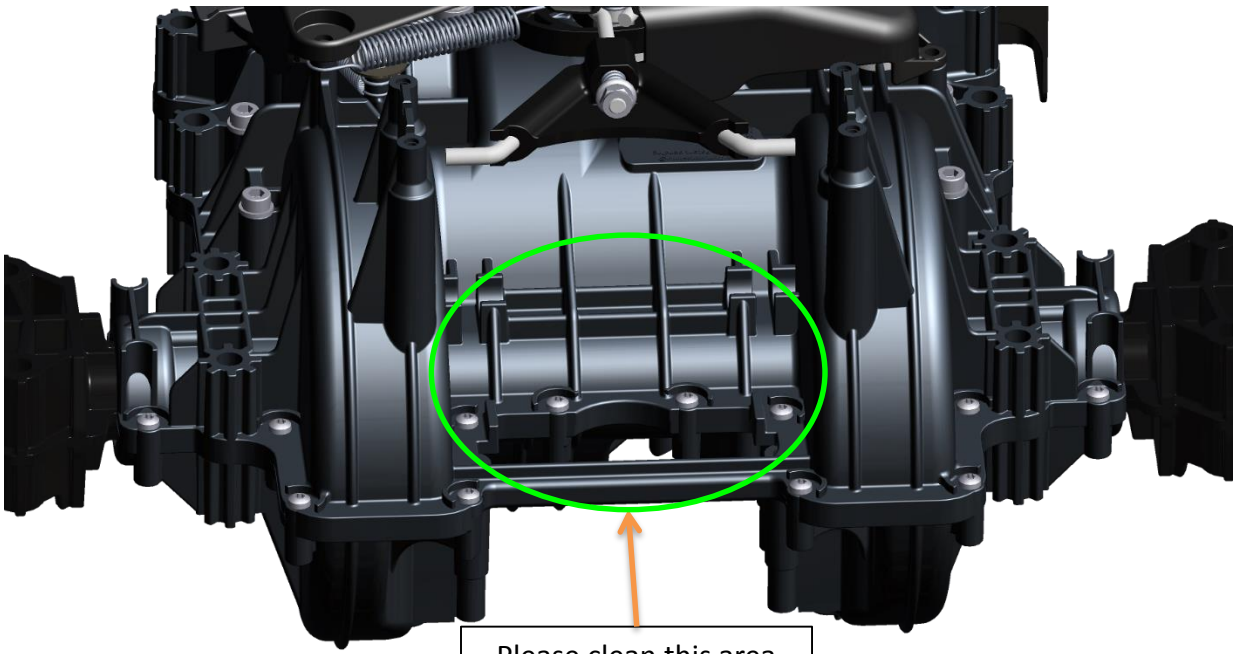
- Remove the nut to release the springs and rod.

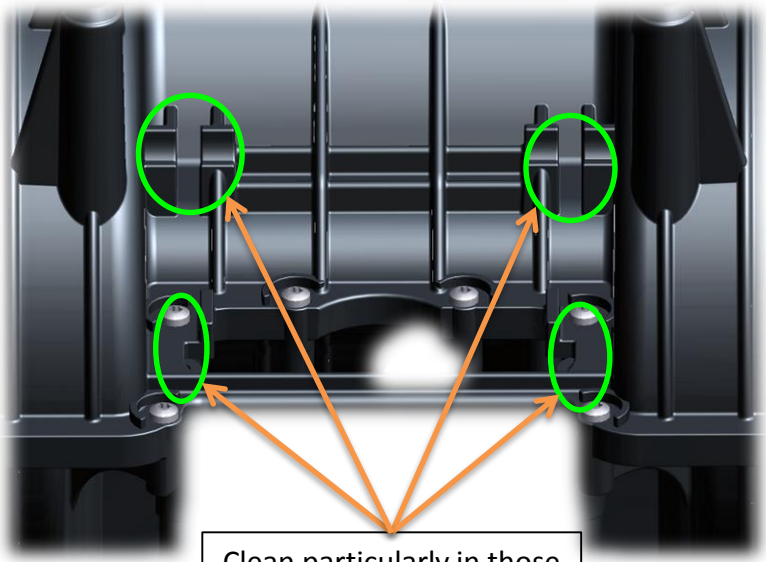


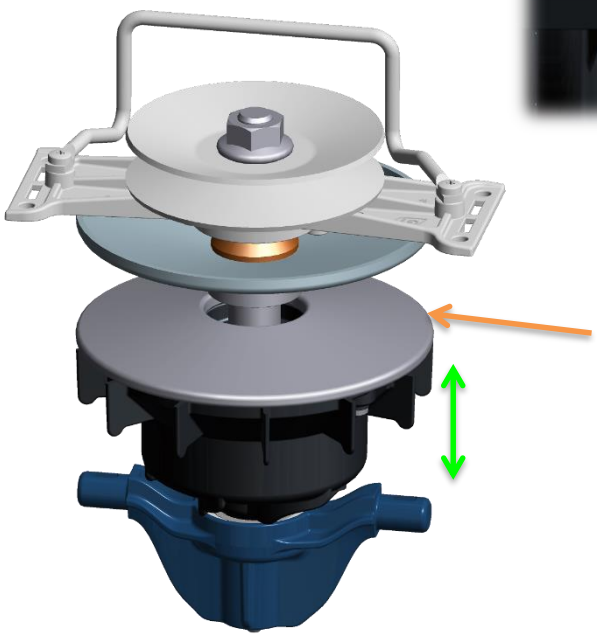
- When re-install the kit, respect the adjustment.

Repair Procedures

OP 10. Driver Variator Cleaning

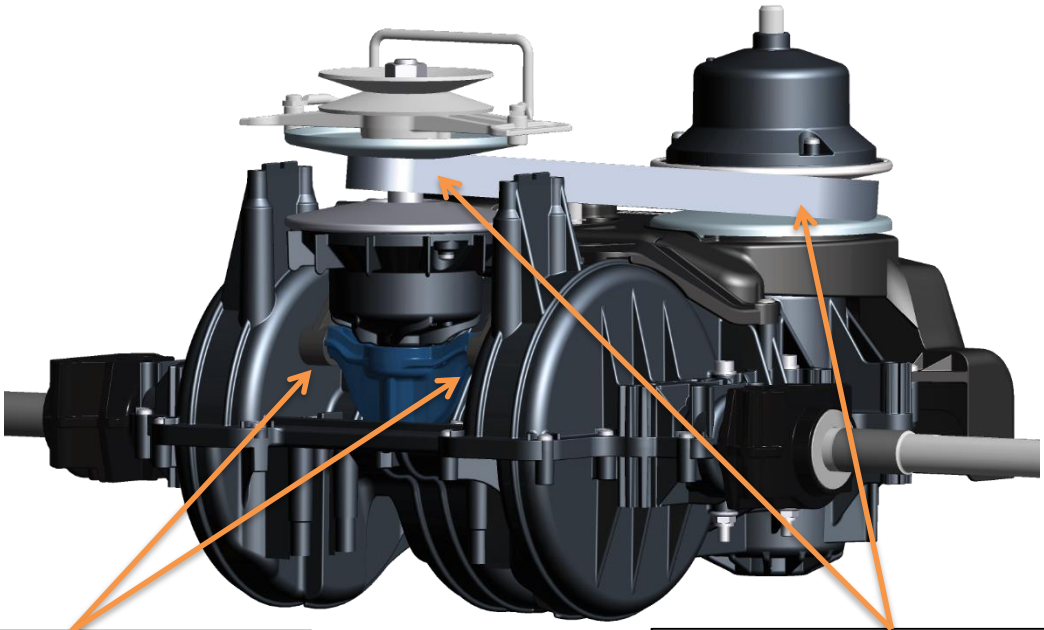






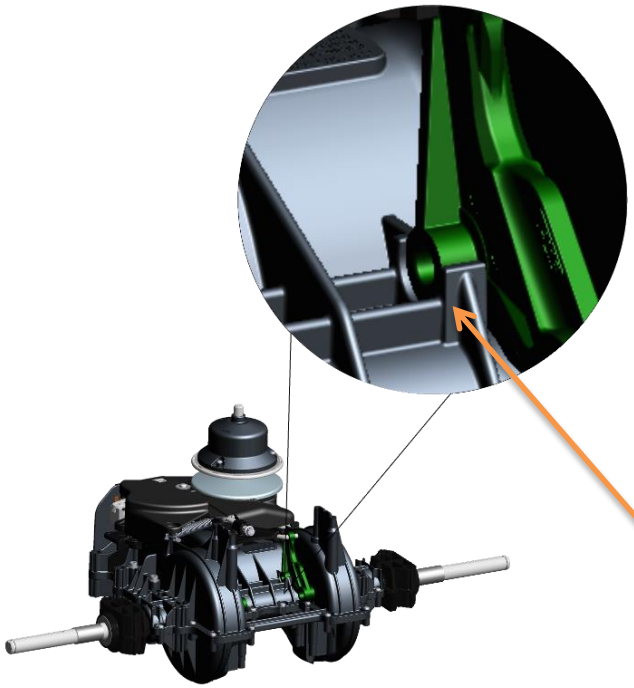
Repair Procedures

OP 10. Driver Variator Cleaning



Put the bearing Ø (red) in the levers hole (yellow)

Place the belt between the flanges for the both pulleys

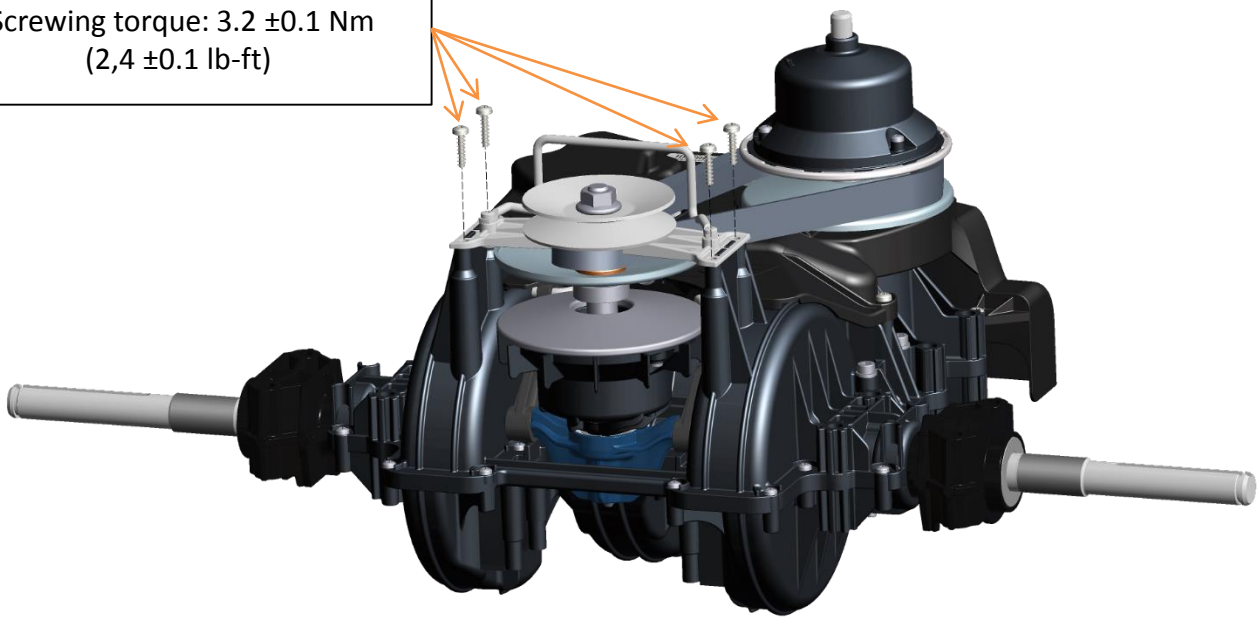


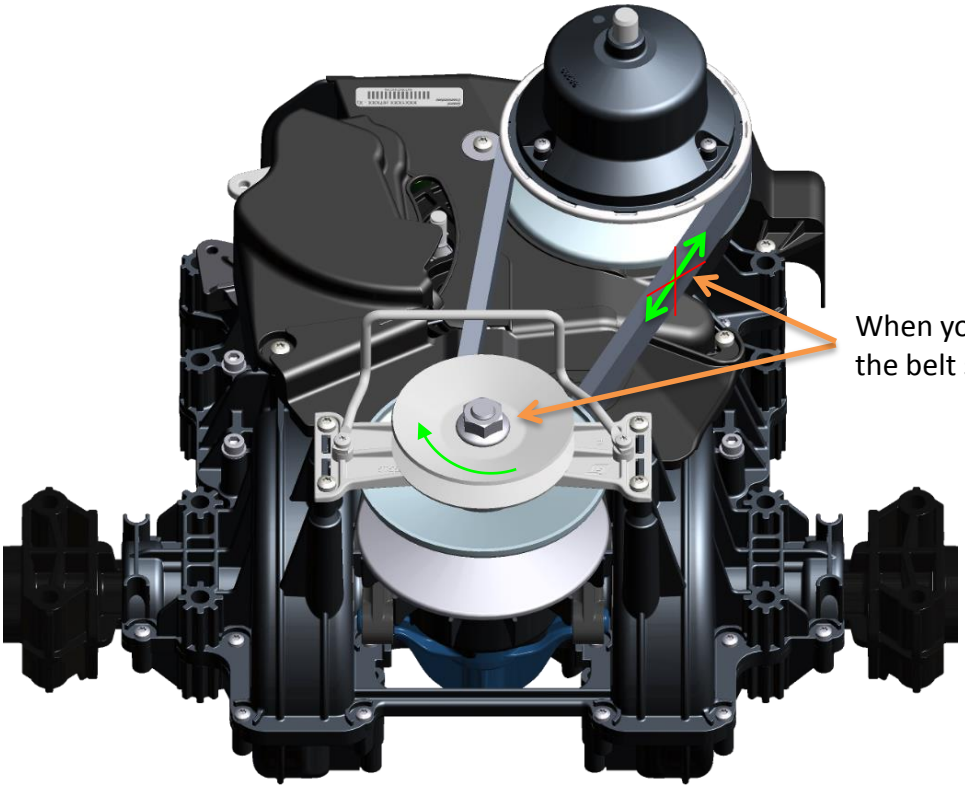
Make sure that both variation levers are well seated on the housing

Repair Procedures

OP 10. Driver Variator Cleaning

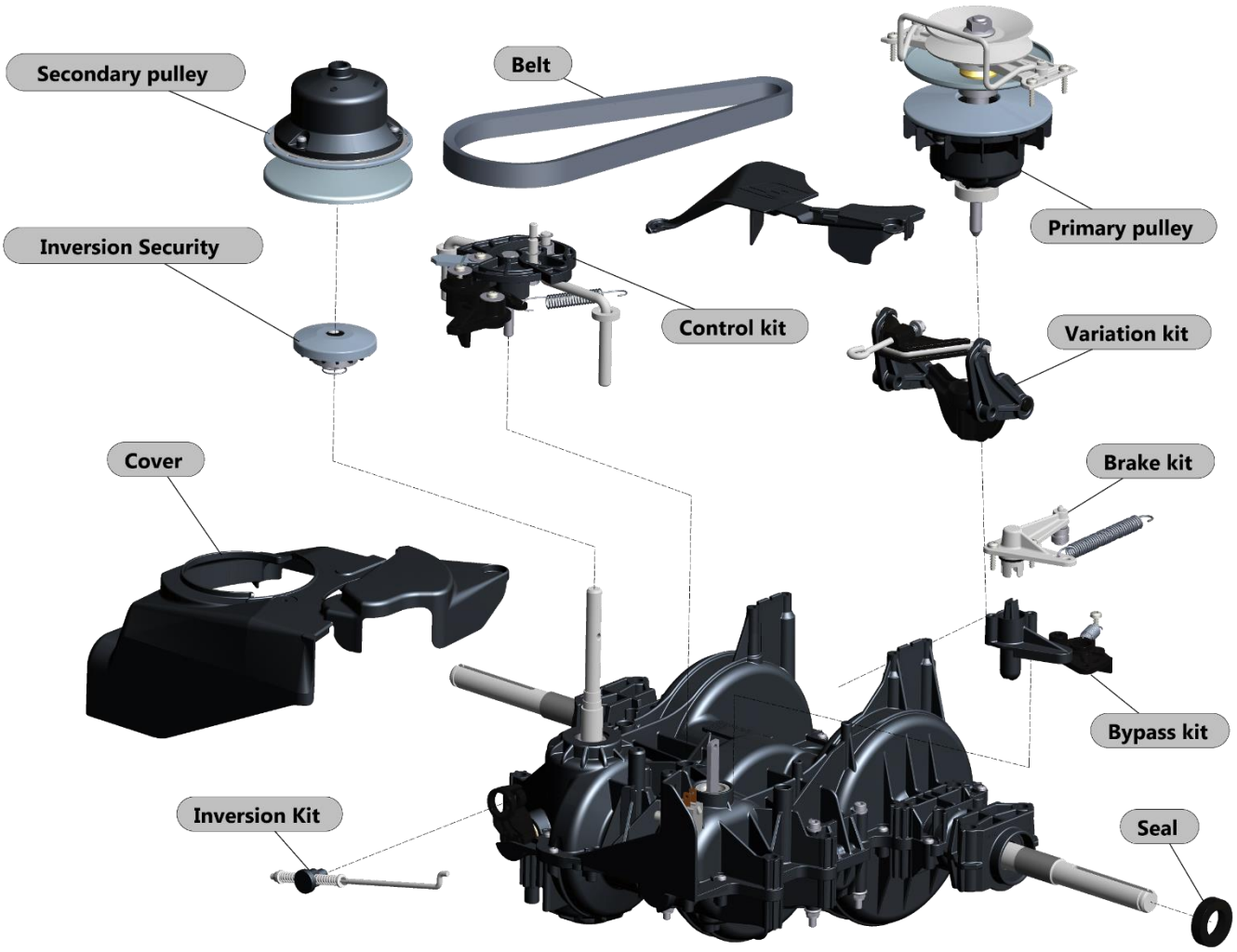
Add loctite 454 on the 4 screws :
Screwing torque: 3.2 ±0.1 Nm
(2,4 ±0.1 lb-ft)





When you turn the pulley,
the belt should not move.

Exploded View



Item	GT P/N	Designation
1	GT79452	Anti-debris kit (including shield)
2	GT37401	Belt
3	GT79253	Secondary pulley
4	GT79186	Inversion Security System
5	GT38800	Cover
6	GT79256	Control kit
7	GT38012	Rotating cam
8	GT79453	Variation kit
9	GT79255	Brake kit
10	GT79257	Bypass kit
11	GT41857	Seals
12	GT79258	Inversion kit
13	GT79323	Hardware kit
14	GT79252	Driven tool

GT79252

-Special tool is necessary to remove the Secondary pulleyGT79253.
-Refer to the troubleshooting page 7, to know when Secondary pulley must be removed.

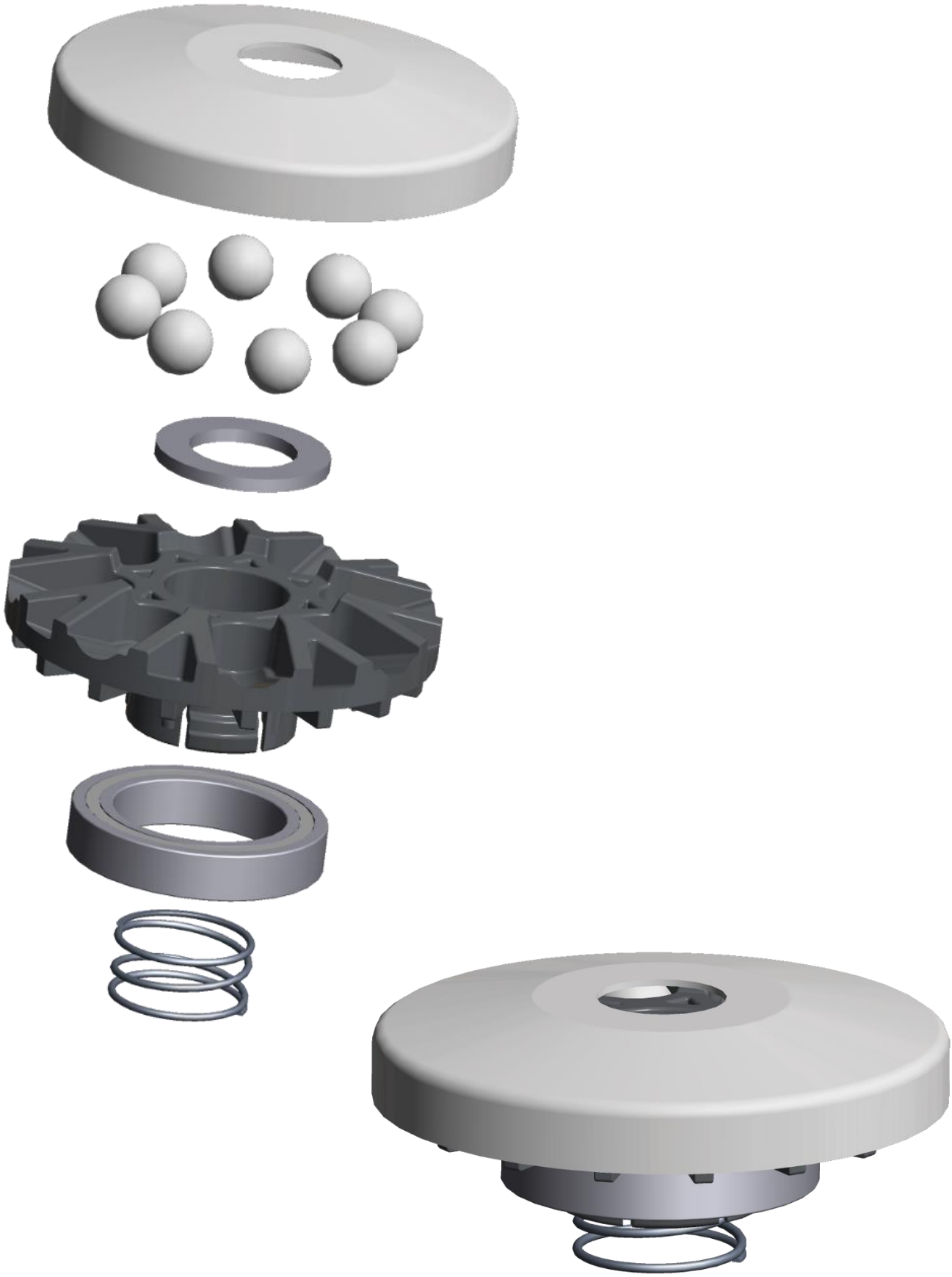
Anti-debris kit
GT79452

Secondary pulley
GT79253

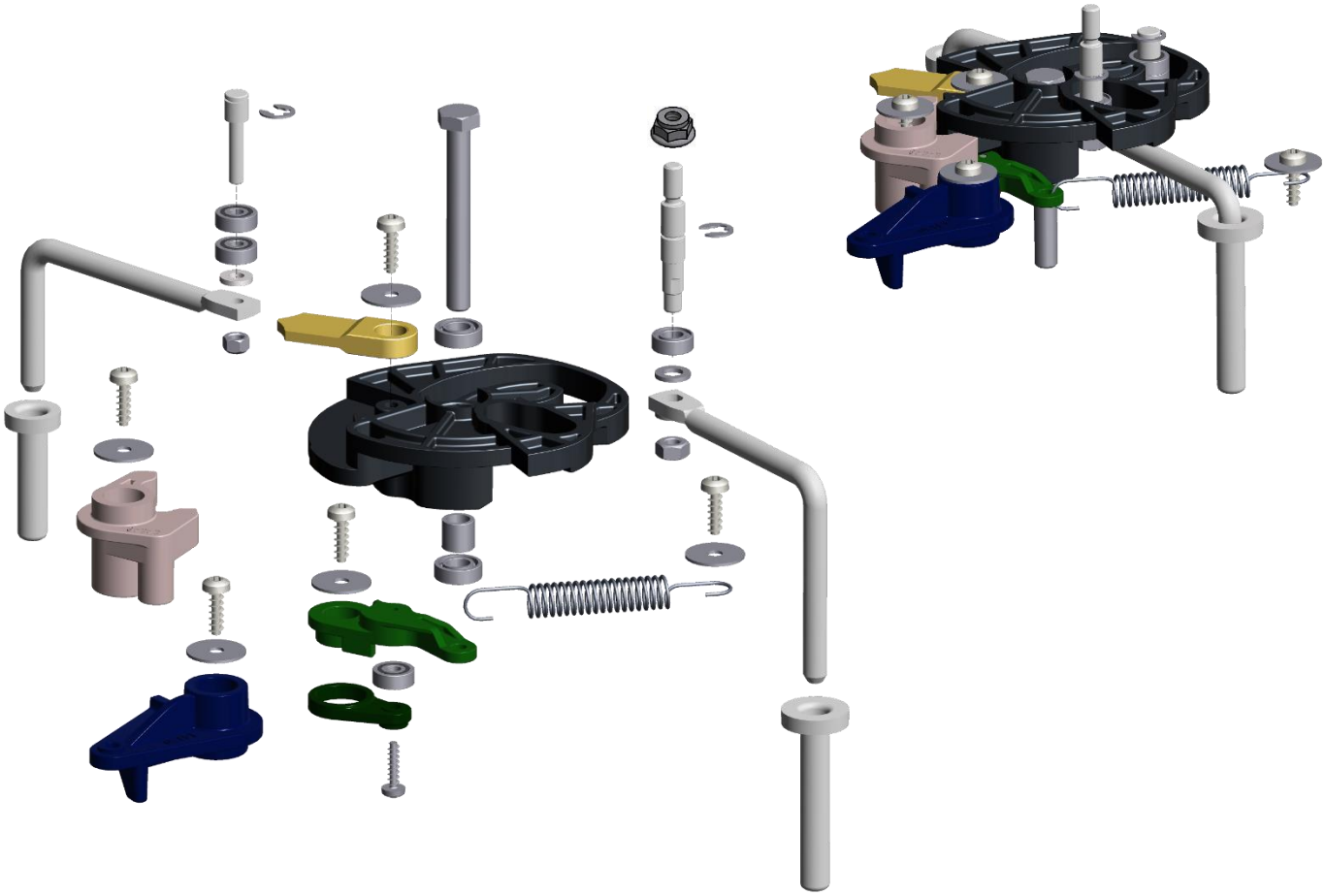
Variation Kit
GT79453

Brake Kit
GT79255

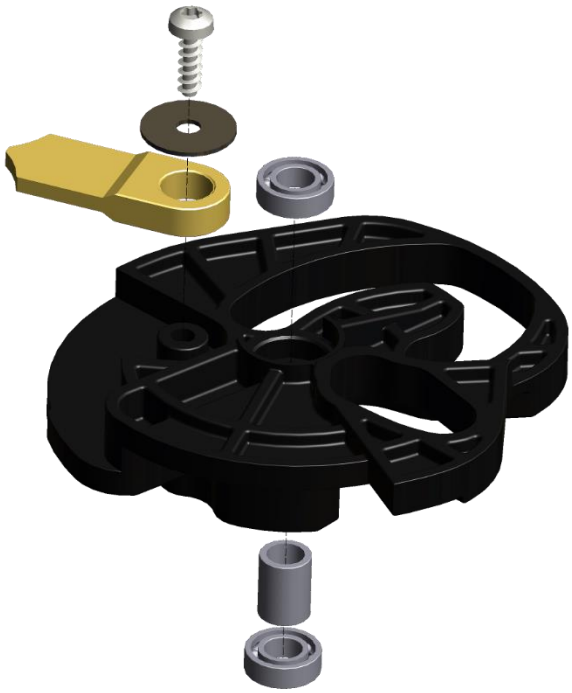
Inversion security set
GT79186



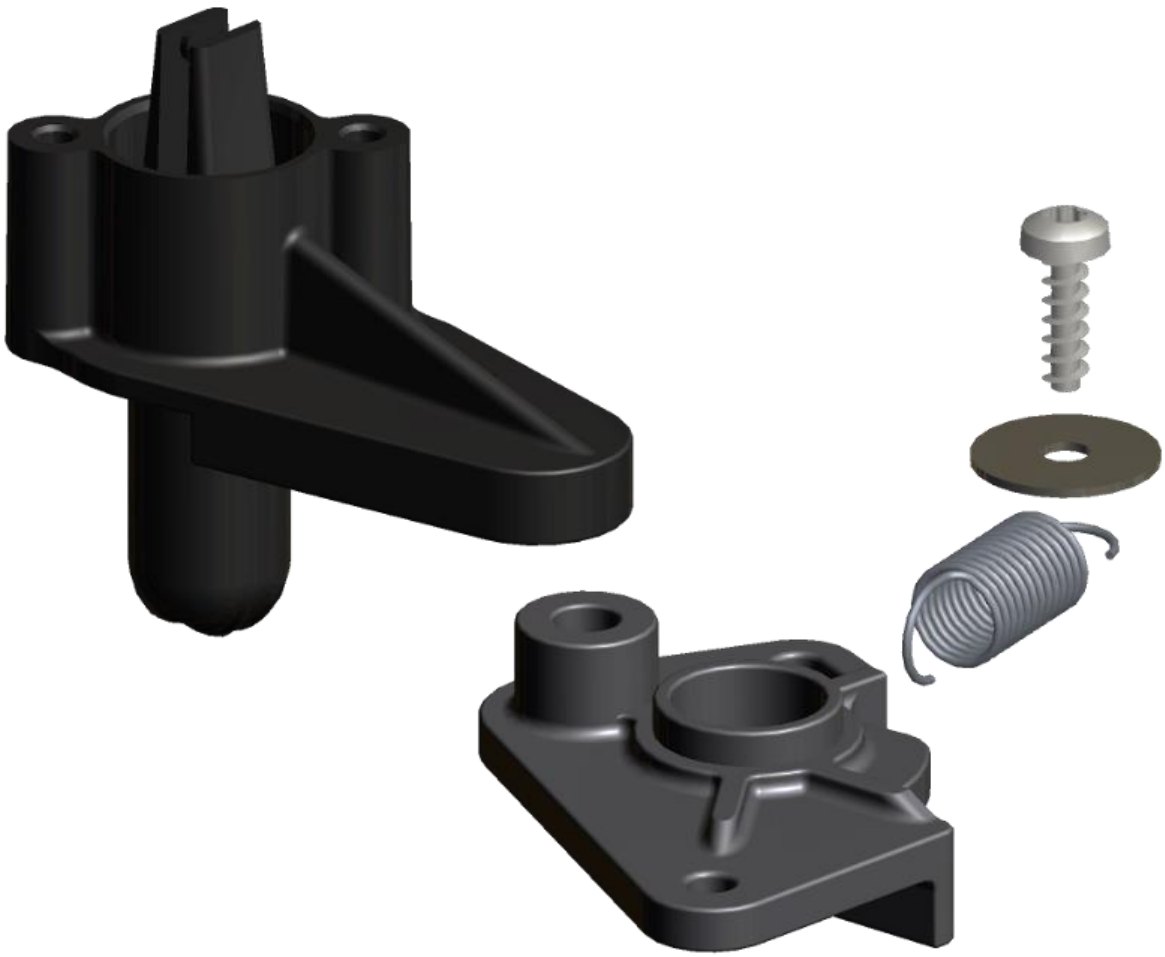
Exploded Controls Kit
GT79256

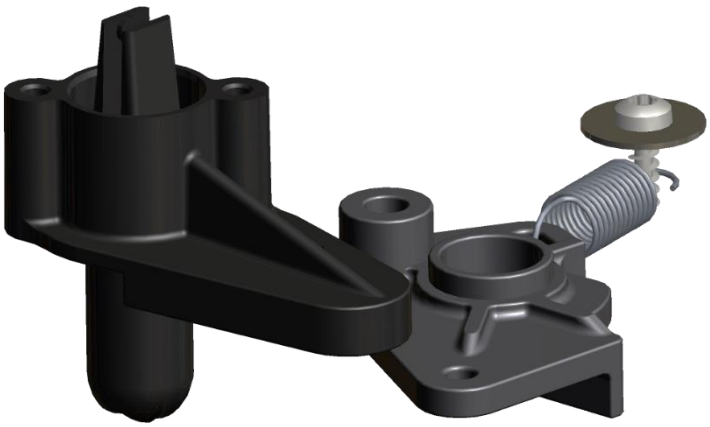


Rotating cam
GT38012

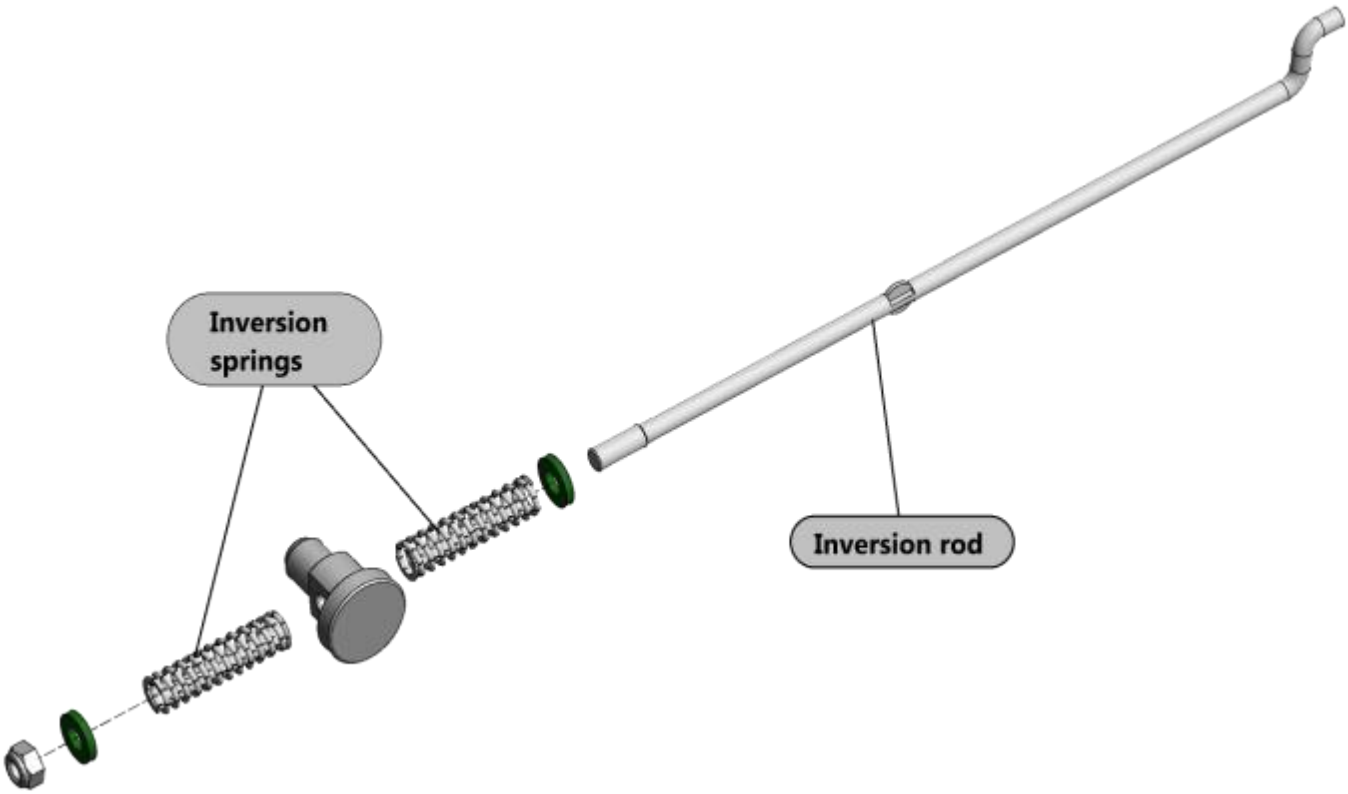


Exploded Bypass Kit
GT79257





Exploded Inversion Kit
GT79258



Hardware kit
GT79323

1 bypass spring

1 Neutral position spring

1 brake spring

2 washers **P/N:42619**

2 e-clips **P/N:42321**

3 screws 4x16 **P/N:43621**

8 screws 5x16 **P/N:43622**

2 screws 4x16 **P/N:42623**

Cover
GT38800

Notes

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