



2CT Special Tool Concept

Daniel Carlbom

Schaeffler Automotive Aftermarket North Europe

Introduction

- Following vehicle manufacturers are supplied by LuK in double clutch transmission:
 - Alfa Romeo, Audi, Fiat, Ford, Hyundai, Renault, Seat, Skoda, VW and JEEP
- Repair process is complex and without special-tool not possible
- SAAM/LuK & KLANN developed a special tool (VW-group) which was presented at the Automechanica 2010
 - Repair solution for vehicles from VW-group up to 05.2011
- Systems of other VM's were considered during development
- Distribution 2CT-repair-solution for Renault beginning of 2014
- 2CT-repair-solutions for Ford, Hyundai
- Therefore upgrading of the special tool was needed



Current situation and future double clutch applications/tooling

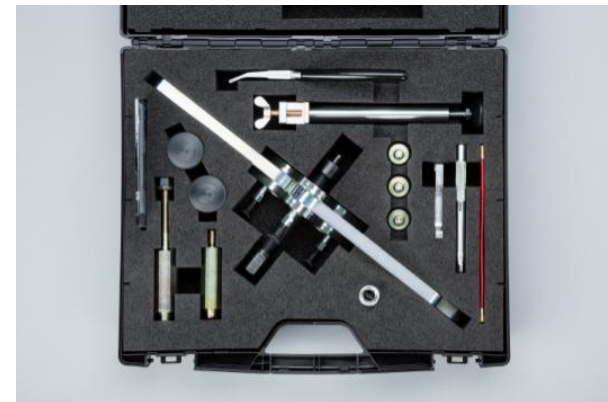
- Target: affordable pricing for special-tools and possibility for specialization
- Move to a modular special-tool system required
- Overview of the modular system:
 - Basic
 - VW-Group (Generation 1. & 2.)
 - Renault
 - Hyundai
 - Ford 1.6/2.0l
 - Ford 1.0l
 - Reset-tool for Renault, Hyundai & Ford



Special Tools in detail

Basic tool kit

- forms the basis of the modular tool system
- Together with a vehicle-specific tool kit, they form a complete kit for professional repairs
- Art-Nr.: 400 0418 10



Special Tools in detail

Volkswagen tool kit

- This vehicle-specific tool kit must be combined with the basic tool kit
- for Generation 1 (up to May 2011) and Generation 2 (from June 2011)
- Art.-Nr.: 400 0419 10



Special Tools in detail

Renault, Kia, Ford and Hyundai tool kit

- This vehicle-specific tool kit must be combined with the basic tool kit (400 0418 10)
- Art.-Nr.: 400 0470 10



Special Tools in detail

Reset tool kit

- The transport fastener must be put back in place if the double clutch is used again after disassembly
- not necessary, if a new double clutch will be built-in
- currently use for Renault, Hyundai , Kia and Ford
- Art.-Nr.: 400 0425 10



Special Tools in detail

Supplementary tool kit

- for customer, who have the old Special tool case 400 0240 10
- after purchase the customer has all tools like the new basic- and VW special tool. He can update to the new modular special tool system
- Art.-Nr.: 400 0420 10



Special tools – VW 2CT wet clutch 400 0540 10

- 1 Slide hammer
- 2 Dial gauge with stand
- 3 Holder
- 4 2 plugs
- 5 2 mounting hooks
- 6 Retaining bolts for DQ 250
- 7 Retaining bolts for DQ 380/81 and DQ 500
- 8 Mounting sleeve for DQ 250
- 9 Collet
- 10 Mounting sleeve for DQ 380/81 and DQ 500
- 11 Disassembly/assembly instructions and training video



Special Tools in detail

Supplementary tool kit:

- Art.-Nr.: 400 0427 10
- Mounting tool for Ford
- This vehicle-specific tool kit must be combined with the basic tool kit



Special Tools in detail

Supplementary tool

- DMF reset tool for Fiat, JEEP and Alfa Romeo
- Art.-Nr.: 400 0471 10



Tool combinations

2CT Renault/Hyundai/Ford ...

If you own a basic and specific tool, you can easy supplement:					
Supplement for Renault:					
	Volkswagen PKO1/PKO2	Renault	Hyundai	Ford 1.0l	Ford 1.6l/2.0l
✓ already existing: Hyundai		x			
✓ already existing: Ford 1.0l		x			
Supplement for Hyundai:					
	Volkswagen PKO1/PKO2	Renault	Hyundai	Ford 1.0l	Ford 1.6l/2.0l
✓ already existing: Renault			x		
✓ already existing: Ford 1.0l			x		
Supplement for Ford 1.0l					
	Volkswagen PKO1/PKO2	Renault	Hyundai	Ford 1.0l	Ford 1.6l/2.0l
✓ already existing: Renault				x	
✓ already existing: Hyundai				x	
In case of re-use, some double clutches has to be reseted:					
	Volkswagen PKO1/PKO2	Renault	Hyundai	Ford 1.0l	Ford 1.6l/2.0l
Reset tool	-	x	x	x	x



Thank you for your attention!