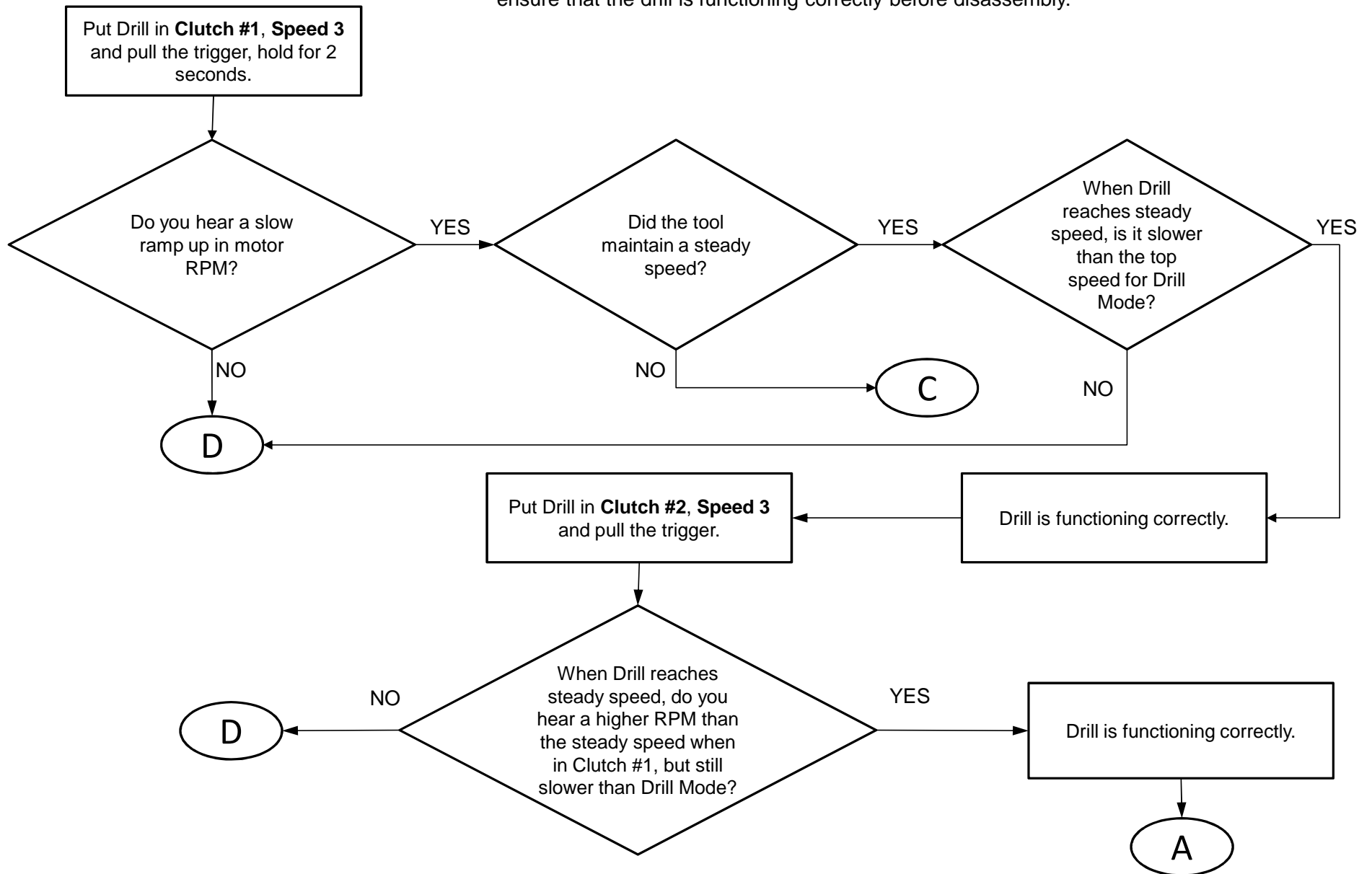


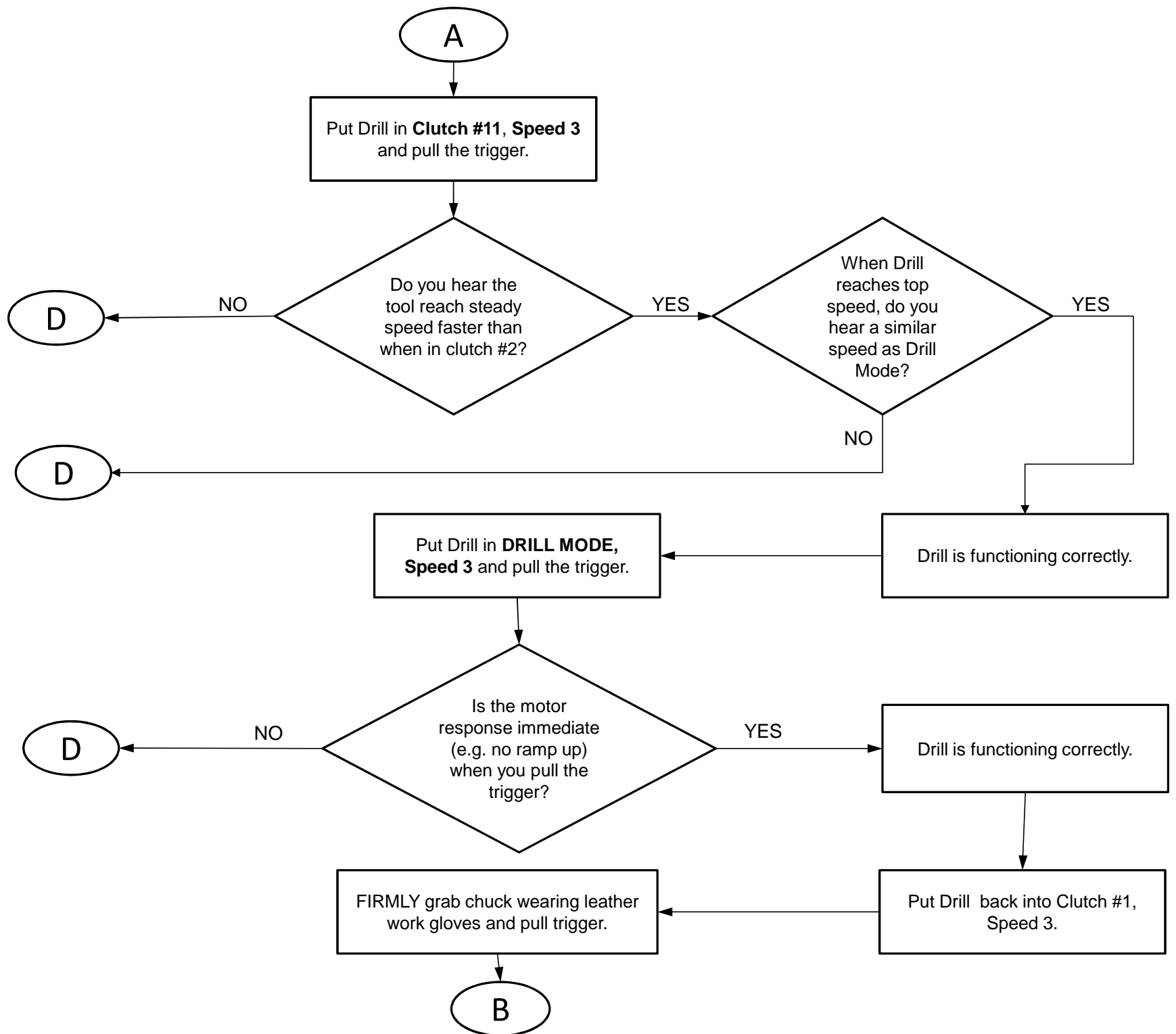
DCD990 / DCD995 eClutch Diagnostic Flowchart

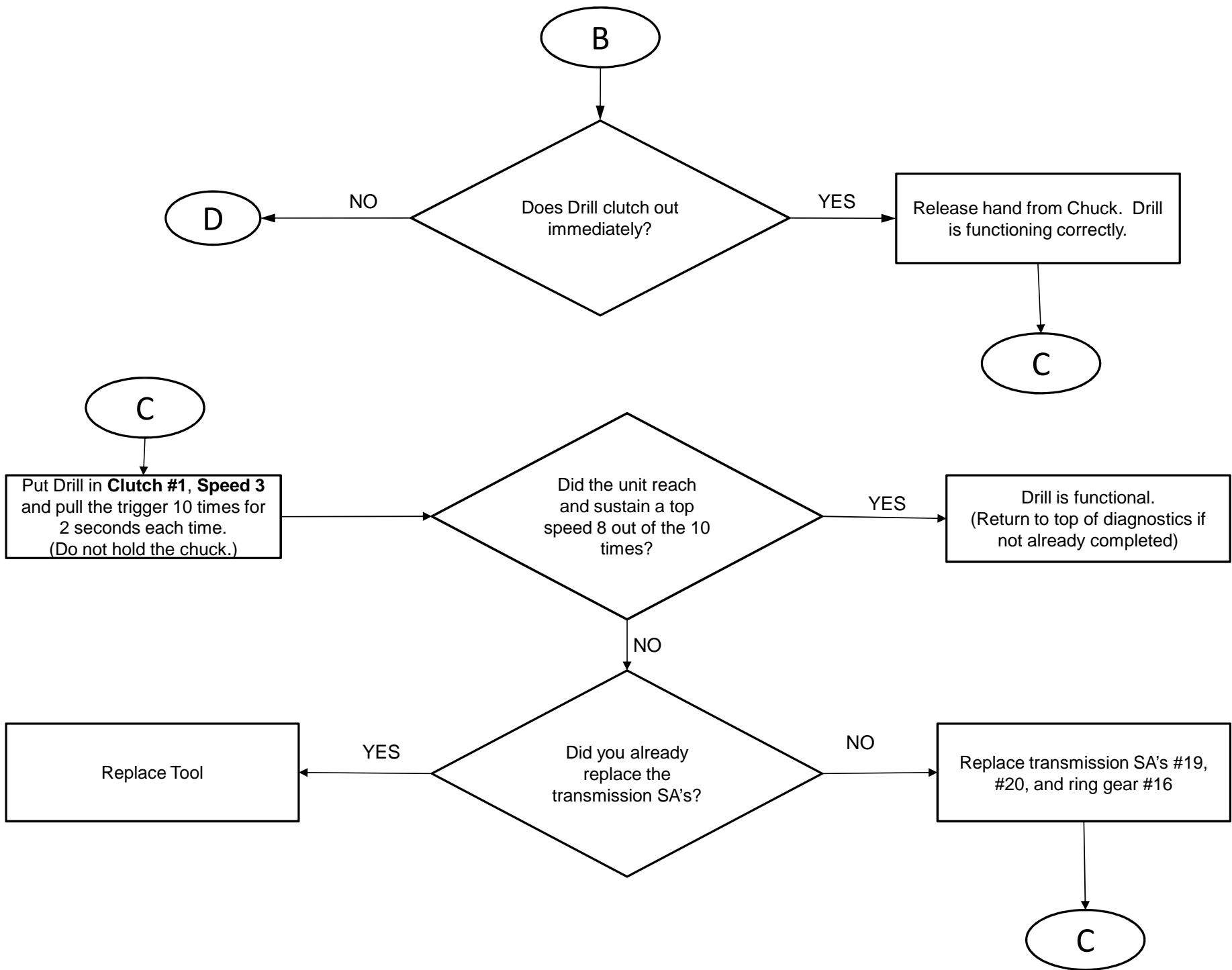
FUNCTIONAL CHECK:

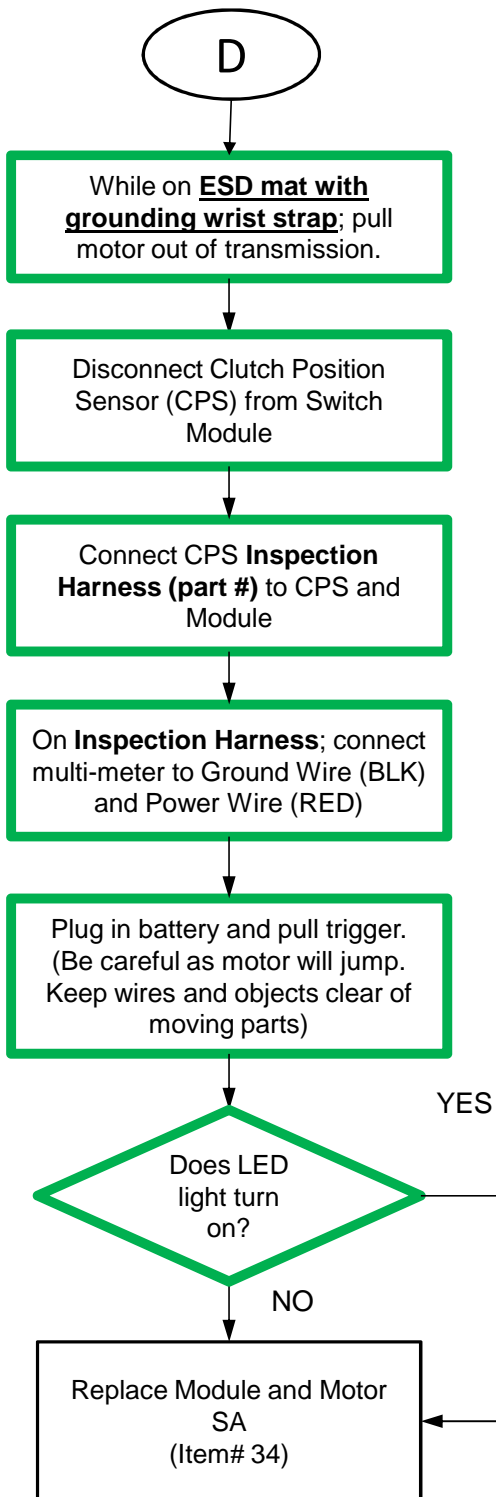
To better diagnose our new eClutch and related sensors. We have assembled an initial diagnostic flowchart to better pinpoint the root cause of a potential customer complaint.

A customer may come in with a complaint that the drill is drilling in clutch mode or clutching out in drill (or hammer) mode. In either case the following flowchart should be followed to ensure that the drill is functioning correctly before disassembly.







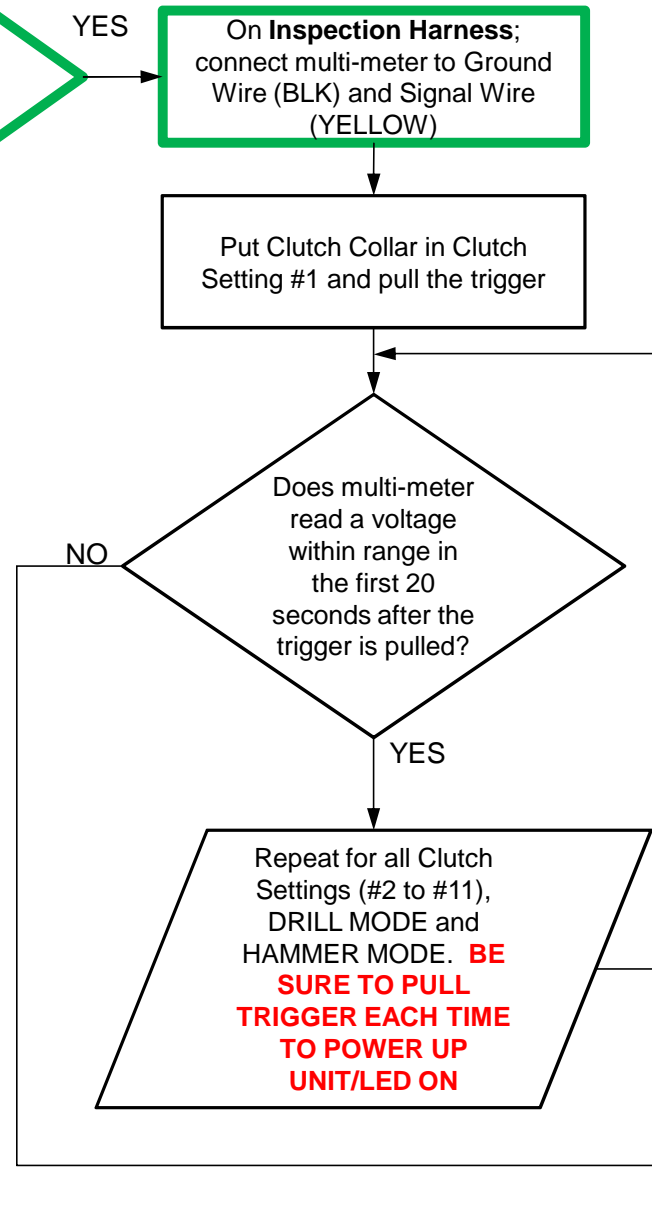


ELECTRICAL CHECK:

Remove housing and gearcase screws, opening up and removing cover side handle. Carefully remove Transmission Front End and Module/Motor together as one full unit.

This next step is to interrogate the electrical inputs and outputs from Clutch Position Sensor (CPS)

Clutch Setting	Output Voltage Range
#1	0.075-0.342
#2	0.304-0.582
#3	0.531-0.815
#4	0.756-1.042
#5	0.981-1.263
#6	1.205-1.480
#7	1.427-1.693
#8	1.650-1.905
#9	1.872-2.115
#10	2.094-2.325
#11	2.316-2.536
DRILL	2.817-3.018
HAMMER	2.644-3.048



ELECTRO-MECHANICAL CHECK:

Further disassembly is not required.

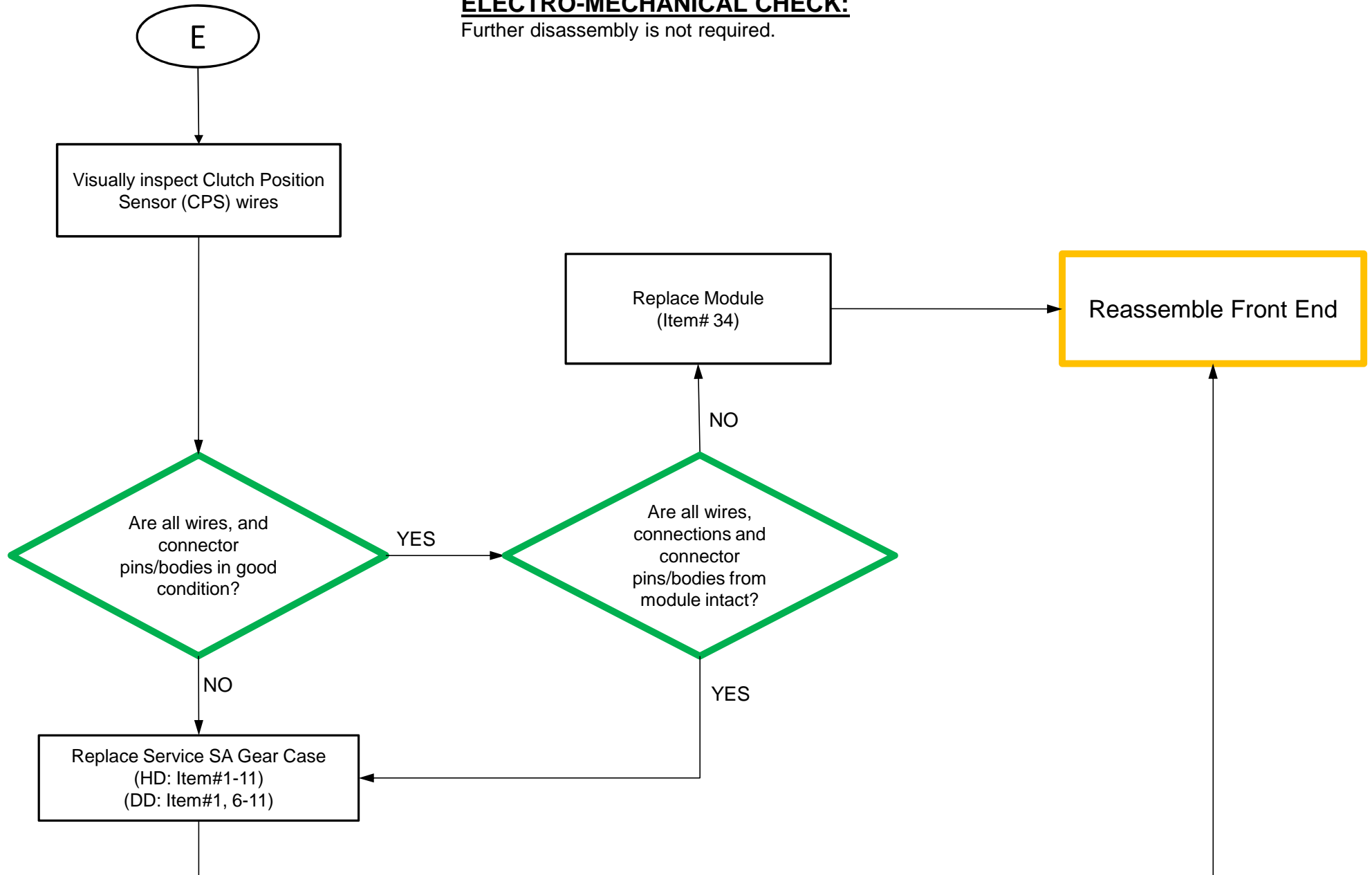
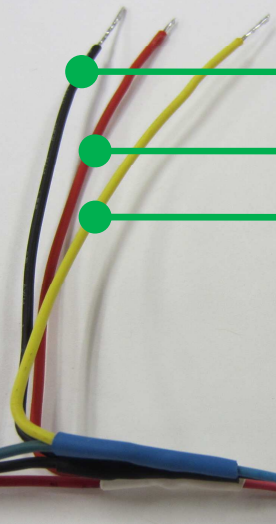


Image Appendix

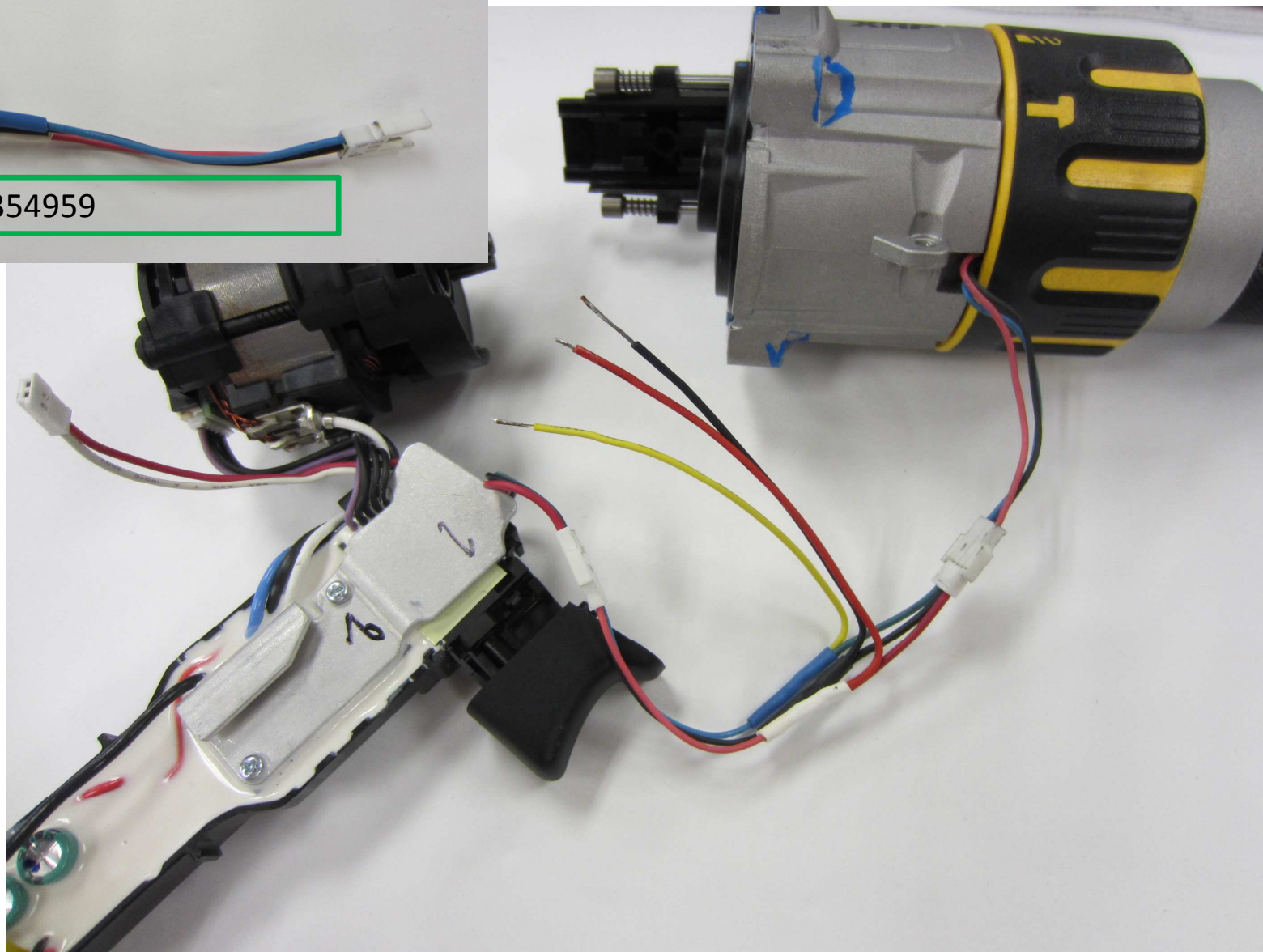


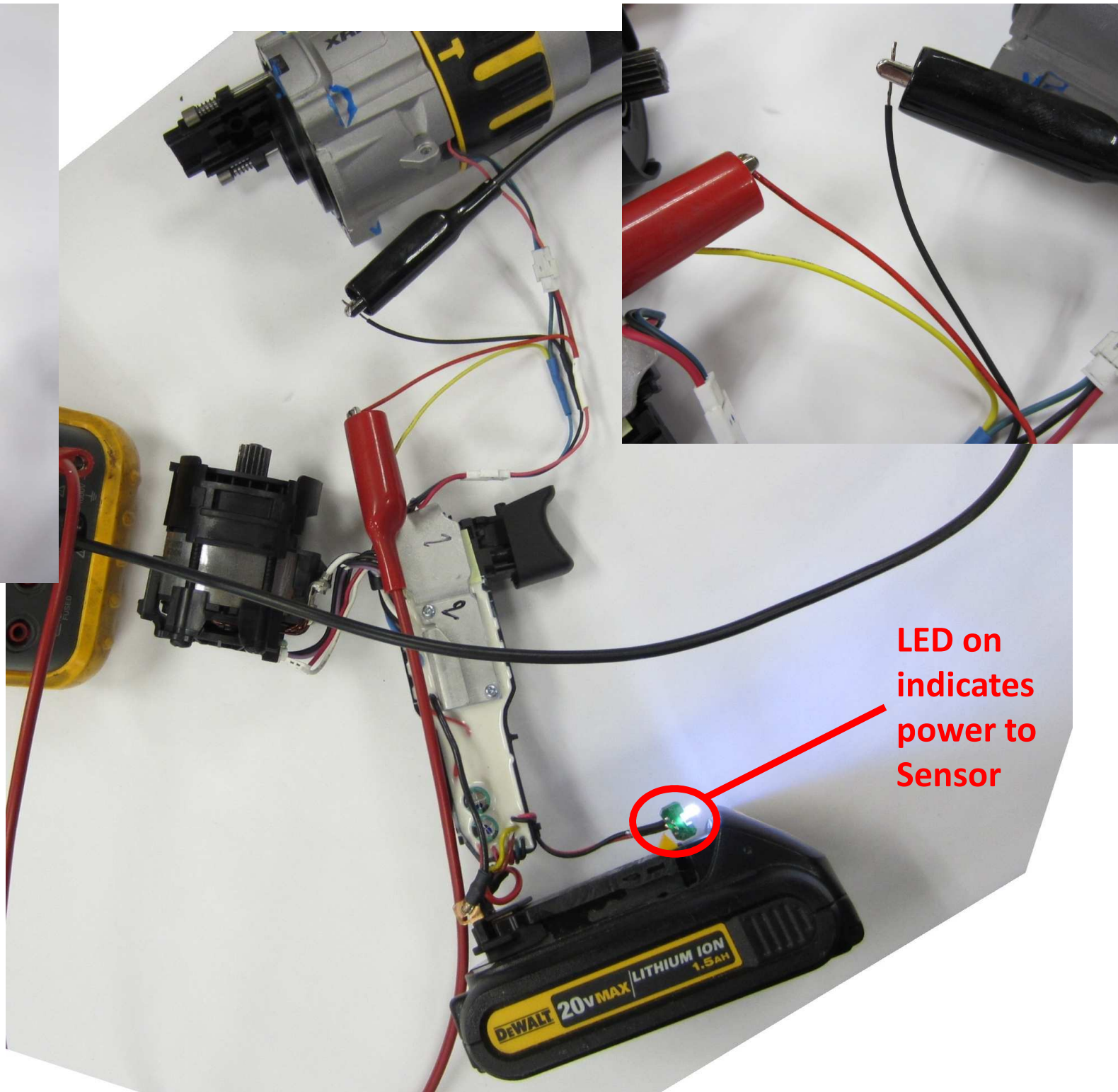
Ground Wire (BLK)

Power Wire (RED)

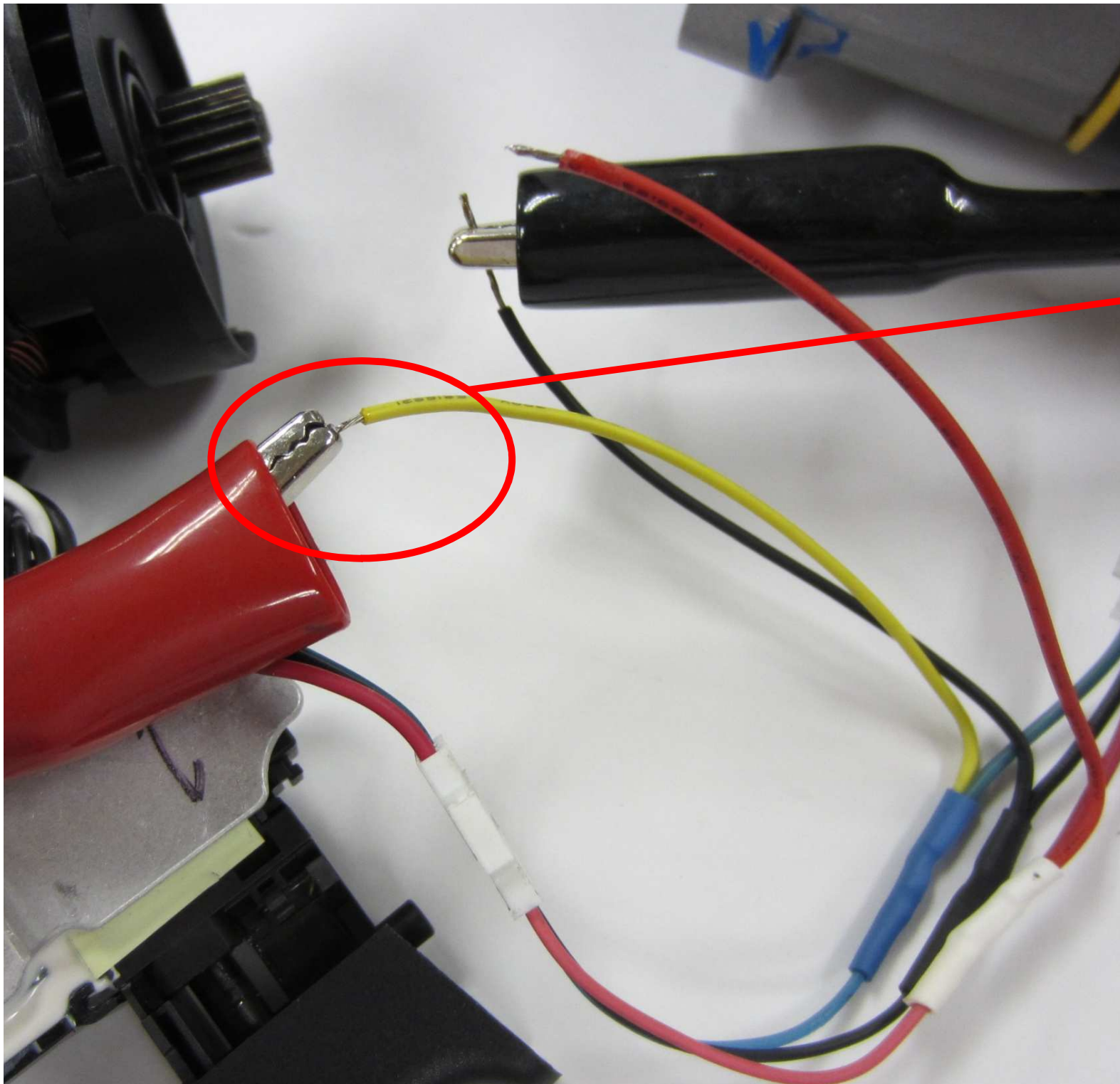
Signal Wire (YEL)

Service Tool Part# N354959



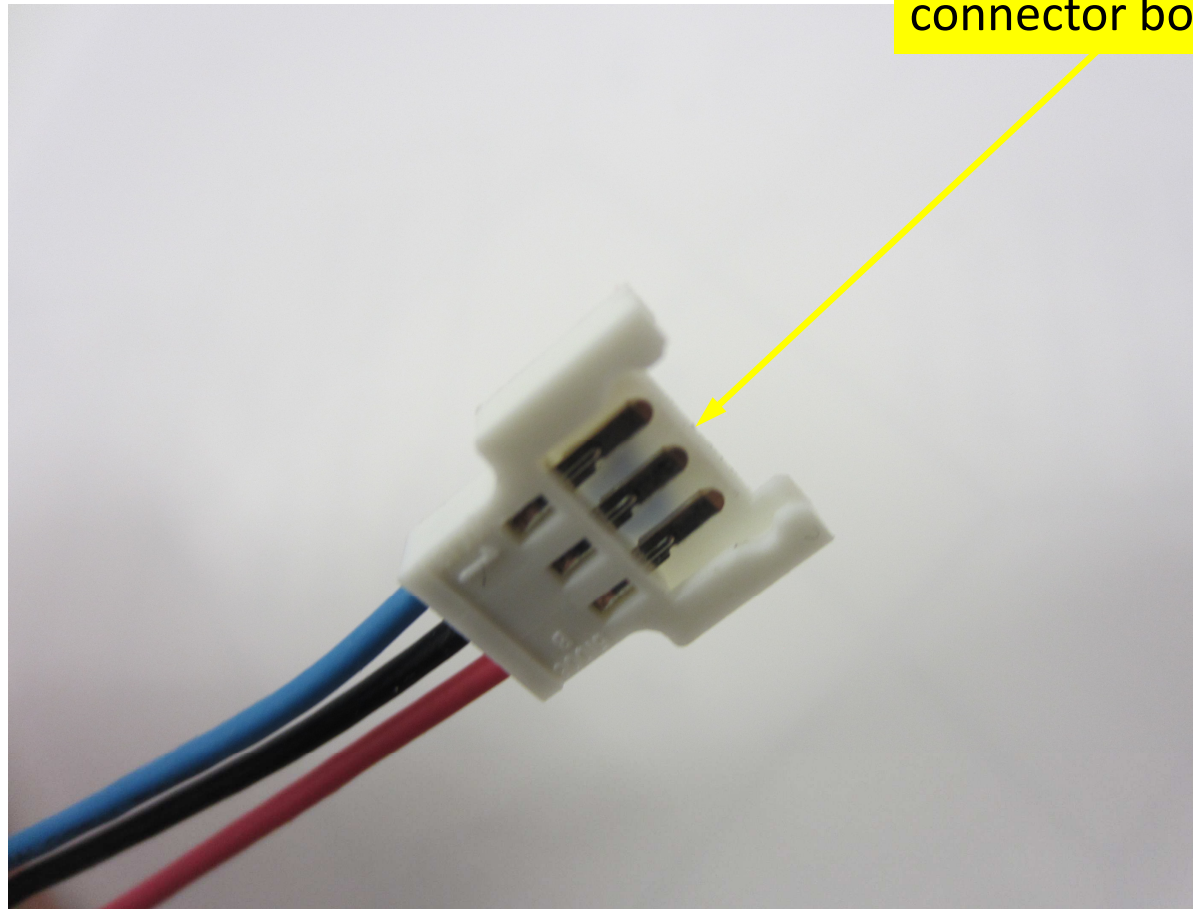


LED on
indicates
power to
Sensor



After voltage to
Sensor is
confirmed then
switch meter to
measure signal
voltage (YELLOW)

Connector pins should be pushed fully into connector body.



Connector pins should be pushed fully into connector body.

