



# Spare Parts Catalog

2 HL 290

Material number: 4143.020.154

Current date: 27.07.2015

ZF Friedrichshafen AG  
Hauptverwaltung  
80038 Friedrichshafen  
Deutschland

Telefon: +49 7541 77-0

Telefax: +49 7541 77-908000

[www.zf.com](http://www.zf.com)

zuständiges Werk:  
Passau

# Notes relating to the spare parts catalog

## Setup of the spare parts catalog

- Cover sheet
- Technical Cover (only in SDM print)
- Overview of figures
- Figure
- Associated parts list
- Next figure
- Associated parts list
- ...

## Figure and parts list



## Overview of figures

Bildtafel Figure	Sachnummer Product number	Benennung (Description)	Technische Info Technical info	Description (Benennung)	Menge Quantity	Einheit Unit
068.08.17	1316.170.001	AUSLEGER	WL	SHIFT TURRET	1	Stk
068.08.06	1316.170.031	DECKEL	WL*H-H *VM	COVER	1	Stk
068.08.14	1316.170.808	DECKEL	WL*AUSL+GEH*H-H*HF160N	COVER	1	Stk
08	1316.170.441	ANSCHLUSSTEILE	WL*NG-VORB*RG-SCHL*168N *BAJONETT	CONNECTING PARTS	1	Stk

The "gap" indicates that there is no separate graphics panel (poster) for this assembly  
The parts of this assembly are shown with the same mid-section number on the figure

### 1 Positions and subpositions

Pos.	Sachnummer Product number	Benennung (Description)	Technische Info Technical info	Description (Benennung)	Menge Quantity	Einheit Unit
0370	1315.201.054	RUECKLAUFBOLZEN	KPL.16S151*SG*L= 79	REV.IDLER SHAFT	1	Stk
/0120	0631.329.293	SPANNSTIFT		SLOT. PIN	1	Stk

Positions marked with "/" are the individual items of a completion  
For example: Position 0370 contains a centering pin with the position /0120

### 2 Combinations with standardized parts

Pos.	Sachnummer Product number	Benennung (Description)	Technische Info Technical info	Description (Benennung)	Menge Quantity	Einheit Unit
0630		VERSCHL.SCHR.		SCREW PLUG	1	Stk
	0636.302.067	VERSCHL.SCHR.		SCREW PLUG	1	Stk
	0634.801.249	DICHTRING	A 26 X 31	SEALING RING	1	Stk

The parts list shows the components included in the combination of standardized parts

### 3 Depiction of position/item number on the figure and in the parts list

01.620 - on the figure      01 relates to the assembly in which the position is included. Due to program-related reasons, it is shown on the figure.

0620 - in the parts list

Pos.	Sachnummer Product number	Benennung (Description)	Technische Info Technical info	Description (Benennung)	Menge Quantity	Einheit Unit
0620	0732.040.736	DRUCKFEDER		COMPRESSION SPRING	1	Stk

### 4 \*-Positions

Positions marked with an \* are optional i.e. inclusion in the parts list is not mandatory.  
The following note is shown on the figure

je nach Stücklistenausführung  
depending on spec. number  
\*  
suivant la nomenclature  
secondo la distinta base

### 5 Parts, dotted display

Parts with dotted display on the figure are only used for orientation of other parts

# Technical Cover

Page 1 from 2

Material number: 4143.020.154



2 HL 290 /

Pos.	Information	Amendment number
	CUSTOMER: HYUNDAI	
	VEHICLE DESIGNATION: R170W-9B	
	ENGINE POWER: 86,8 KW	
	WEIGHT EMPTY: 16,200 TO	
	TIRES: 10.00-20-14PR	
	TIRE RADIUS: 0,515 M	
	HYDR. PUMP POWER: 78,0 KW	
	OIL FLOW: 162,6 CDM	
	HYDROMOTOR: A 6 VM 107	
	MANUFACTURER: REXROTH	
	DIFFERENTIAL PRESSURE: 330 BAR	
	FRONT AXLE: MS-E 3060	
	REAR AXLE: MT-E 3060	
	AXLE RATIO: 22,10	
	PERFORMANCE CALC.: 4143 701 642	
	BRAKE CALCULATION: 4143 709 374	
	PRODUCT DESCRIPTION: ZF- POWERSHIFT TRANSMISSION HL	
	TRANSMISSION TYPE: 2 HL 290	
	DROP CENTER DISTANCE: 185 MM	
	TRANSMISSION INSTALLATION: REMOTE MOUNT	
	INSTALLATION POSITION: VERTICAL	
	OUTPUT FLANGE: DIN 120	
	GEAR RATIO: 1ST GEAR=4,869; 2ND GEAR=1,196	
	HYDRO MOTOR SPLINE: N40 X 2 X 30 X 18 X 10H	
	CENTERING DIAMETER: 160 H7	
	VALVE BLOCK: SEPARATELY	
	VOLTAGE: 24 VOLT	
	DOWNSHIFT PROT.: HYDR. CONNECTION M18X1.5	
	SPEED SENSOR: WITHOUT	
	OIL FILLING: WITH	
	GEARBOX OIL - GRADE: TE ML 07	
	OIL FILL QUANTITY CA: 2,50 L	
	TYPE PLATE: ZF- STANDARD	

# Technical Cover

Page 2 from 2

Material number: 4143.020.154



2 HL 290 /

Pos.	Information	Amendment number
	PRIMER PAINT: BLACK RAL 9005	
	SEPARATE ORDER CUSTOMER: 0750.132.166 VALVE BLOCK: 24V	
	DOCUMENTATION: -----	
	SECTION DRAWING: 4143 020 031	
	INSTALLATION DRAWING: 4143 620 049	
	INSTALL. INSTRUCTIONS: 5872 014 002	

# Assembly group overview

Page 1 from 1

Material number: 4143.020.154



2 HL 290 /

Picture	Pos.	Material number	Name	Quantity	Amend. no.	Techn. Info.
414312504530	490	4143.125.045	INPUT HOUSING	1		
414310104600	10	4143.101.046	HOUSING	1		
414315101800	810	4143.151.018	MULTIDISK BRAKE	1		
414315201330	830	4143.152.013	COUPLING	1		
414311501730	290	4143.115.017	PLANETARY DRIVE	1		
414311540430	300	4143.115.404	PLANETARY DRIVE	1		
414311540530	295	4143.115.405	PLANETARY DRIVE	1		
414310303700	50	4143.103.037	OUTPUT	1		
414310342050	57	4143.103.420	OUTPUT	2		
414314202500	520	4143.142.025	GEAR SHIFT SENSOR	1		
414314240600	540	4143.142.406	GEAR SHIFT SENSOR	1		
414314240700	525	4143.142.407	GEAR SHIFT SENSOR	1		
414312101100	390	4143.121.011	OIL PIPE	1		
414313900100	900	4143.139.001	TYPE PLATE	1		

# Picture

Page 1 from 1

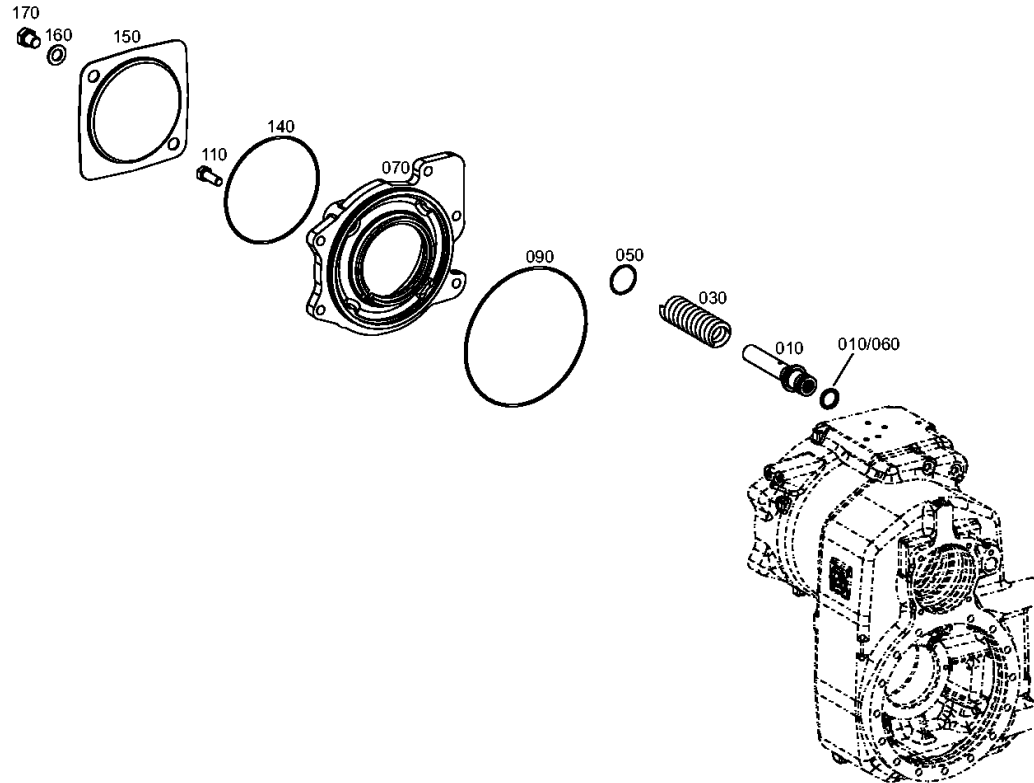
Material number: 4143.020.154

Picture: 414312504530

Material-assembly-group-no: 4143.125.045



2 HL 290 /  
INPUT HOUSING



# Picture

Page 1 from 1

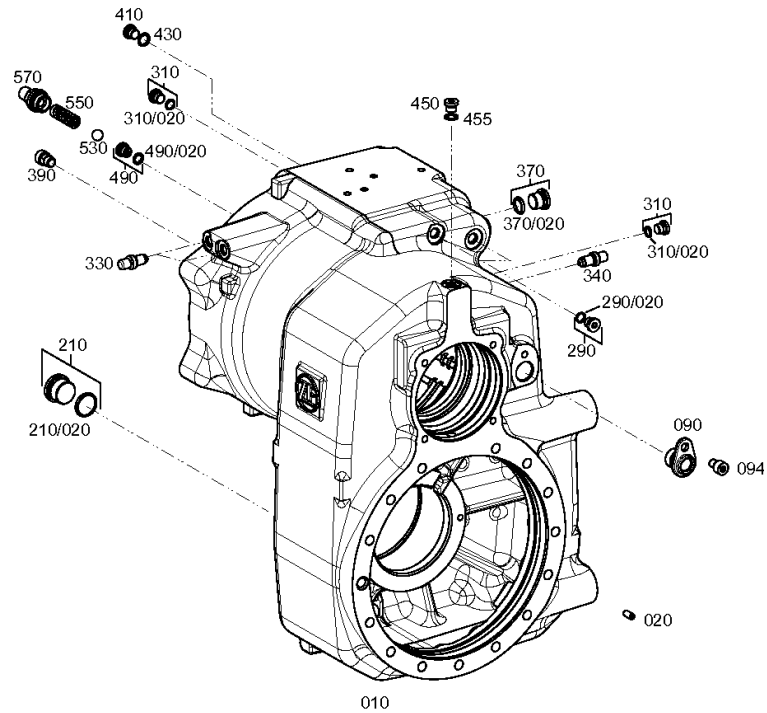
Material number: 4143.020.154

Picture: 414310104600

Material-assembly-group-no: 4143.101.046



2 HL 290 /  
HOUSING



# Picture

Page 1 from 1

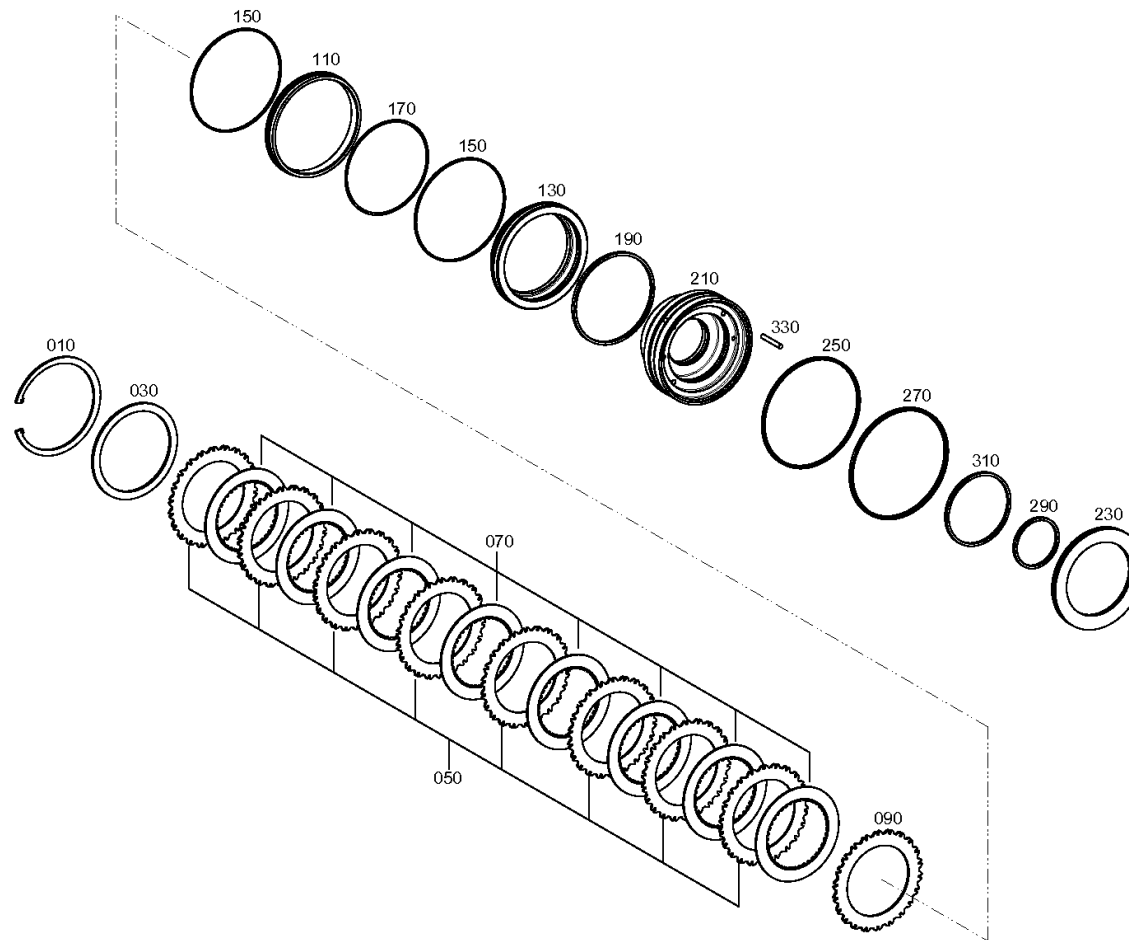
Material number: 4143.020.154

Picture: 414315101800

Material-assembly-group-no: 4143.151.018



2 HL 290 /  
MULTIDISK BRAKE





# Picture

Page 1 from 1

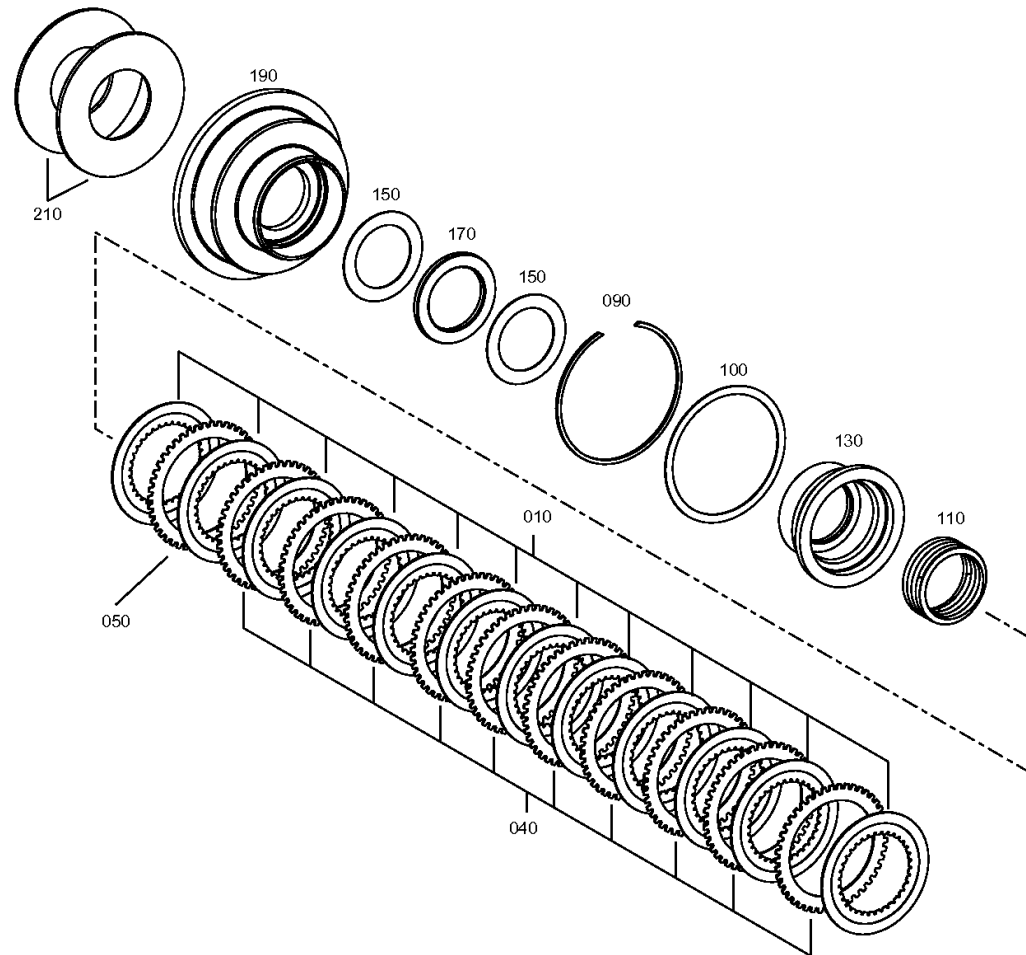
Material number: 4143.020.154

Picture: 414315201330

Material-assembly-group-no: 4143.152.013



2 HL 290 /  
COUPLING



# Picture

Page 1 from 1

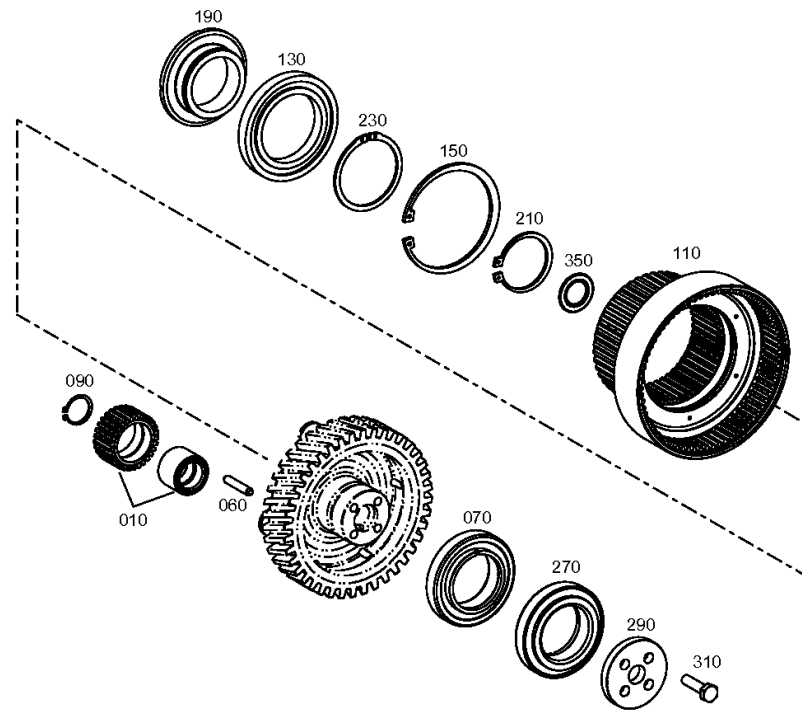
Material number: 4143.020.154

Picture: 414311501730

Material-assembly-group-no: 4143.115.017



2 HL 290 /  
PLANETARY DRIVE



# Picture

Page 1 from 1

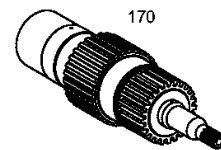
Material number: 4143.020.154

Picture: 414311540430

Material-assembly-group-no: 4143.115.404



2 HL 290 /  
PLANETARY DRIVE



# Picture

Page 1 from 1

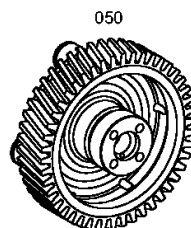
Material number: 4143.020.154

Picture: 414311540530

Material-assembly-group-no: 4143.115.405



2 HL 290 /  
PLANETARY DRIVE



# Picture

Page 1 from 1

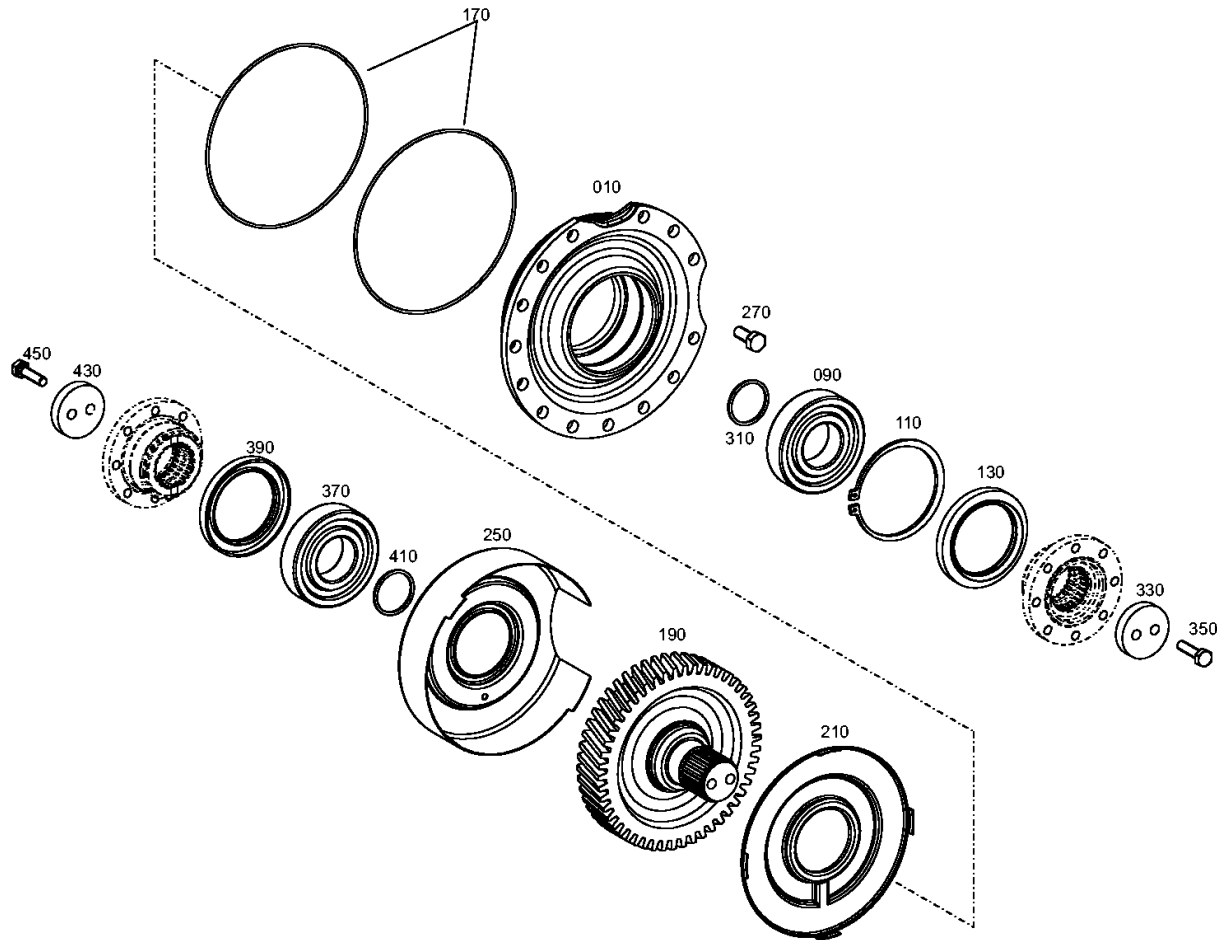
Material number: 4143.020.154

Picture: 414310303700

Material-assembly-group-no: 4143.103.037



2 HL 290 /  
OUTPUT



# Picture

Page 1 from 1

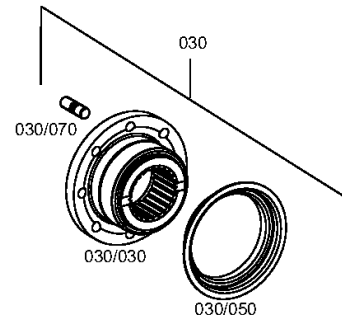
Material number: 4143.020.154

Picture: 414310342050

Material-assembly-group-no: 4143.103.420



2 HL 290 /  
OUTPUT



# Picture

Page 1 from 1

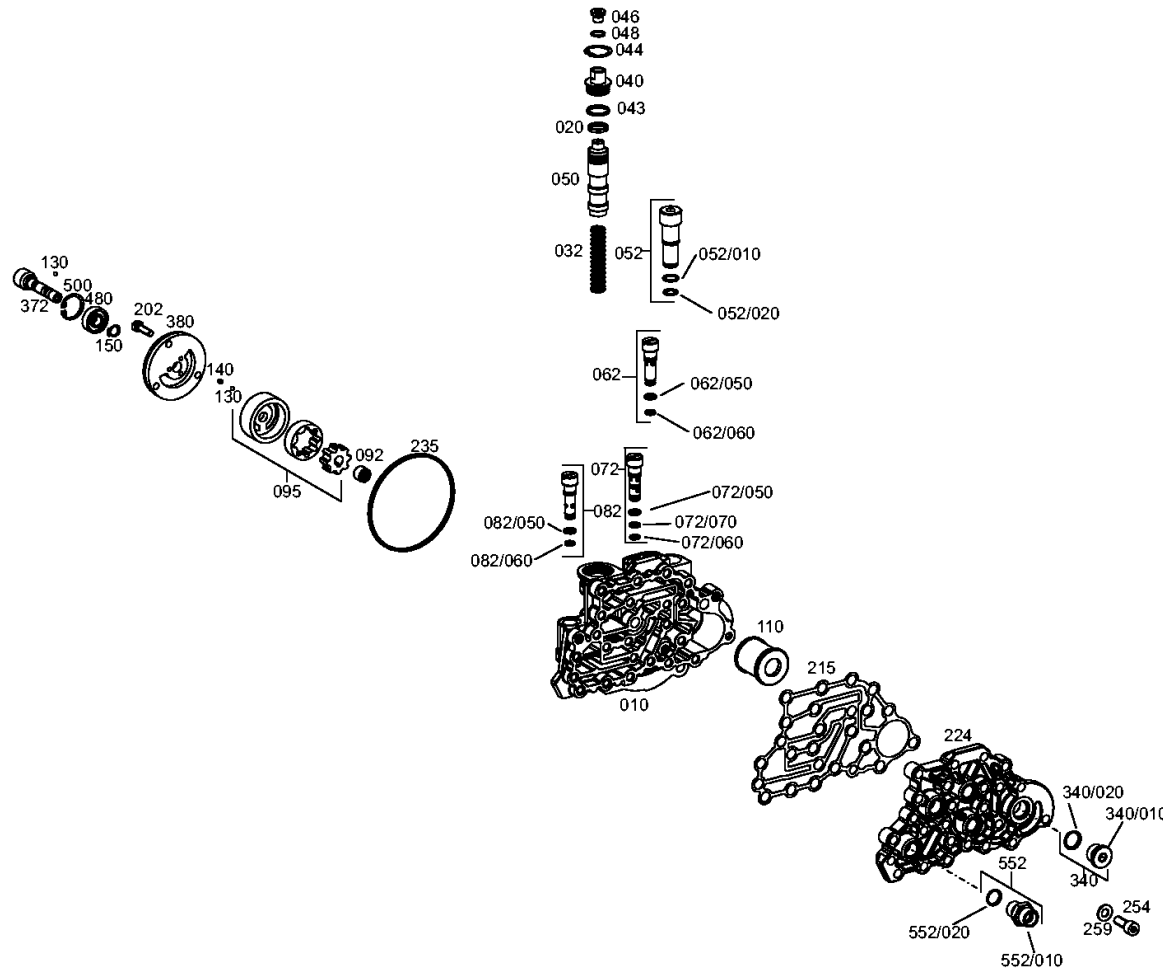
Material number: 4143.020.154

Picture: 414314202500

Material-assembly-group-no: 4143.142.025



2 HL 290 /  
GEAR SHIFT SENSOR



# Picture

Page 1 from 1

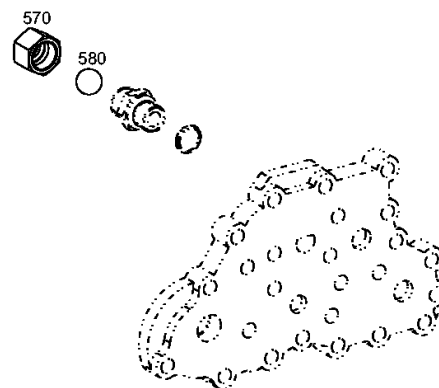
Material number: 4143.020.154

Picture: 414314240600

Material-assembly-group-no: 4143.142.406



2 HL 290 /  
GEAR SHIFT SENSOR





# Picture

Page 1 from 1

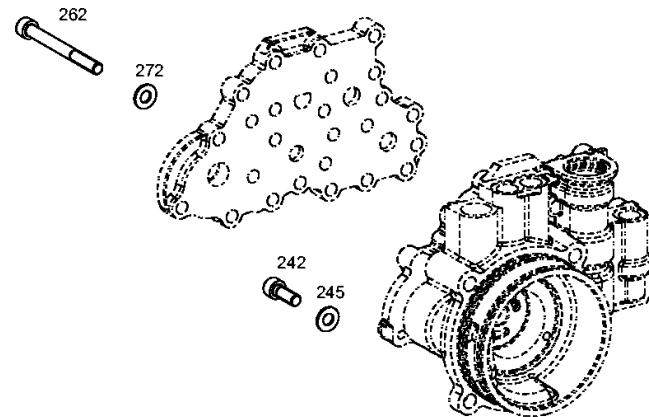
Material number: 4143.020.154

Picture: 414314240700

Material-assembly-group-no: 4143.142.407



2 HL 290 /  
GEAR SHIFT SENSOR



# Picture

Page 1 from 1

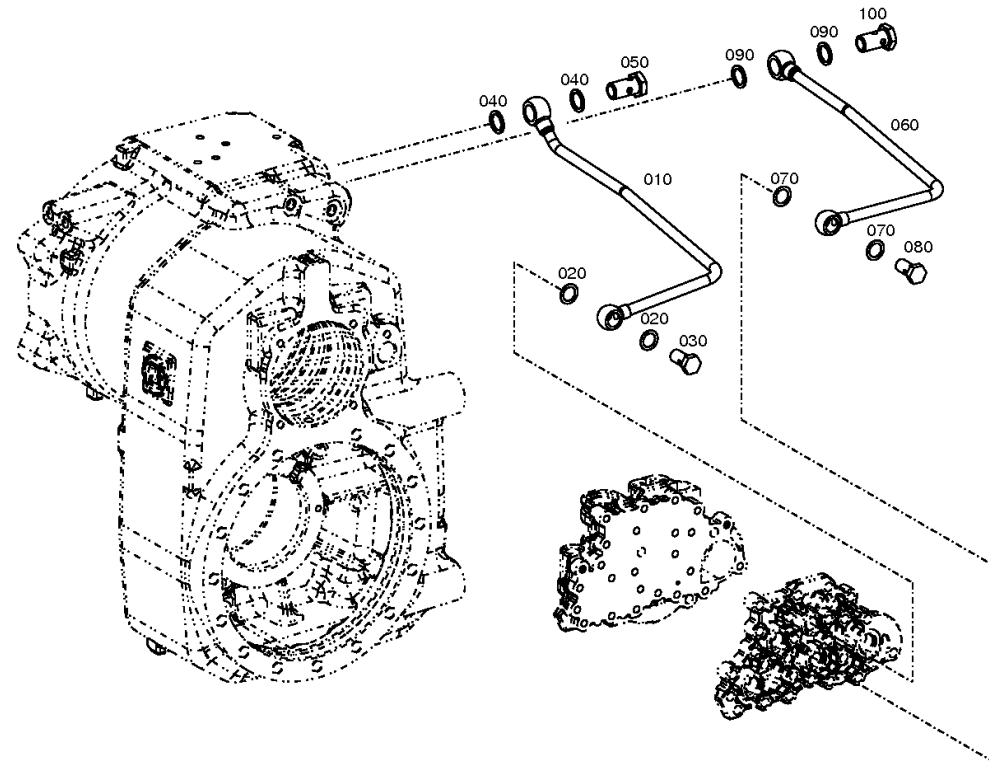
Material number: 4143.020.154

Picture: 414312101100

Material-assembly-group-no: 4143.121.011



2 HL 290 /  
OIL PIPE



# Picture

Page 1 from 1

Material number: 4143.020.154

Picture: 414313900100

Material-assembly-group-no: 4143.139.001



2 HL 290 /  
TYPE PLATE

