

NL – 2014

EML
HARLEY REVERSE GEAR

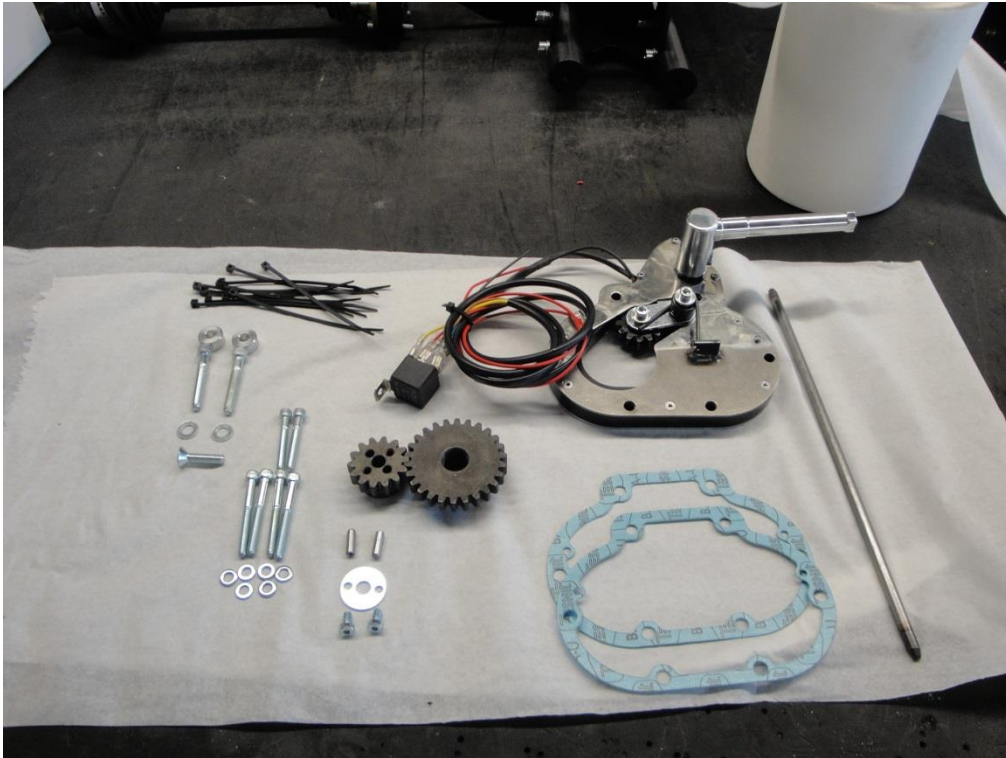
MOUNTING INSTRUCTIONS



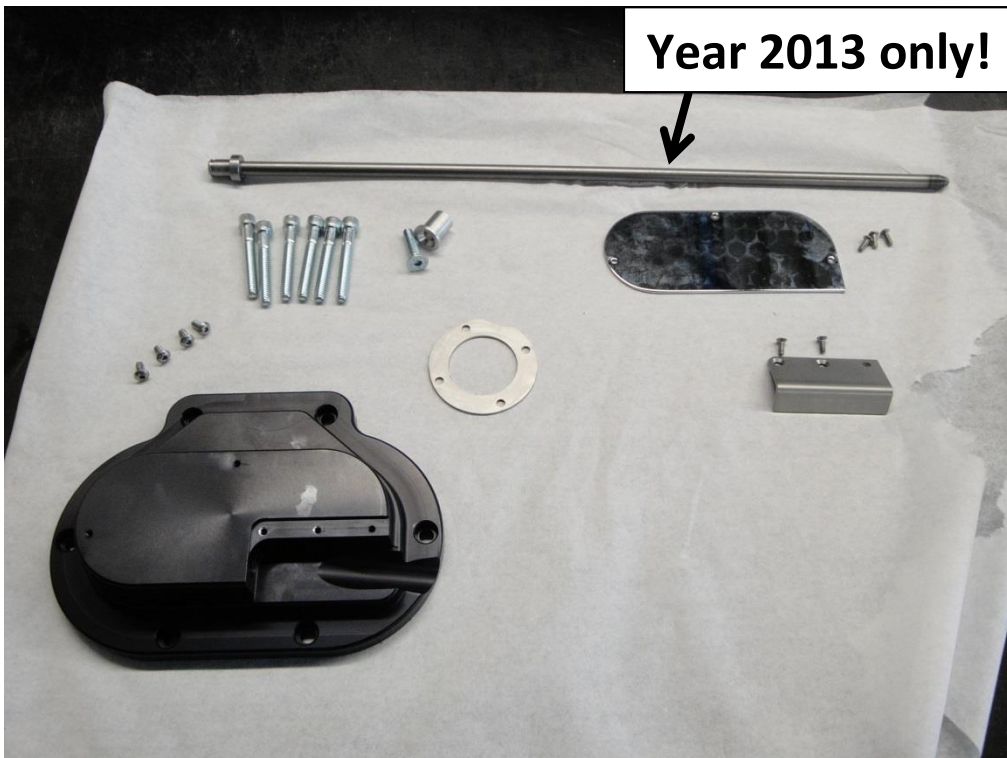
Index

1	The kit(s)	2
2	Strip the bike	3
3	Remove the gear housing	5
	3.a Mechanical clutch	6
	3.b Hydraulic clutch	7
4	Mount the reverse gear	11
5	Remount the gear housing	26
	5.a Mechanical clutch	26
	5.b Hydraulic clutch	27
6	Connect the electrical wiring	34
	6.a Wiring without CAN bus system	34
	6.b Wiring with CAN bus system	35
7	Finish rebuilding the bike	39
8	First time reverse driving procedure	41
	8.a Test the Side stand alarm	41
	8.b Test side stand alarm with running engine	41
	8.c Test driving reverse carefully	41
9	User instructions	42

1. The kit(s)



Reverse gear kit.

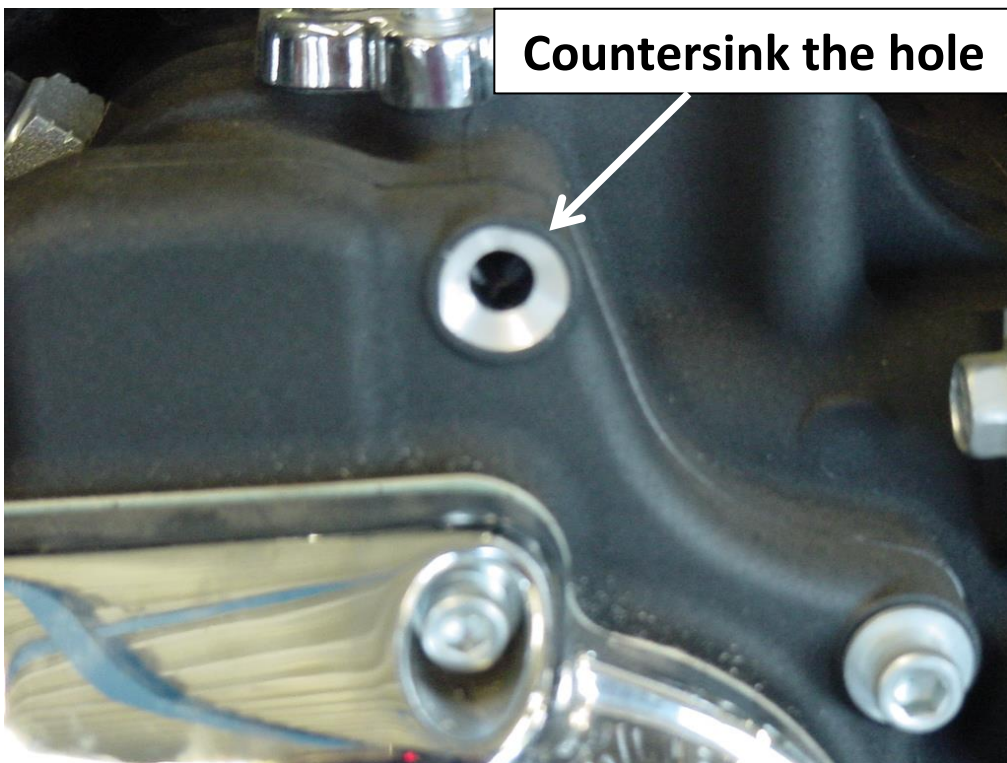
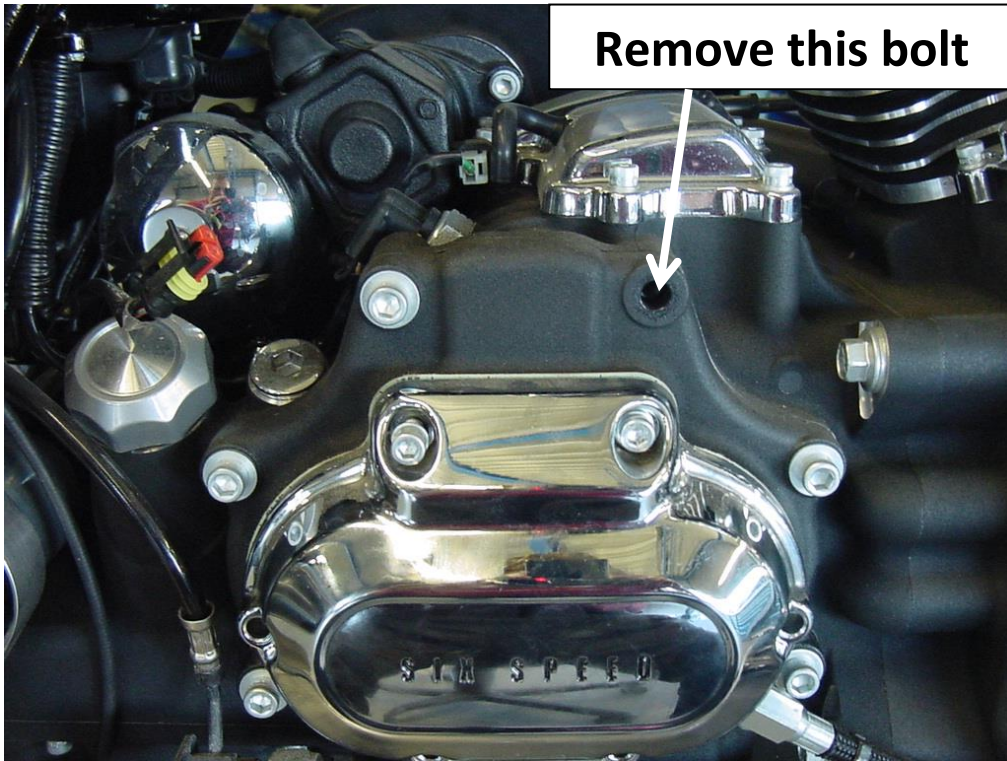


Hydraulic clutch cylinder housing kit. Only necessary if the bike is fitted with an hydraulic clutch. The additional pushing rod is only necessary in 2013 models.

2. Strip the bike



Remove the fairings and the exhaust





Mount the countersunk bolt with a little bit (normal) Loctite.

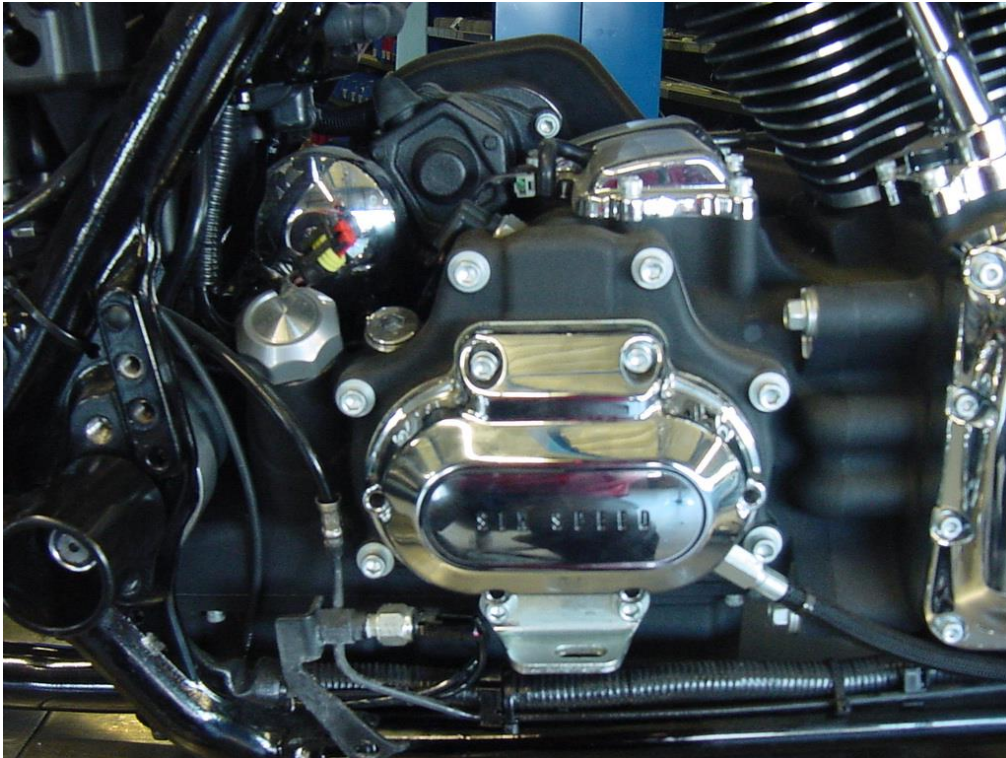
3. Remove the gear housing

The bike can be fitted with an mechanical clutch or an hydraulic clutch.

For the mechanical clutch see page 6

For the hydraulic clutch see page 7

a. Mechanical clutch



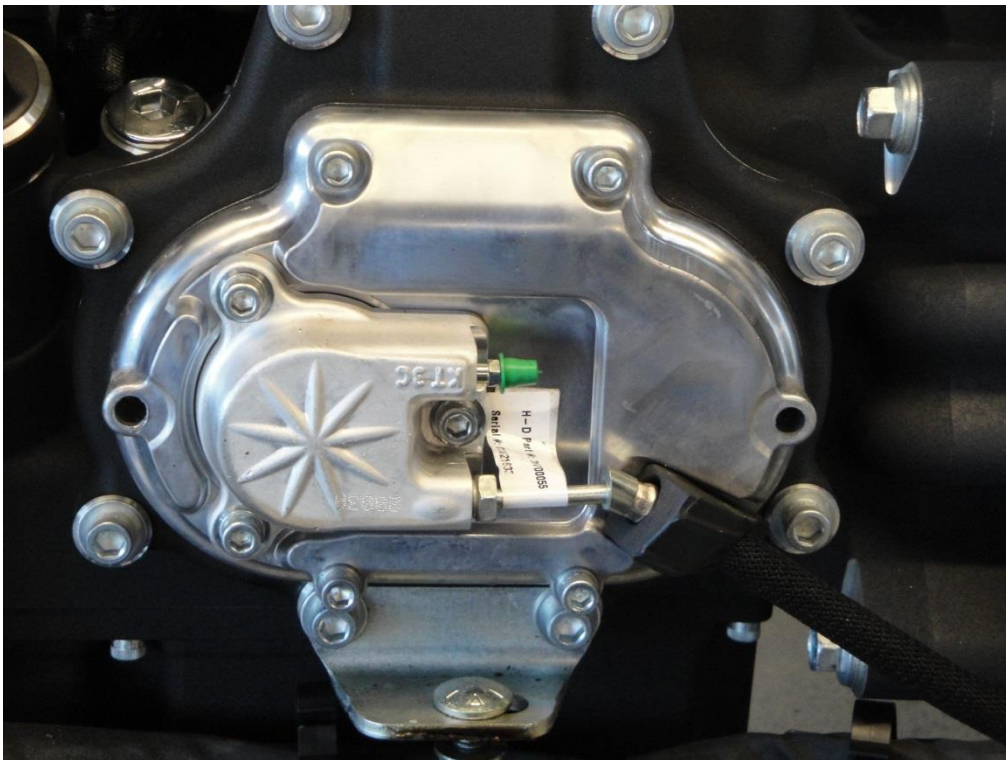
Remove the housing.

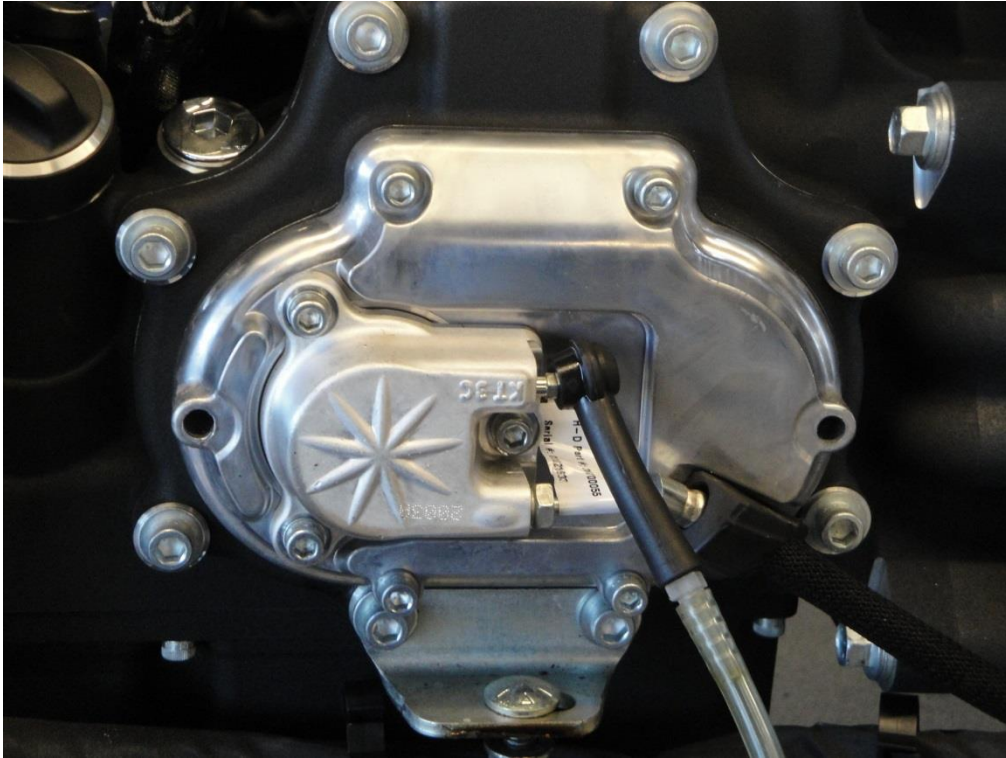


b. Hydraulic clutch

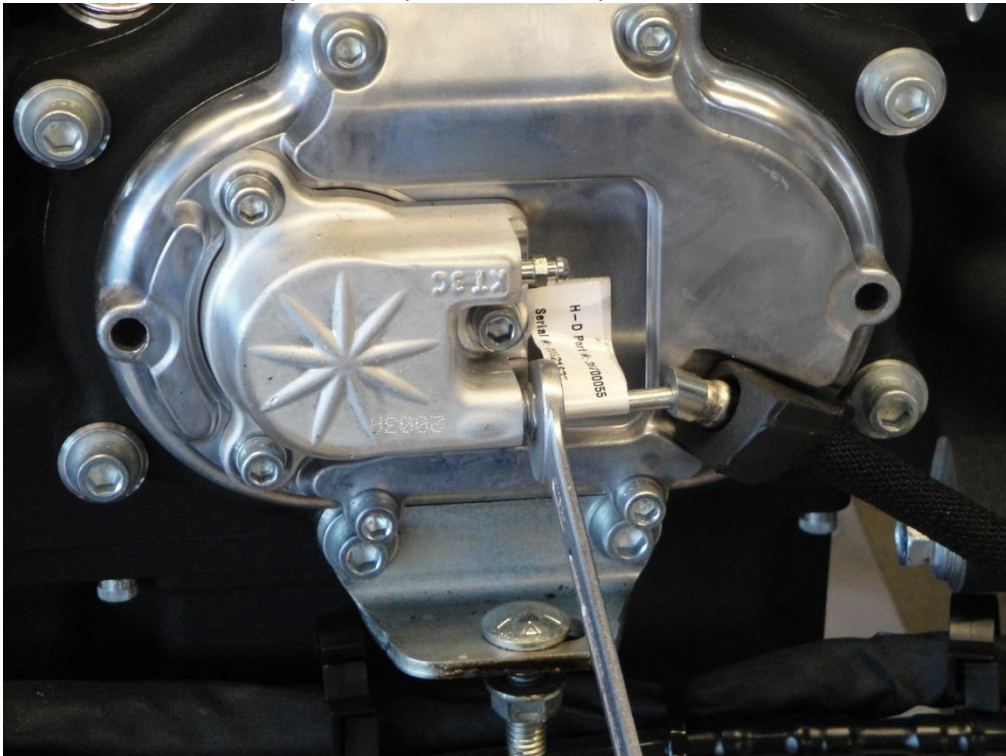


Remove the cover.

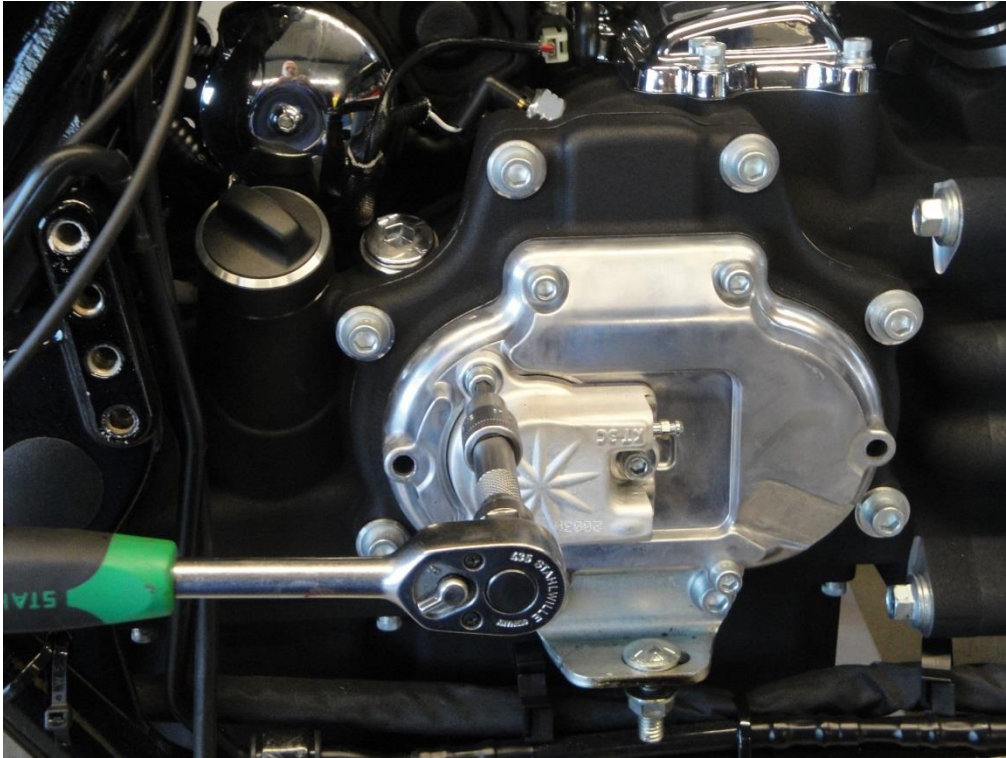




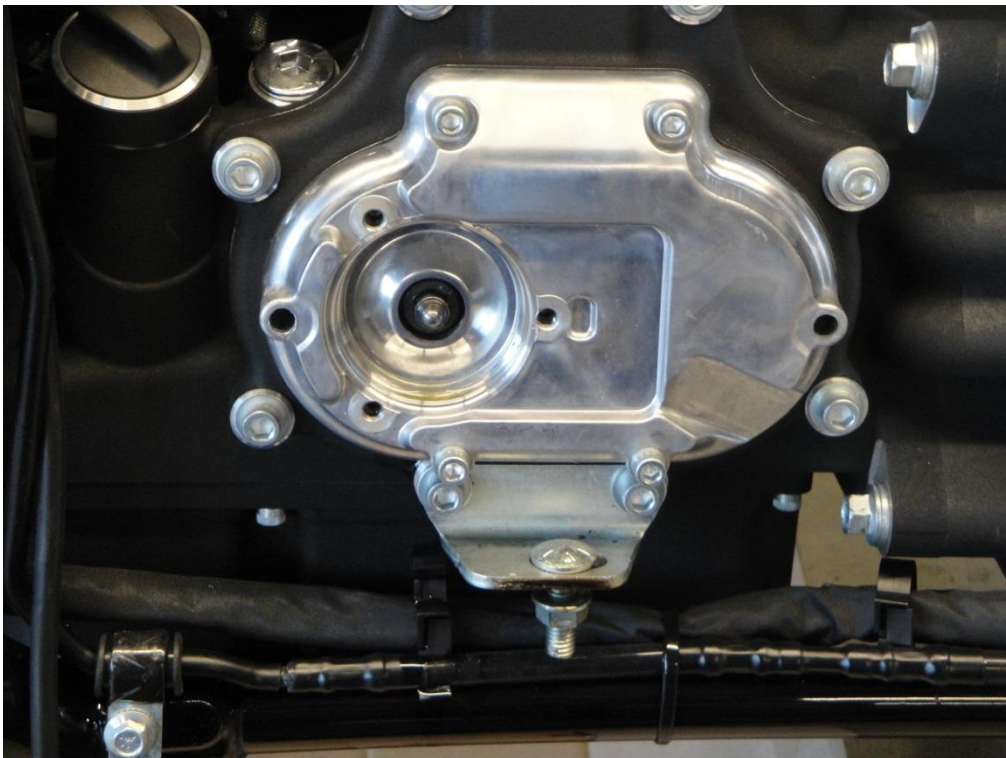
Suck the oil out of the hydraulic operated clutch cylinder.

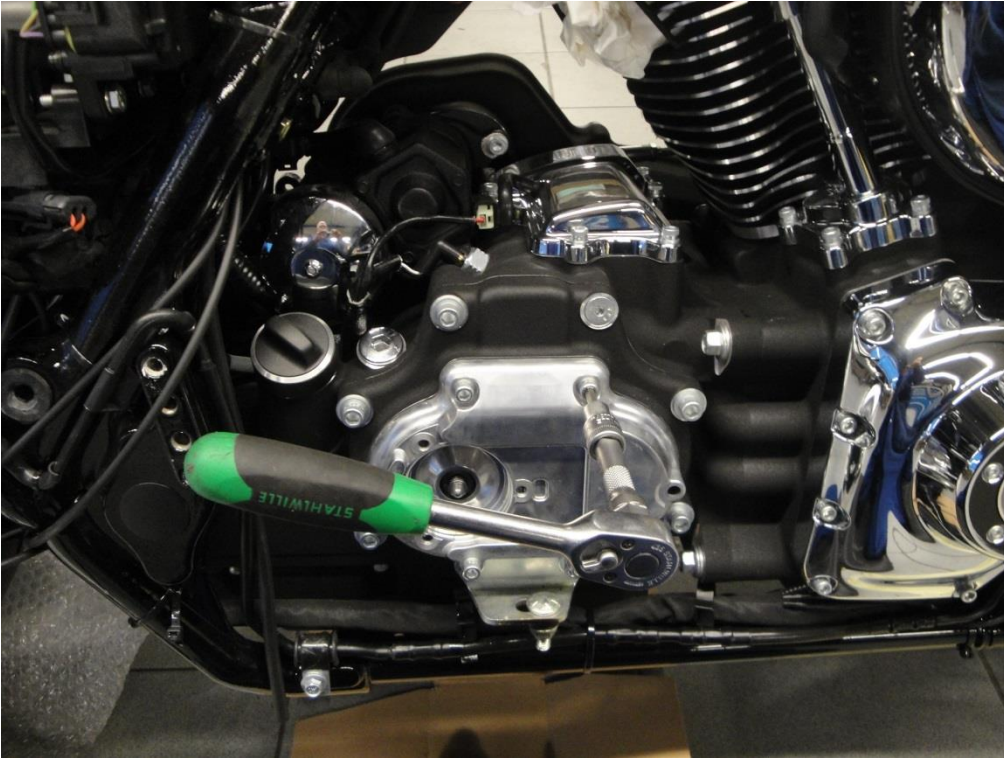


Remove the hydraulic line from the clutch cylinder.



Remove the clutch cilinder.





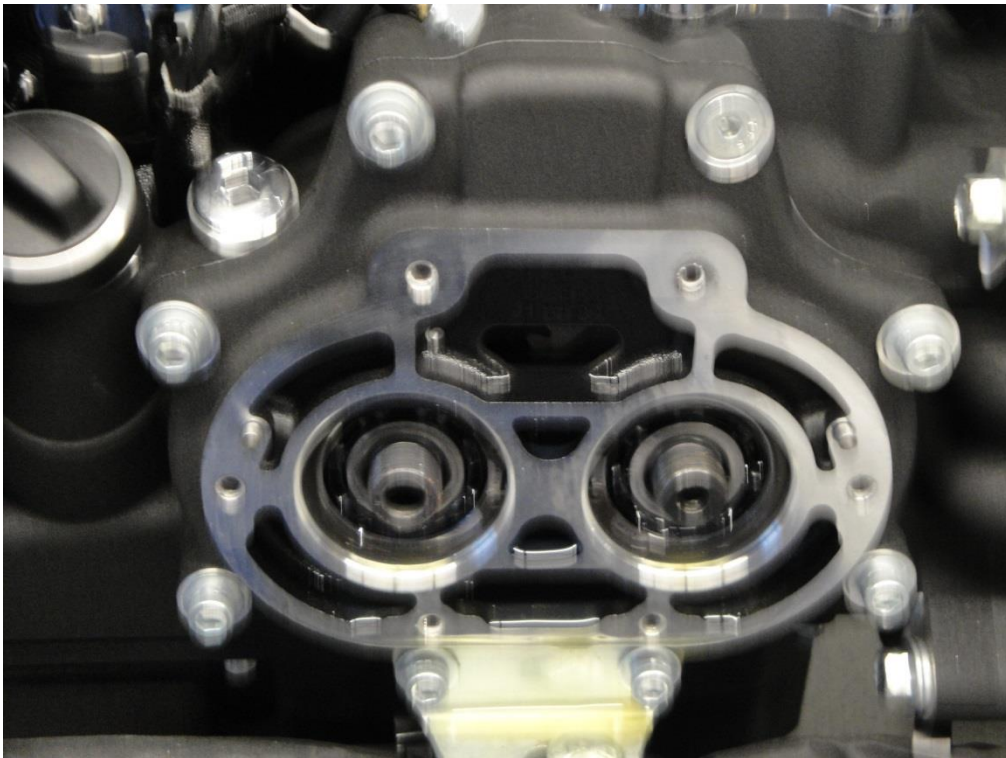
Remove the housing.

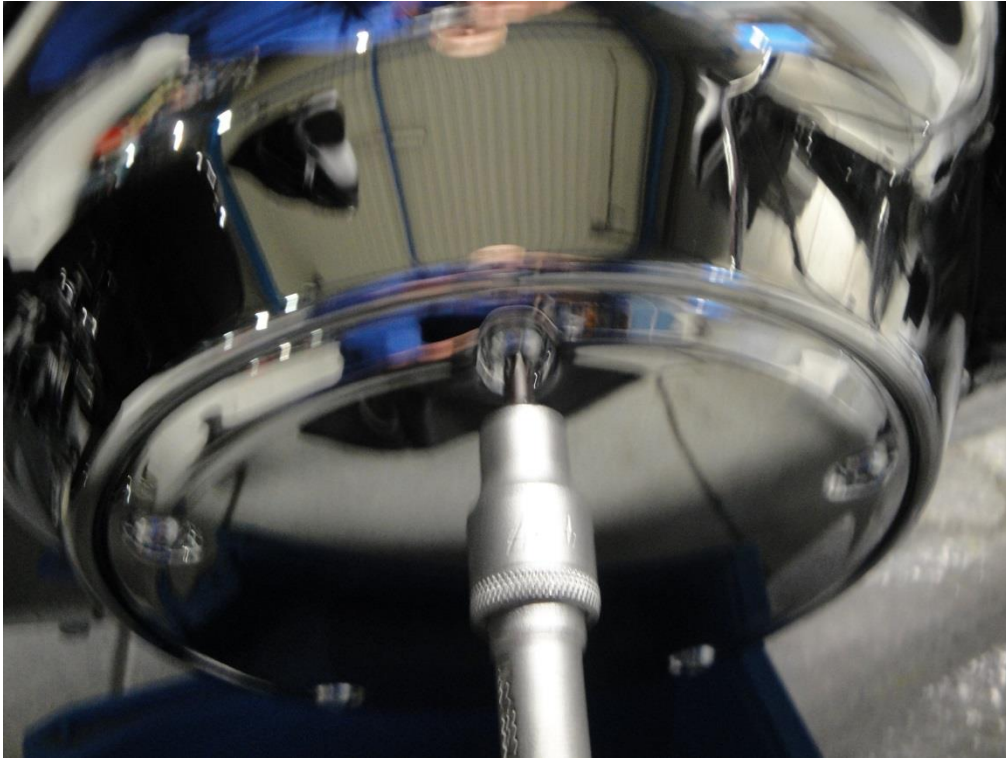


4. Mount the reverse gear



Remove the pushing rod and remove the both nuts.

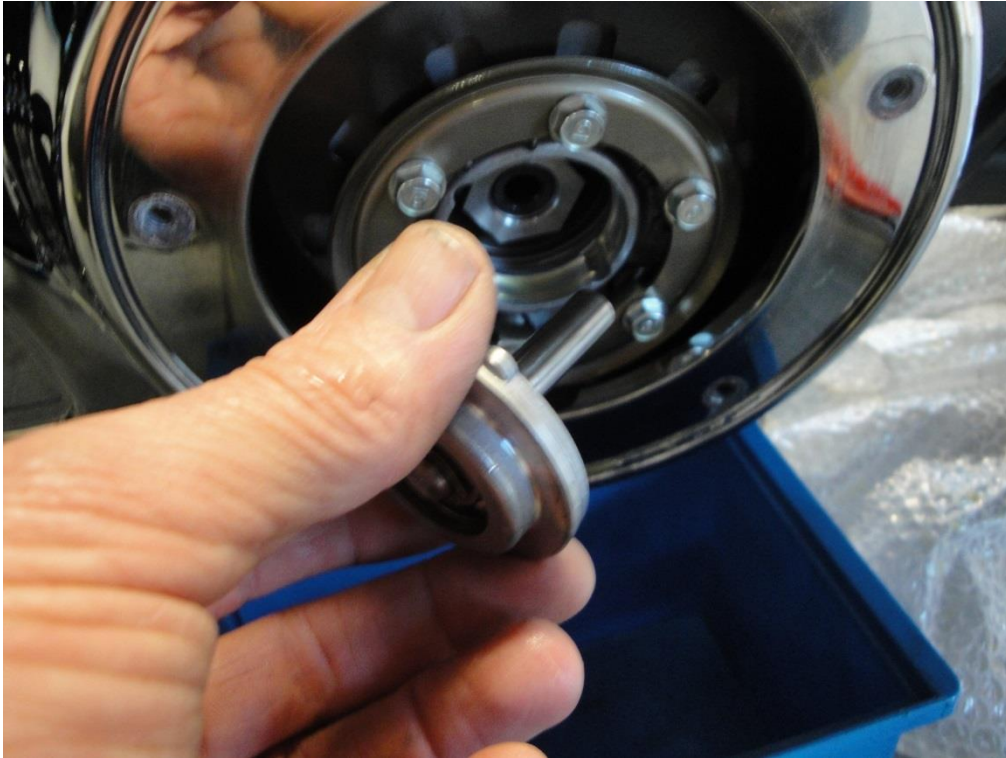




Remove the chrome cover on the other side of the bike.



Remove the springing



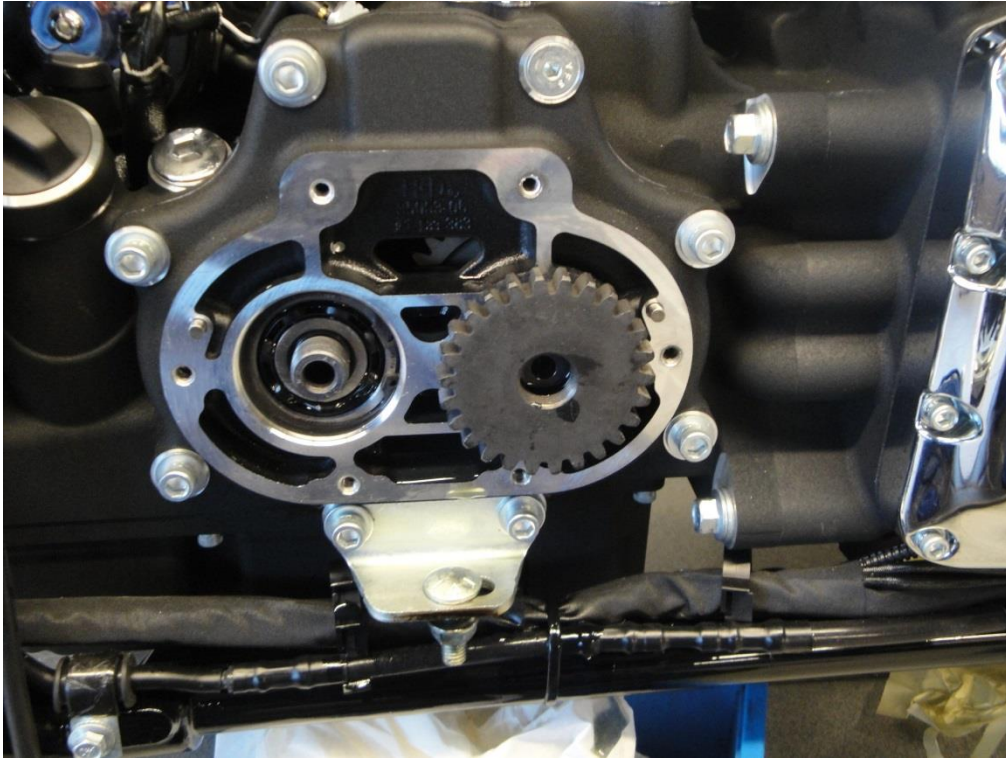
Parts removed.



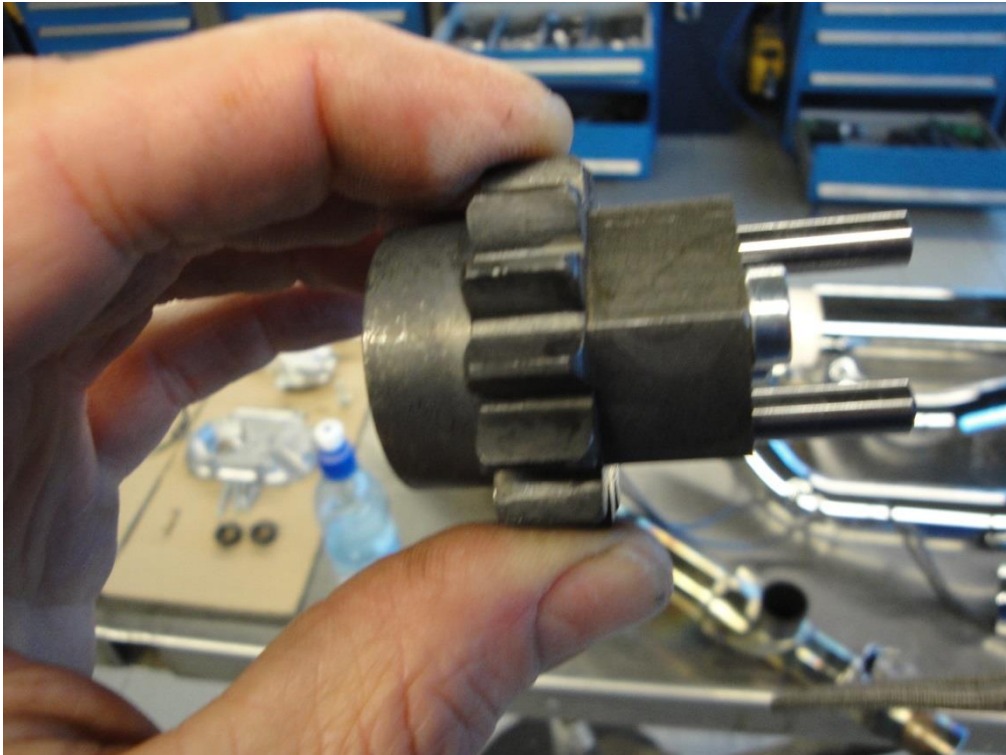
Clean the screw-thread with brake cleaner.



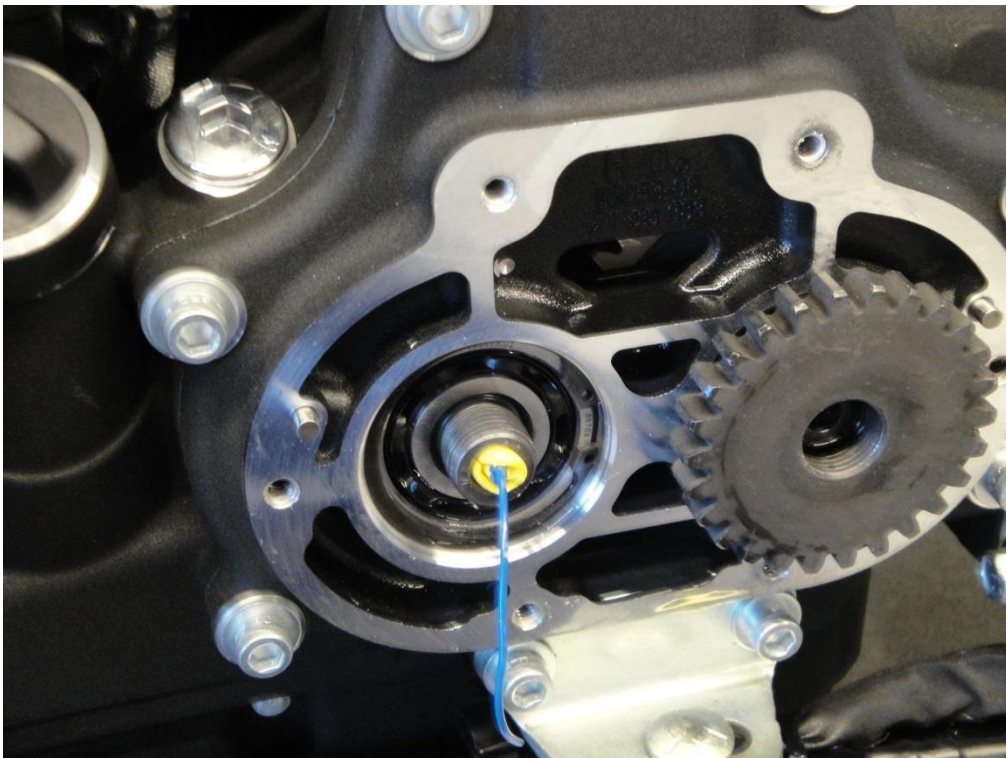
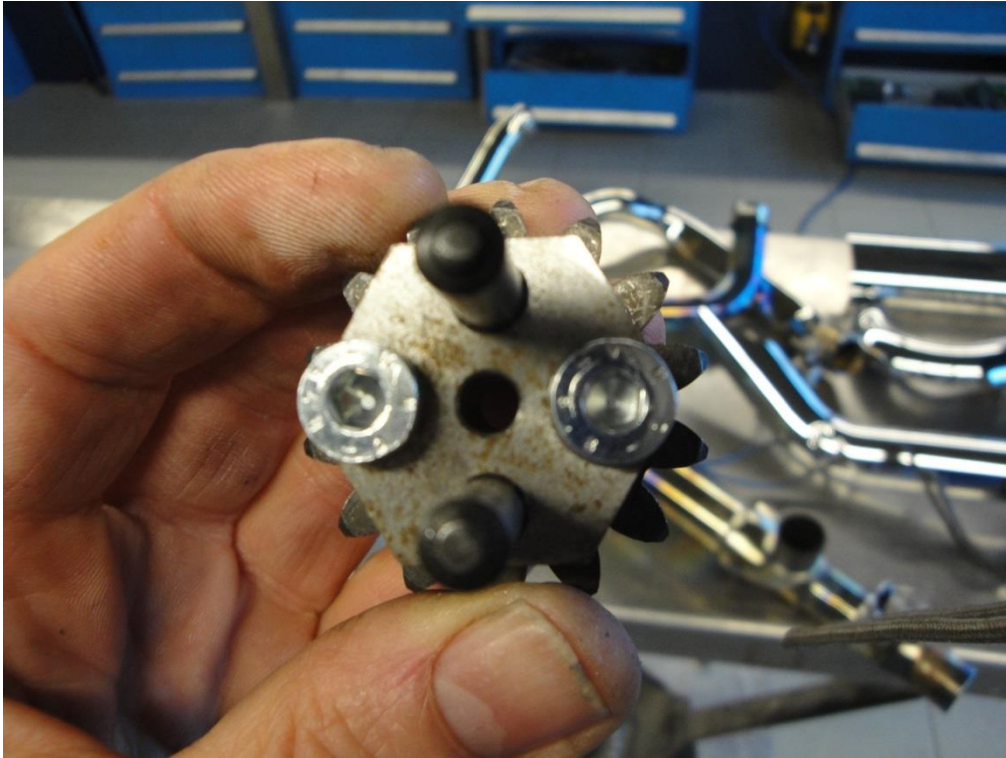
Mount the sprocket with strong Loctite.



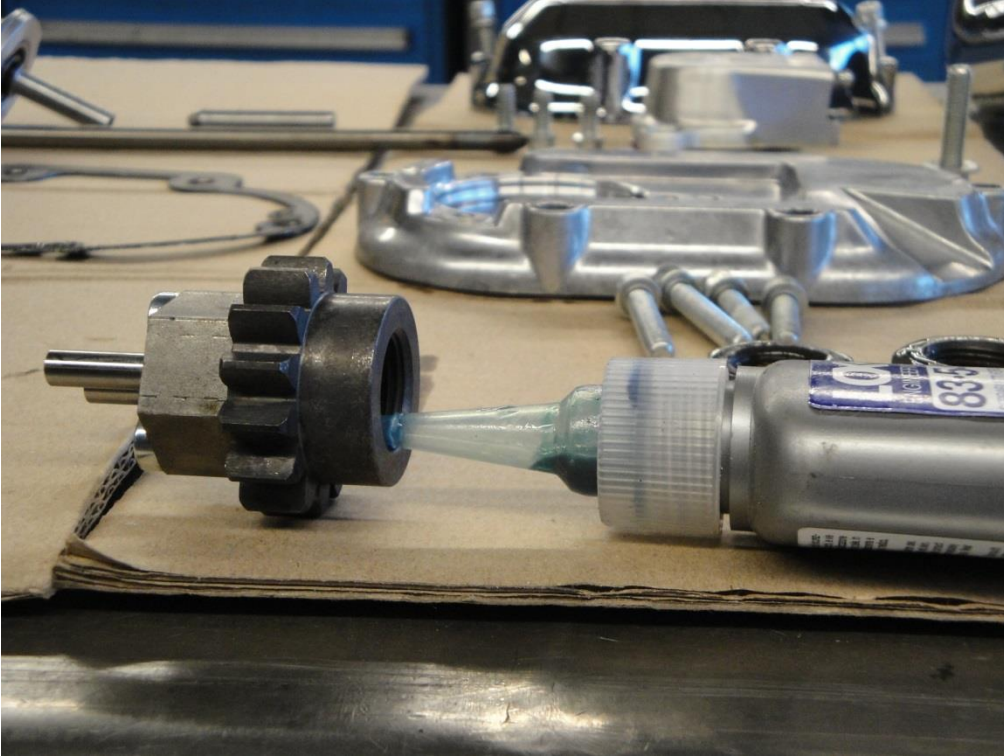
Use the tool provided to mount the sprocket.
Tighten the sprocket up to 65 – 75 Nm (47,9 – 55.3 ft-lb).



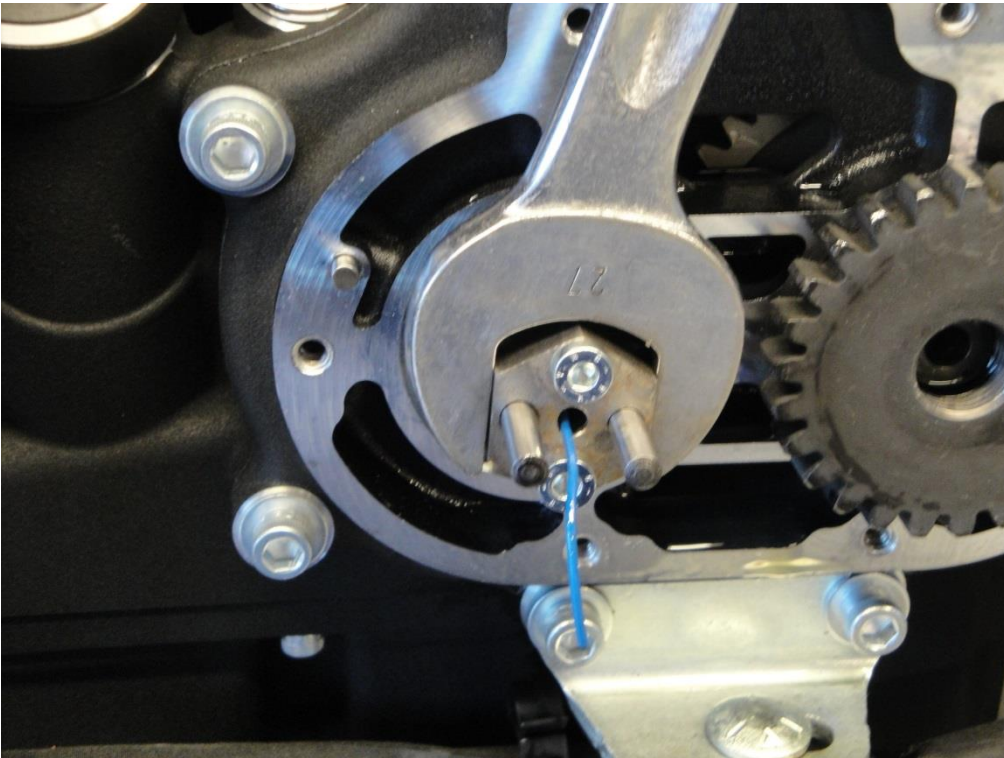
Use the tool provided for mounting the second sprocket. See pictures.



Put the earplug inside the shaft as shown in the picture.



Mount the sprocket with strong Loctite.



Tighten the sprocket up to 65 – 75 Nm (47,9 – 55.3 ft-lb).



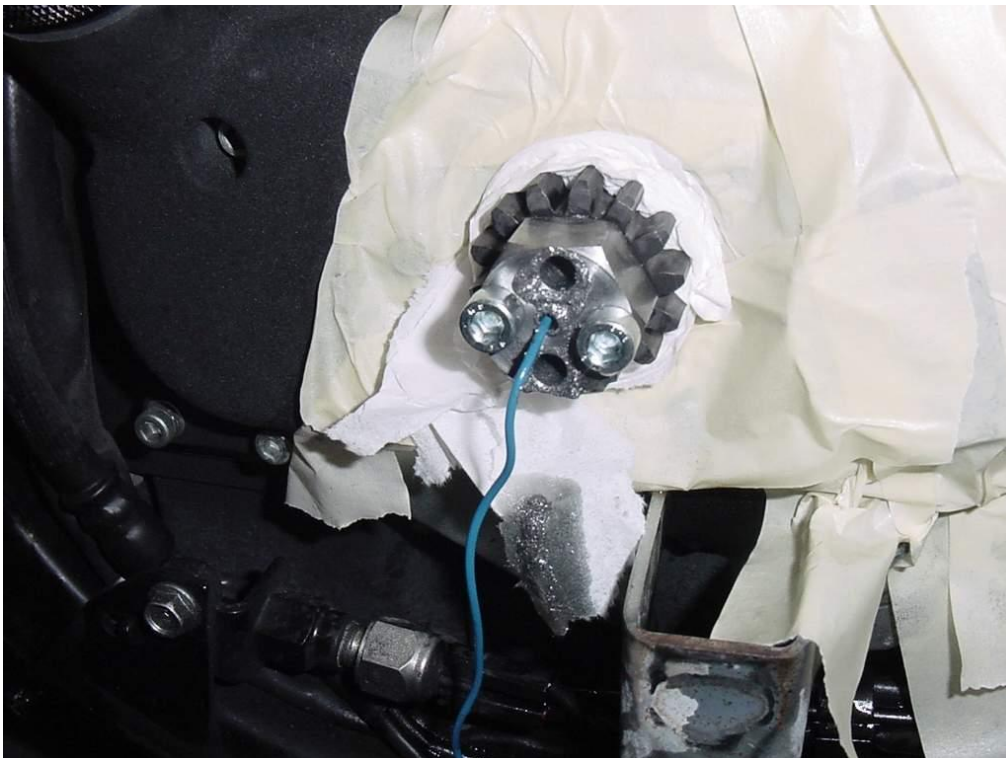
Use masking tape to mask the gearbox. So no steel shivers can come into the gearbox!



Use a cutter shown in the picture.



Mill the two holes shown in the pictures.

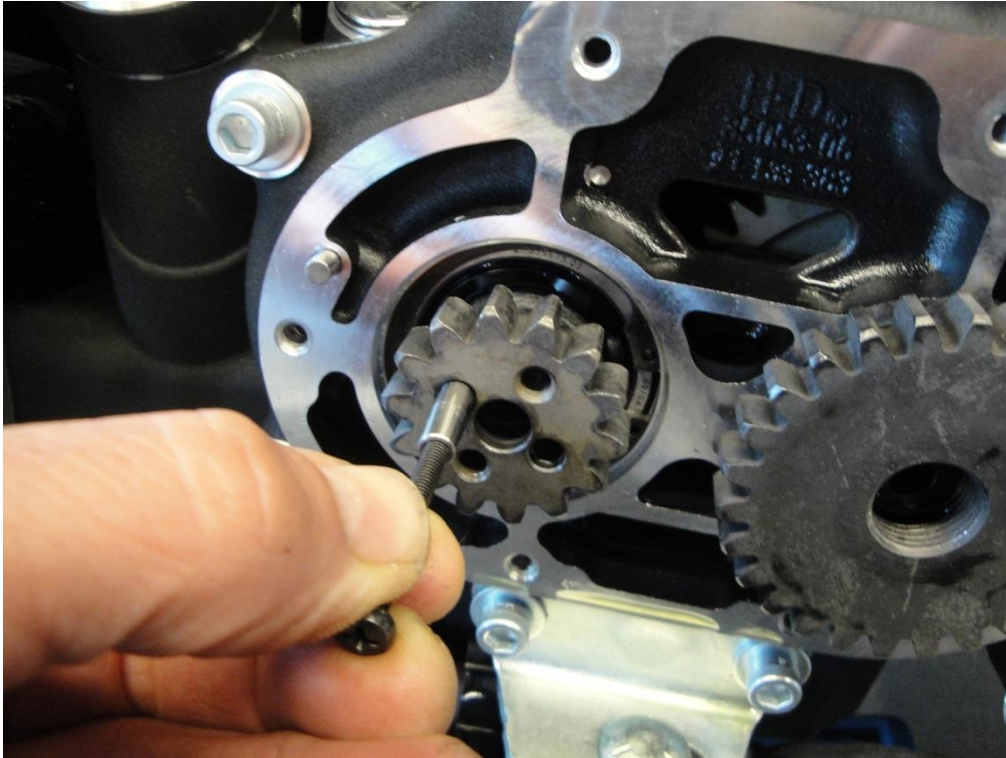




Remove the special tool. And remove the steel shivers, which are released by milling the holes, with brake cleaner



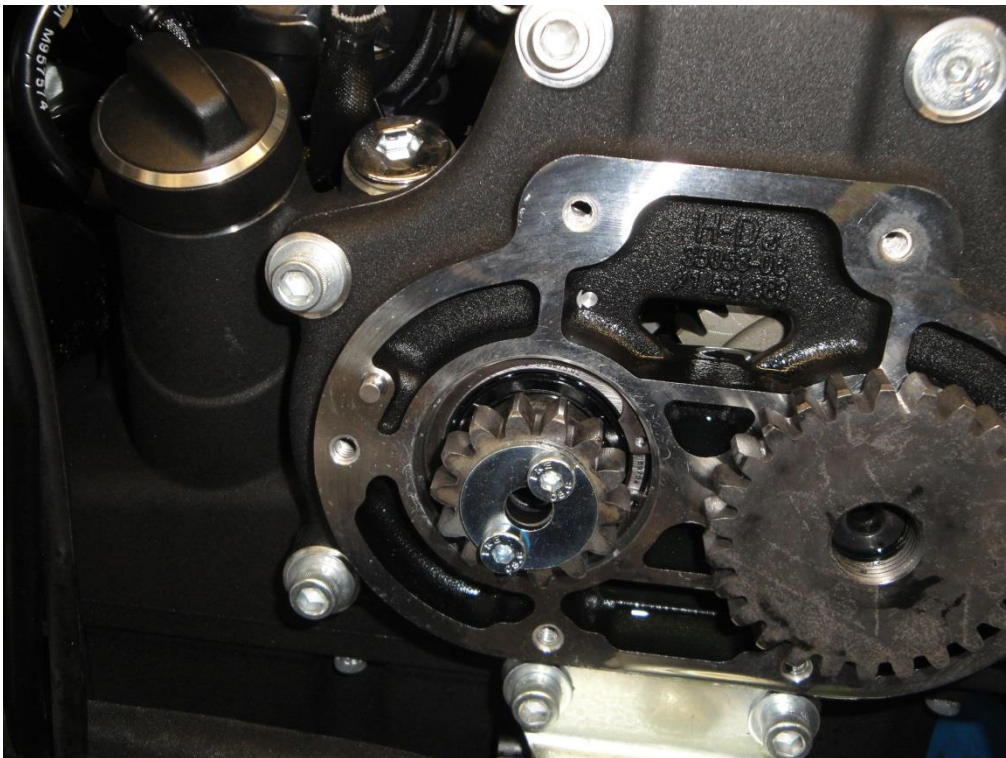
Mount the pins (shown in the picture) with some strong Loctite. Use the bolt provided to mount the pins in the holes.



Mount the plate shown in the picture.



Mount the plate with some (normal) Loctite.

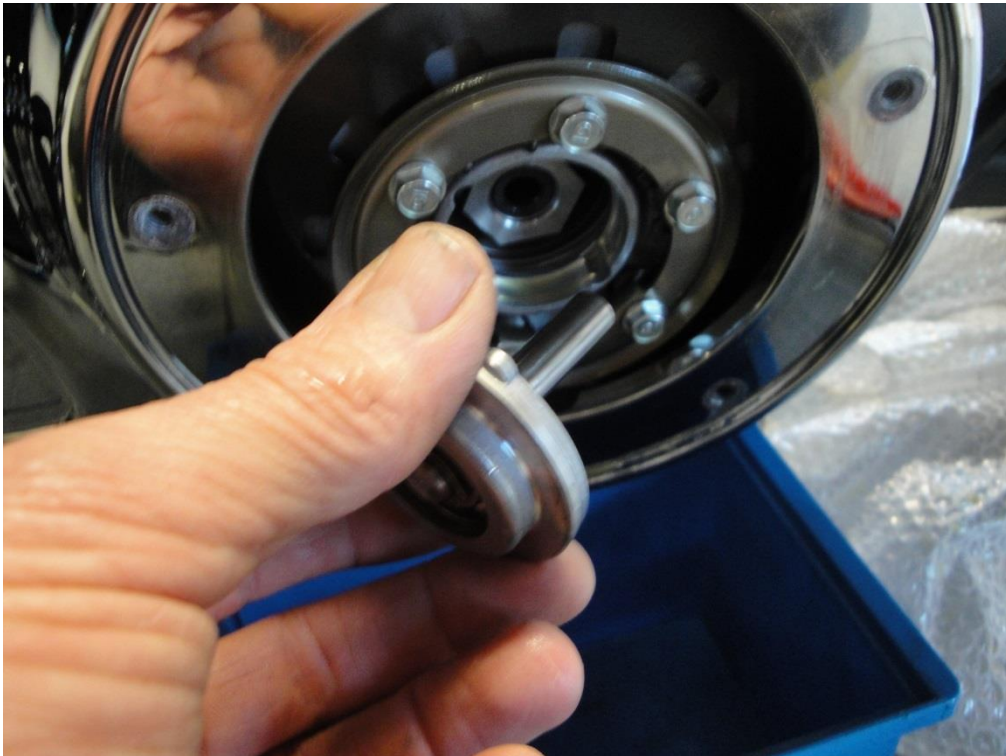




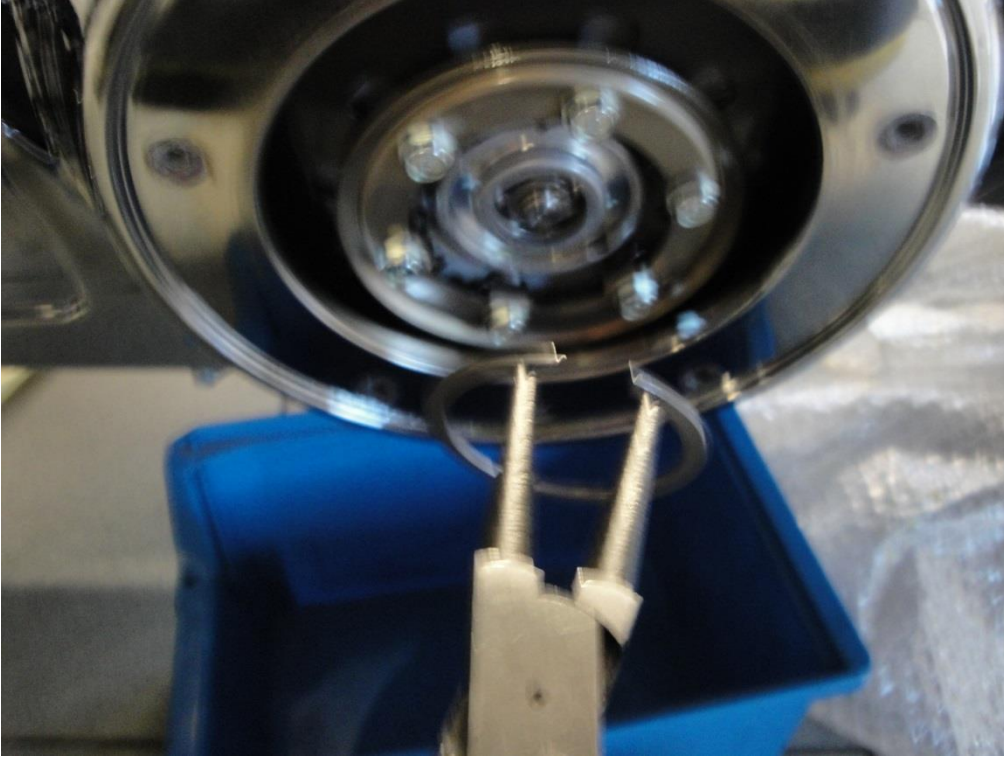
mount the pushing rod. If the model is year 2013, mount the pushing rod provided with the hydraulic clutch kit (see page 2). Else mount the pushing rod provided with the reverse gear kit (see page 2).



Mount the bush shown in the picture.



Remount the other side of the bike.



Don't forget the spring ring!



Remount the cover.

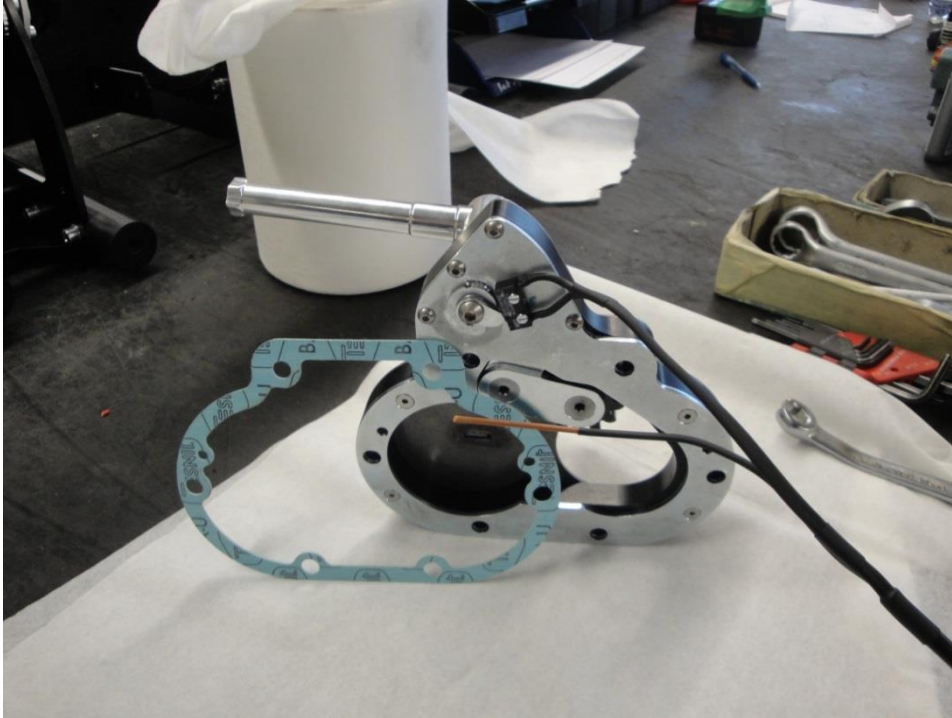
5. Remount the gear housing

The gear housing for the mechanical and hydraulic clutch is slightly different therefore:

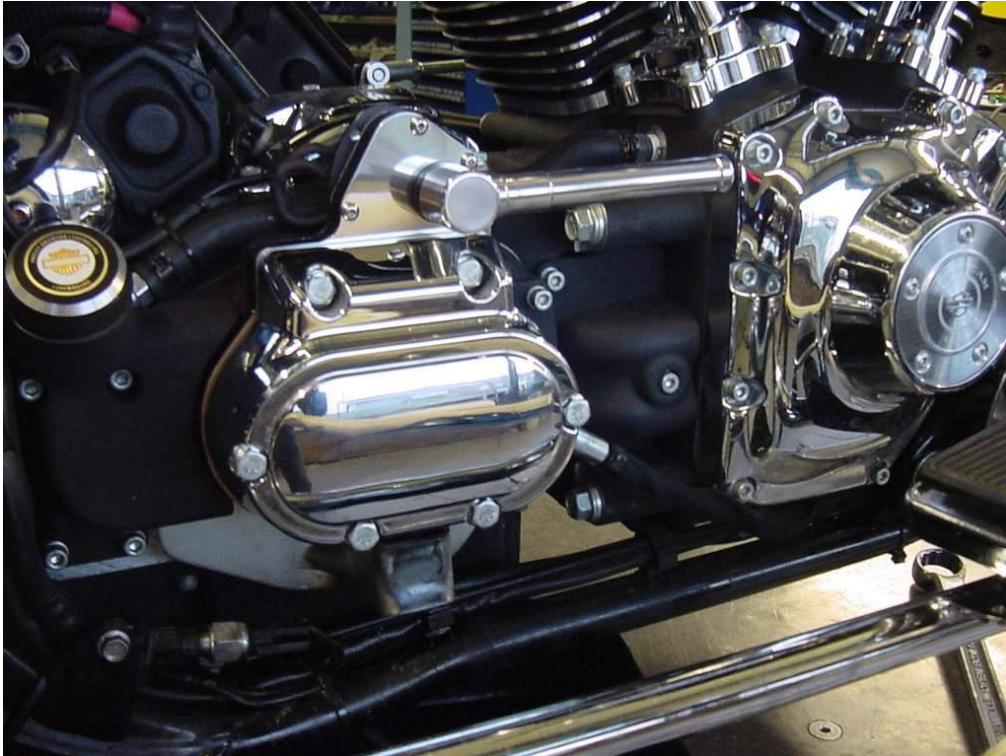
For mechanical clutch see page 26

For hydraulic clutch see page 27

a. Mechanical clutch

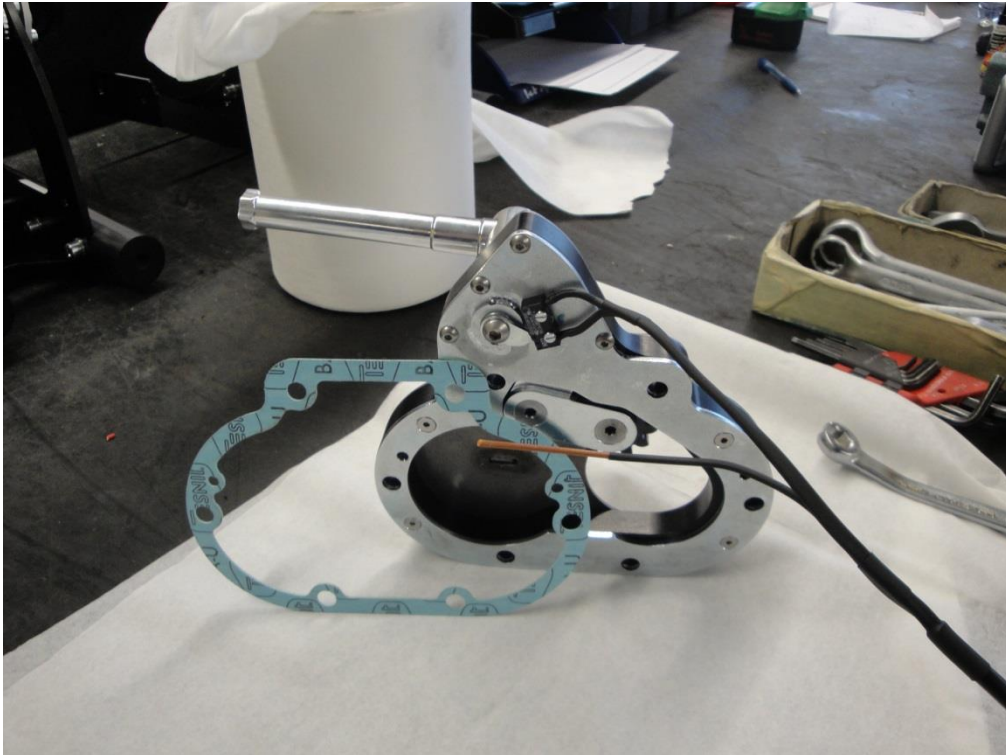


Make sure the switch is mounted correctly and functioning when the lever rotates.



Mount the gear housing and the original HD cover.

b. Hydraulic clutch



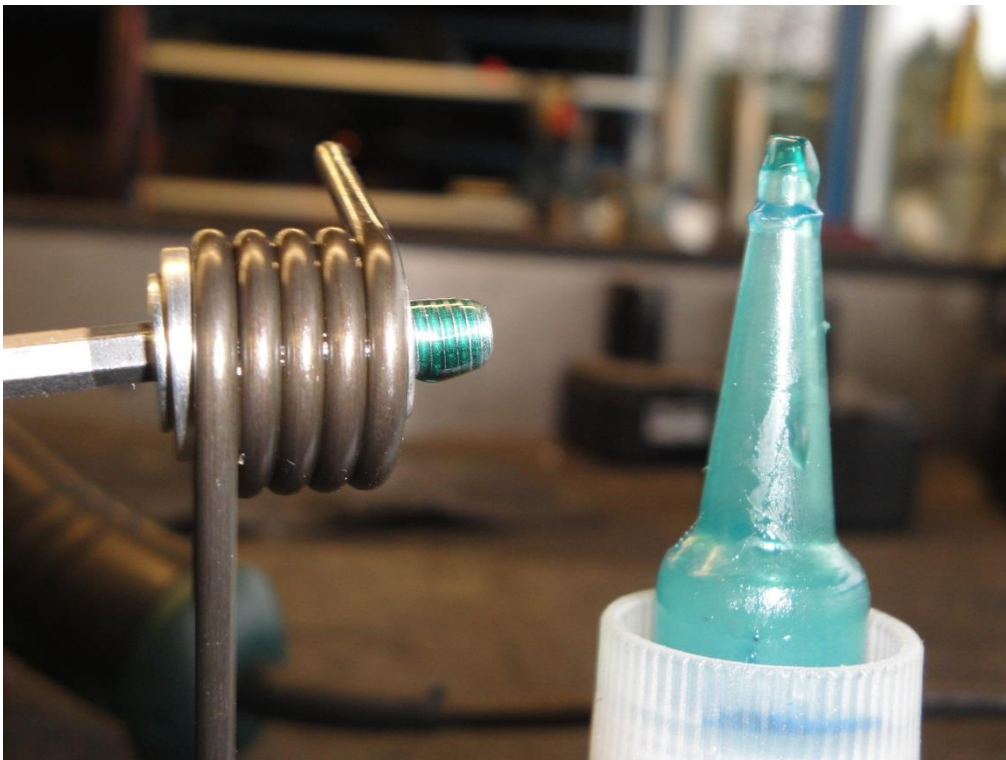
Make sure the switch is mounted correctly and functioning when the lever rotates.



If the spring is mounted with this bush, Remove the bolt and bush. And replace with the bolt and bush as shown in the next picture.



Replace with these.



Mount with strong Loctite.



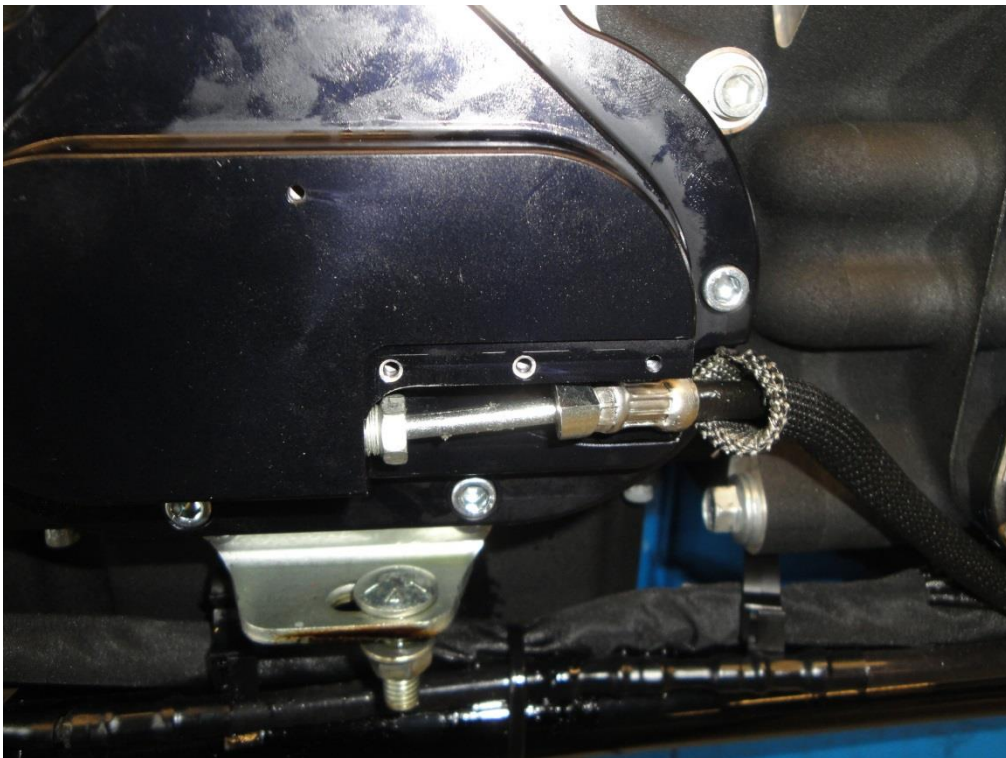
It should look like this.



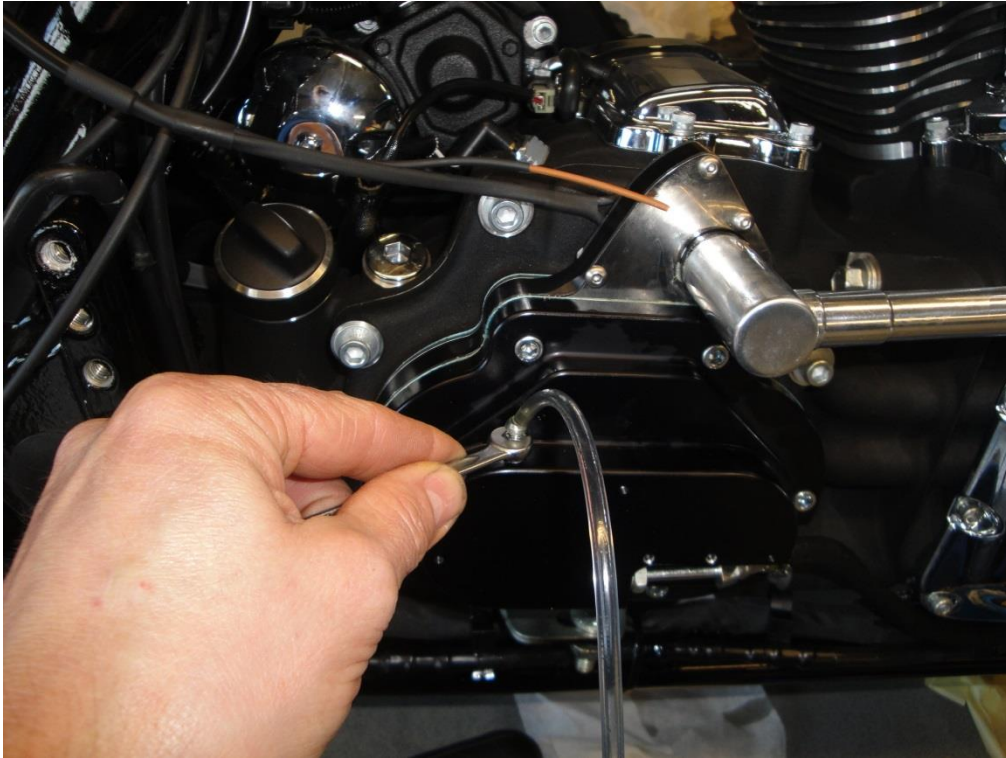
Remove the piston of the hydraulic operated clutch cilinder.



Mount the piston in the EML housing using some (normal) Loctite.



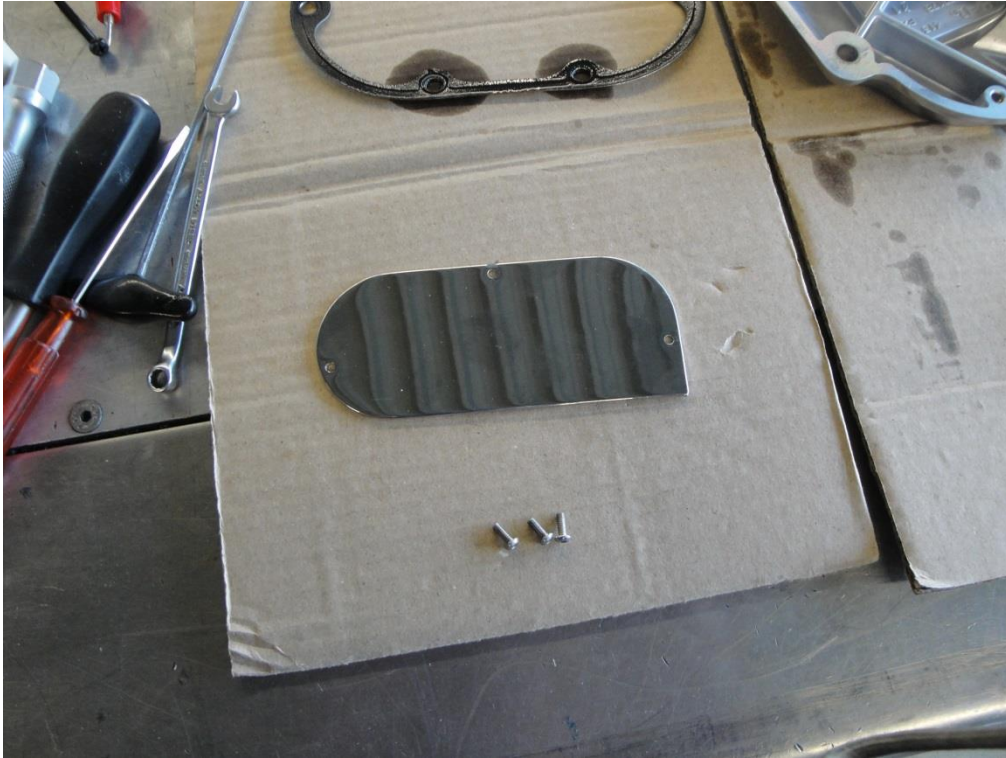
Remount the hydraulic line of the clutch cilinder.



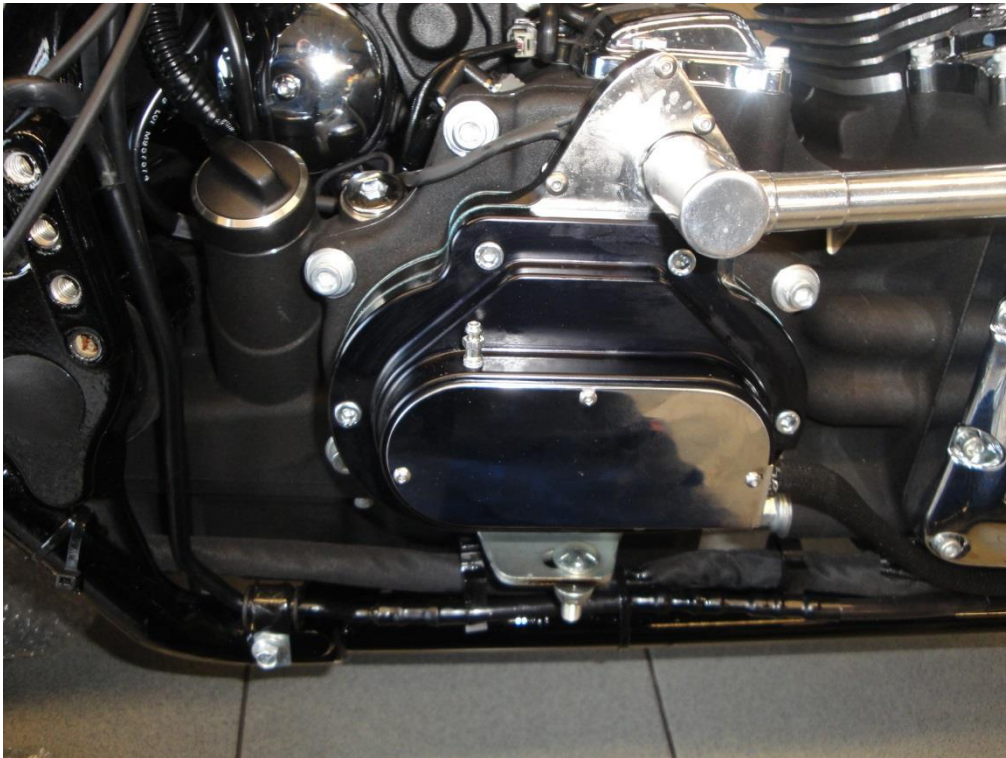
Mount the bleed nipple and bleed the clutch.



Mount the stainless steel cover.



Mount the chrome cover.



It should look like this now.

6. Connect the electrical wiring

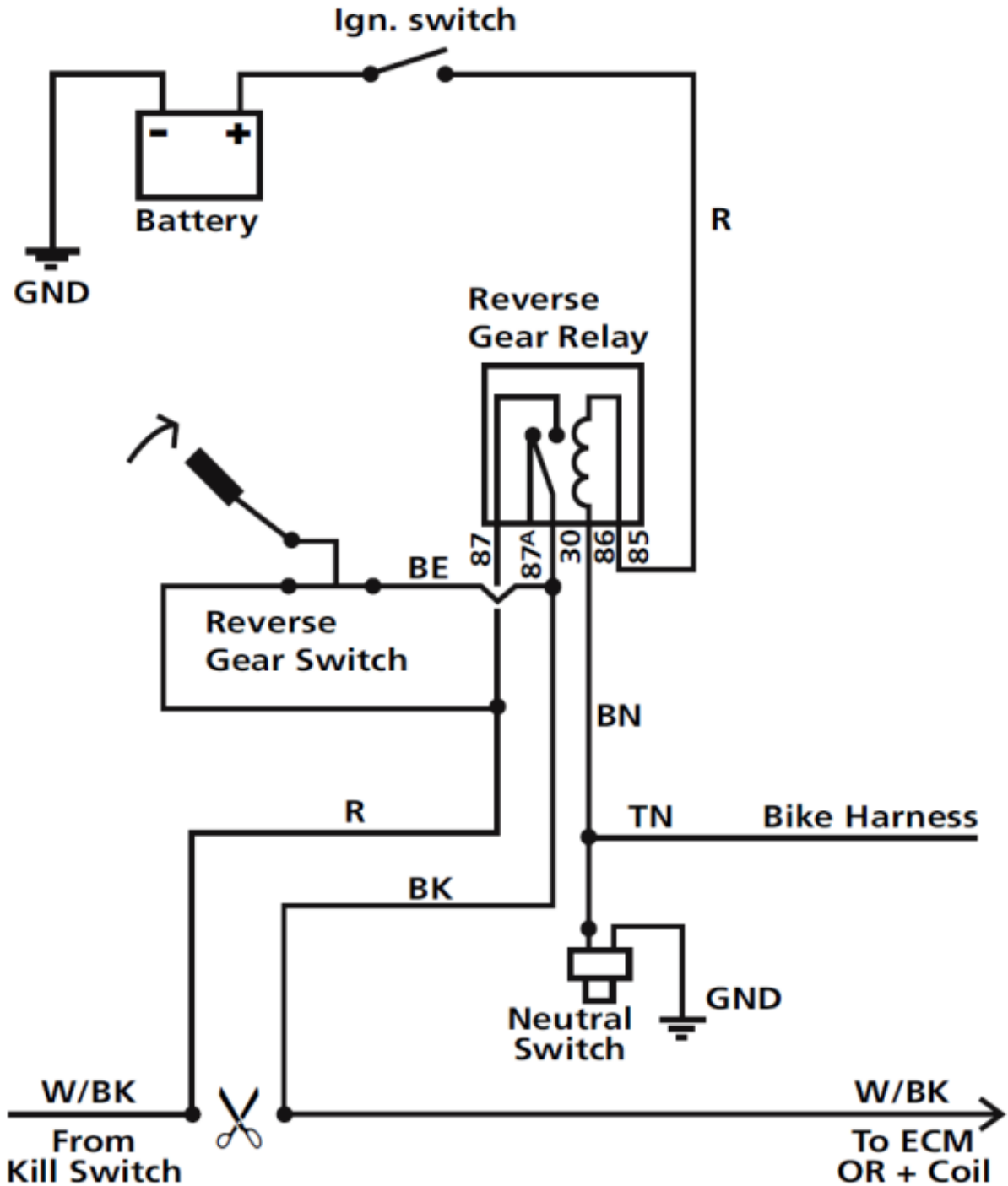
Depending on whether or not the bike has CAN bus. The wiring is slightly different.

If the bike doesn't have CAN bus see page 34

If the bike does have CAN bus see page 35

a. Wiring without CAN bus system

Attach the wiring according to diagram.

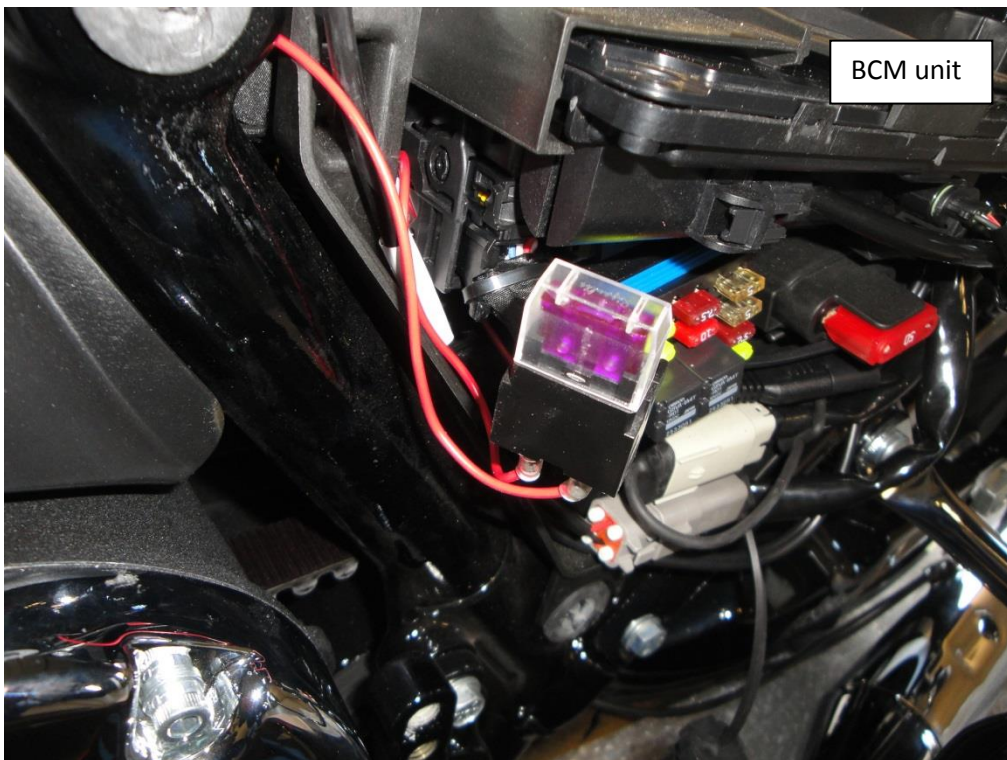


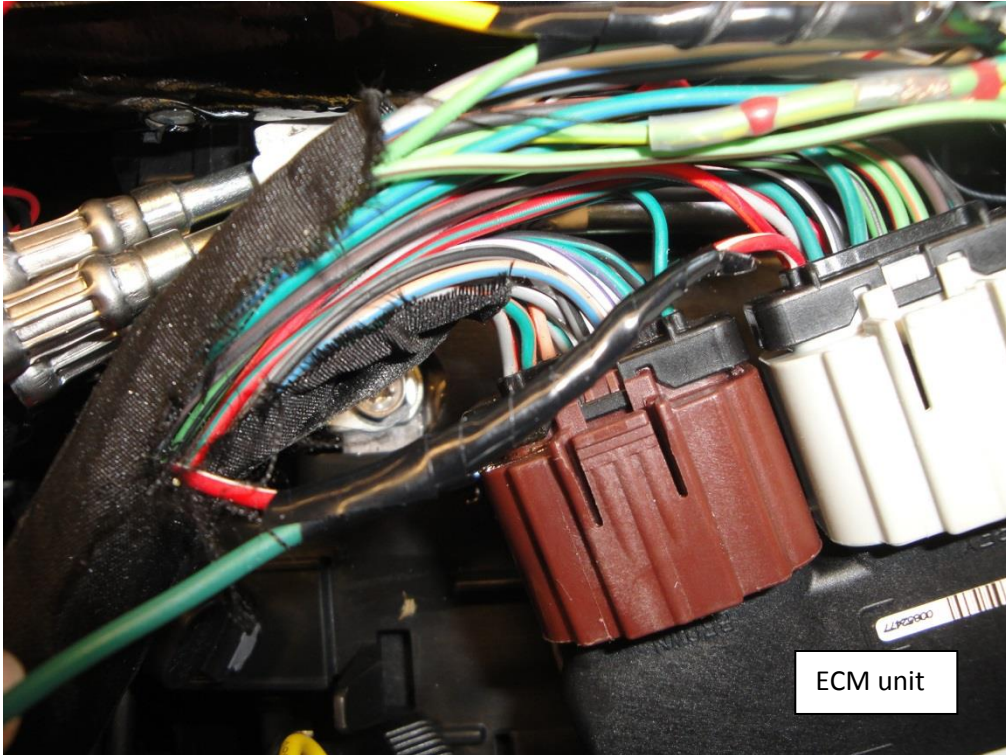
b. Wiring with CAN bus system

Attach the wiring according to this description. See page 39 for an drawing of the wiring loom

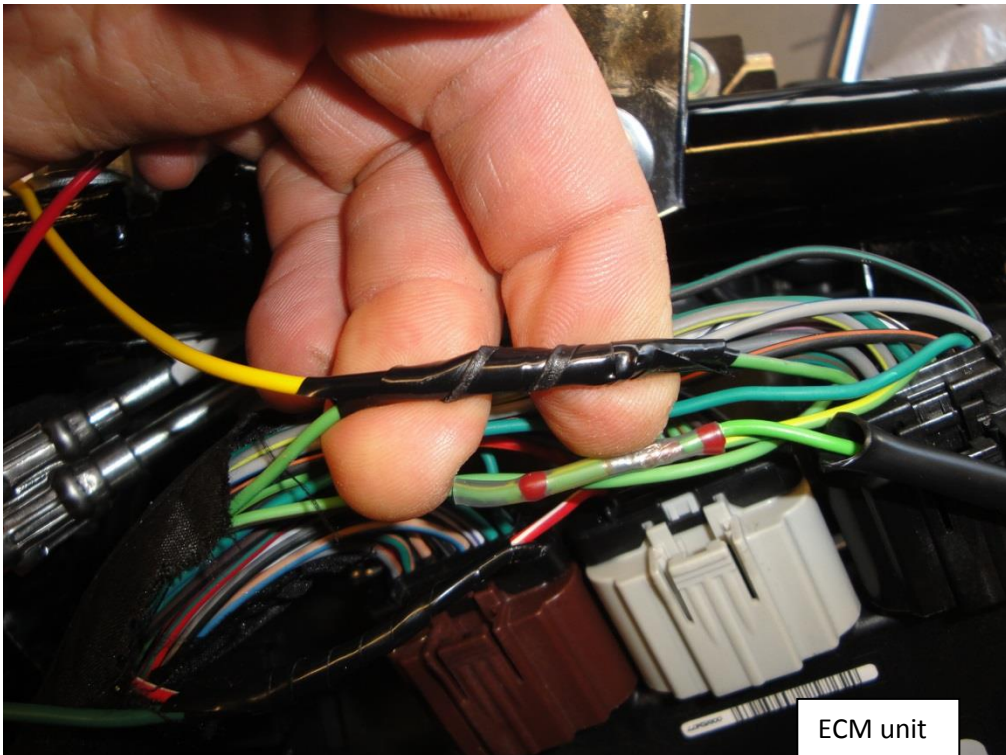


Find the BCM unit on the left side of the bike behind the cover. In the wiring loom is an (Red)/(yellow striped) wire. Attach the red EML wire to this wire.
An 3A fuse should be placed in the red EML wire.





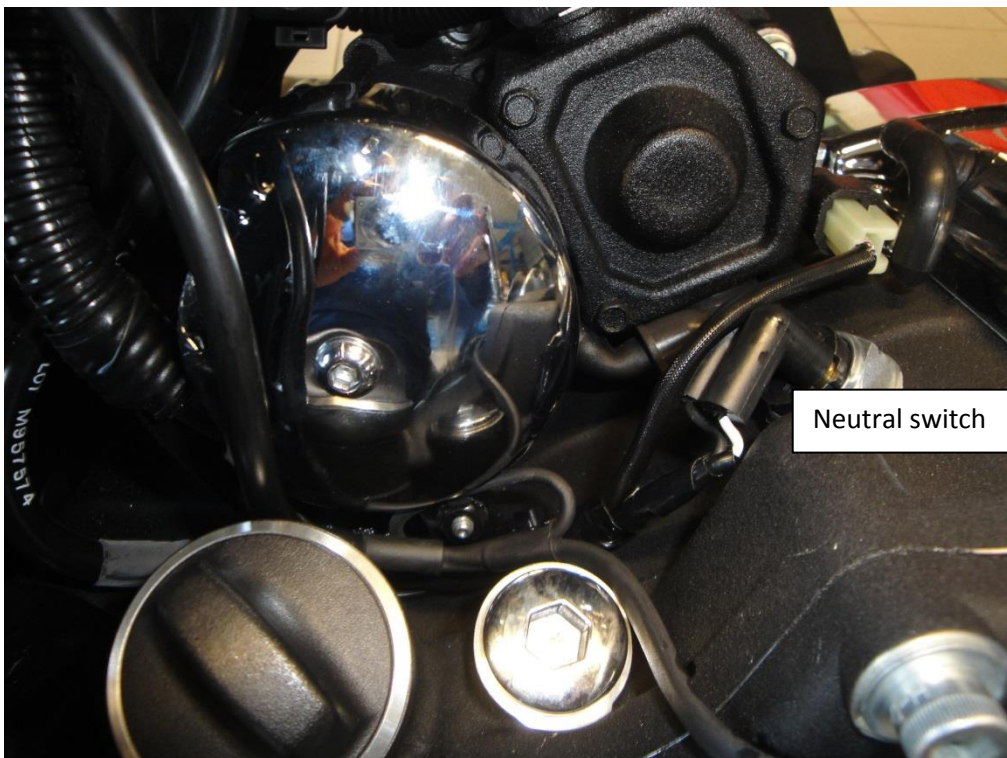
Find the ECM unit underneath the seat. Attach the green EML wire to the (Red)/(white striped) wire of the white (middle) connector.



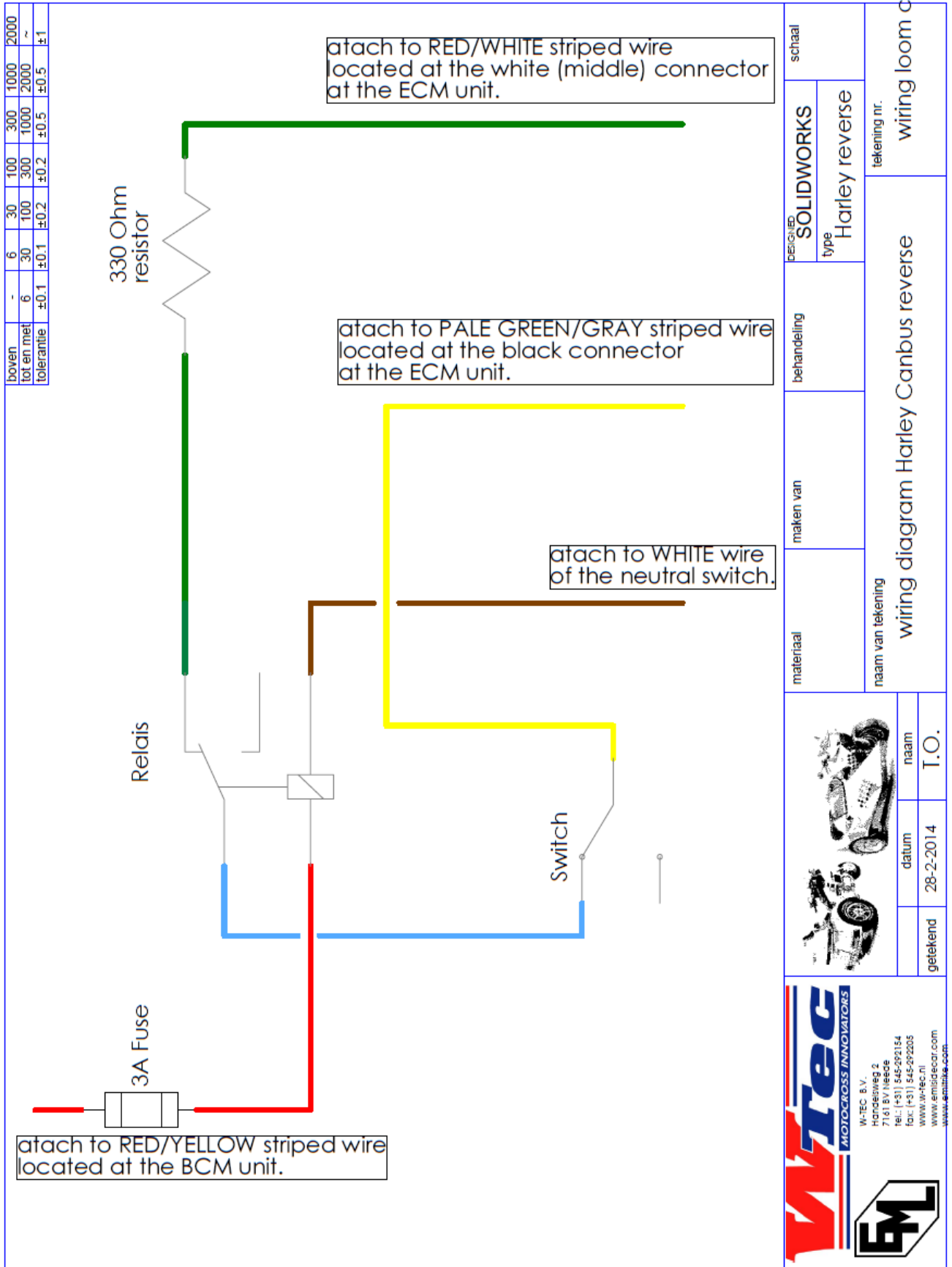
Under the seat find the ECM unit. Attach the yellow wire to the (pale green)/(gray striped) wire of the black connector.



Mount the relay on the frame. For example mount it behind the rear cylinder to the steel plate in the frame.



Attach the brown EML wire to the white wire of the neutral switch



7. Finish rebuilding the bike



Check the level of the gearbox oil.



Remount the exhaust and all the fairings.

If provided, use the extra exhaust mounting bushes.



8. First time reverse driving procedure

a. Test the Side stand alarm

- Sit on bike.
- Sidestand in.
- Ignition on. **don't start!**
- Pull the reverse lever
- Side stand alarm should go on!
- If OK. See 9B

b. Test side stand alarm with running engine

- Sit on bike.
- Start engine.
- Sidestand in
- **Pull the clutch and hold!**
- Shift the gearbox in first gear
- **Keep the clutch in and hold!**
- Pull the reverse lever carefully
- The engine should stall!
- If OK. See 9C

c. Test driving reverse carefully

- Sit on bike.
- Make sure the gearbox is in Neutral!
- Start engine
- Sidestand in
- **Pull the clutch and hold!**
- Pull the reverse lever carefully
- Release the clutch slightly until the bike starts moving. Let the clutch just touch a little. The bike should drive backwards!
- If OK. the reverse gear is functioning as it should, and can be used.

9. User instructions

NL: **Belangrijk !** Instructie voor bestuurder:

Bij het inschakelen en tijdens het ingeschakeld hebben van de achteruit versnelling, moet de versnelling van de motorfiets **altijd** in neutraal staan ! Alvorens de achteruit in te schakelen **altijd** met de koppeling testen of de versnelling daadwerkelijk in vrij staat !

Nooit de koppeling volledig loslaten bij het achteruit manoeuvreren. Dan gaat het voertuig te snel. Koppeling alleen iets aan laten lopen!

W-Tec BV kan niet aansprakelijk gesteld worden voor schade aan motorfiets of personen, die veroorzaakt kan worden door montage of het gebruiken van de achteruitversnelling !

DE: **Wichtig !** Anweisung für den Fahrer:

Beim Einschalten und bei eingeschaltetem Rückwärtsgang, muss das Motorgetriebe **immer** im Leerlauf sein! Bevor man den Rückwärtsgang betätigt, sollte **immer** die Kupplung überprüft werden, ob das Getriebe tatsächlich im Leerlauf ist!

Niemals der Kupplungshebel völlig lose lassen beim Rückwärts manövrieren. Nur der Kupplung etwas anlaufen lassen. Sonst ist der rückwärts Geschwindigkeit vom Fahrzeug zu hoch.

W-Tec BV kann nicht für etwaige Schäden am Motorrad oder an Personen, die durch die Montage oder das Benutzen des Rückwärtsganges entstehen können, haftbar gemacht werden.

ENG: **Attention !** Instructions for the driver:

Before switching into reverse gear and during having the reverse switched in, **always** make sure that the engine gearbox is in neutral. Before you switch the reverse gear, **always** check with you clutch lever if it is in neutral !

Never release the clutch completely while manoeuvring backwards. Let the clutch just touch a little. Otherwise the reverse speed of the vehicle is too high!

W-Tec BV can not held responsible for damages on the Motorcycle or persons that which are caused by the installation or by using the reverse gear!

Schrijffouten voorbehouden

Schreibfehler vorbehalten

Printing mistakes: reserved

Copyright: W-Tec BV Handelsweg 2, 7161 BV Neede, Netherlands