



# Spare Parts Catalog

16 S 221

Material number: 1316.051.196

Current date: 14.01.2015

ZF Friedrichshafen AG  
Hauptverwaltung  
80038 Friedrichshafen  
Deutschland

Telefon: +49 7541 77-0

Telefax: +49 7541 77-908000

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

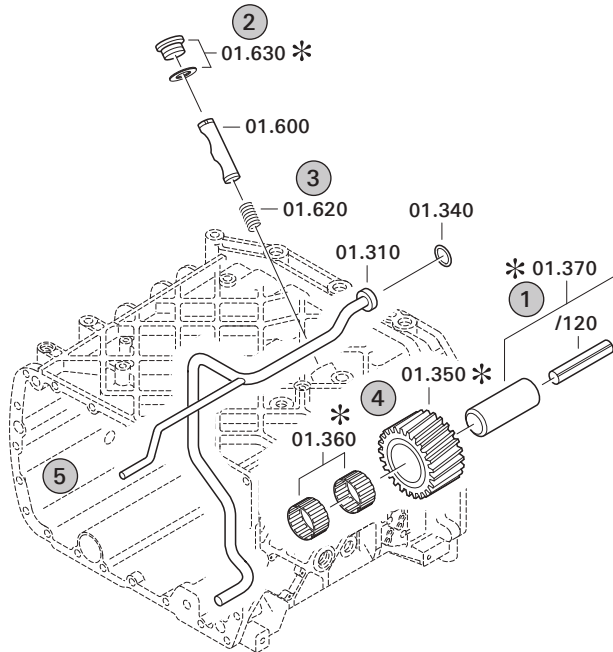
zuständiges Werk:  
Friedrichshafen

# 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 5

Material number: 1316.051.196



16 S 221 /

Pos.	Information	Amendment number
001	Use case -----	
002	Customer IVECO MAGIRUS AG	
003	City Ulm	
004	DUNS 31-561-9072	
005	Vehicle / Apparatus -----	
006	Sales Name SPR	
007	Manufacturer IVECO MAGIRUS AG	
008	Engineering Name	
009	Product Use TRUCK	
010	Vehicle/Hardware Type ROAD TRACTOR	
011	SOP	
012	Engine	
013	Sales Designation	
014	Manufacturer FIAT GES.CO S.P.A	
015	Eng.Displ.	
016	Cylinder	
017	Nom. power 375 kW	
018	RPM at nom. power 1900 1/min	
019	Nom. torque 2200 Nm	
020	RPM at nom. torque 1100 1/min	
021	Classification use case -----	
024	TOTAL NUMBER OF WHEELS 6	
025	NUMBER OF DRIVING WHEELS 4	
026	DYNAMIC TYRE RADIUS 446 mm	
027	REAR AXLE RATIO 2.93	
028	MAXIMUM SPEED 110 km/h	
031	PERMISS.GROSS VEHICLE WEIGHT 26 t	
032	PERMISS.GROSS COMBIN.WEIGHT 60 t	
033	Product description -----	
034	INSTALLATION POS TRANSMISSION HORIZONTAL LEFT	
035	TRANSMISSION ATTACHMENT FLANGE-MOUNTED	
037	RATIO, BOTTOM GEAR 16.47	
038	RATIO, TOP GEAR 1	



Pos.	Information	Amendment number
039	RATIO, 1ST GEAR 16.47	
040	RATIO, 2ND GEAR 13.86	
041	RATIO, 3RD GEAR 11.32	
042	RATIO, 4TH GEAR 9.52	
043	RATIO, 5TH GEAR 7.79	
044	RATIO, 6TH GEAR 6.56	
045	RATIO, 7TH GEAR 5.45	
046	RATIO, 8TH GEAR 4.58	
047	RATIO, 9TH GEAR 3.59	
048	RATIO, 10TH GEAR 3.02	
049	RATIO, 11TH GEAR 2.47	
050	RATIO, 12TH GEAR 2.08	
051	RATIO, 13TH GEAR 1.7	
052	RATIO, 14TH GEAR 1.43	
053	RATIO, 15TH GEAR 1.19	
054	RATIO, 16TH GEAR 1	
055	RATIO, 1ST GEAR REVERSE 15.42	
056	RATIO, 2ND GEAR REVERSE 12.97	
057	SET OF RATIOS DG	
058	RATIO RANGE BASIC DG	
059	NUMBER OF PLANETARY GEARS 5	
060	RATIO PLANETARY GEAR SET 4.583	
061	VER. SPLINE PLANETARY GEAR SET STRAIGHT SPUR GEAR	
062	DESIGN, SHIFT SYSTEM TURNING SHAFT	
063	POSITION, GEAR SHIFT SYSTEM HORIZONTAL LEFT	
064	DESIGN, SHIFT PATTERN H-H	
065	VERSION SHIFT SUPPORT WITHOUT GROOVE	
066	VERSION ACTUATION SHIFT SYSTEM MECHANICAL	
081	DESIGN, THROTTLE, CUT-OFF VALVE D=1.55	
082	DESIGN AIR CONNECT. CUT-OFF VALVE F	
083	ASSEMBLY NOTE CUT-OFF VALVE CUT-OFF VALVE	
086	SELECTION PATTERN VARIANT GEAR SHIFT PATTERN 1	
090	DESIGN, SEPARATING CLUTCH FULL-SYNCHRONIZED	



Pos.	Information	Amendment number
091	VERSION OF SYNCHRONIZER 1 1.+2.GEAR DK-SYNCHRONIZATION	
092	VERSION OF SYNCHRONIZER 2 3.+4.GEAR BK-SYNCHRONIZATION	
093	REFERENCE LENGTH INPUT SHAFT 117 mm	
094	STANDARD TYPE INPUT SHAFT SAE	
096	NUMBER OF WEDGES INPUT SHAFT 10	
099	VERSION OF INPUT SHAFT FORM C	
100	NOMINAL DIAMETER INPUT SHAFT 2 in	
102	DIAMETER, JOURNAL, INPUT SHAFT 25 mm	
103	TYPE FIT SPIGOTS INPUT SHAFT F7	
104	VER. BEAR. SPIGOTS INPUT SHAFT TAPER ROLLER	
105	LENGTH, INPUT SHAFT 403.5 mm	
106	DIAMETER SHAFT OF INPUT SHAFT 50.3 mm	
107	LENGTH, PROFILE, INPUT SHAFT 120 mm	
108	BUSH VARIANT INPUT SHAFT WITHOUT GROOVE	
109	VERSION BEARING CONSTANT 1 GL	
110	DIAMETER BEARING INPUT SHAFT 99.916 mm	
111	TYPE FIT BEAR. INPUT SHAFT H5	
113	DESIGN,CONN., CLUTCH HOUSING SAE 1	
118	VERSION OF CLUTCH HOUSING INTEGRATED	
119	DESIGN BEARING OUTPUT STANDARD SUSPENSION	
121	POSITION MOUNT. FACE HOUSING 2 WITHOUT GROOVE	
129	REF.LENGTH,RELEASE BEAR.FLAN -3 mm	
130	DIAMETER, RELEASE FLANGE 62.611 mm	
135	ASSEMBLY POS. CLUTCH CYLINDER 6	
136	OUTER DIA. OUTPUT FLANGE RA 180 mm	
137	NO.OF BORES OUTPUT FLANGE HA1 4	
139	BORE DIA. OUTPUT FLANGE RA 15 mm	
144	REF. LENGTH OUTPUT FLANGE RA 211.5 mm	
151	DIMENSION SHIFT TURRET DIST. 288 mm	
152	MEAS. LOC. SHIFT TURRET DIST. SHIFT LEVER-LOCATION	
161	SHIFT LEVER CONNECTION KNURLING	
175	SPRING ARRANGEMENT Q1	
176	SPRING FORCE DETENT PLUNGER RG 120 N	



Pos.	Information	Amendment number
179	HUMP SPRING FORCE, OUTSIDE 160 N	
183	SELECTOR SPRING FORCE, OUTSIDE 80 N	
185	SPRING FORCE,GEAR DETENT NG+GG 168 N	
186	SPRING FORCE OUTS. DETENT NEUT 200 N	
195	SWITCH, REVERSE GEAR y	
196	DESIGN, RG (REV.GEAR) SWITCH CLOSING	
197	DESIGN, CONNECTION, RG SWITCH DIN BAYONET	
198	CODE SWITCH RG A1	
199	PROT.CAP SWITCH, REVERSE GEAR y	
201	NOTE ON SWITCH, REVERSE GEAR G.SHIFT SHAFT	
202	SWITCH, NEUTRAL GEAR y	
203	DESIGN,NG(NEUTRAL GEAR)SWITCH OPENING SWITCH	
204	DESIGN, CONNECTION, NG SWITCH DIN BAYONET	
205	CODE SWITCH NG A1	
206	PROT.CAP SWITCH, NEUTRAL GEAR y	
228	FUNCTION OF R/C SWITCH GP	
229	DESIGN, GP SWITCH CLOSING	
230	DESIGN, CONNECTION, GP SWITCH DIN BAYONET	
232	PROTECTING CAP GP SWITCH y	
239	FUNCTION OF S/G SWITCH GV	
240	DESIGN, GV SWITCH PREPARED	
243	PROTECTING CAP GV SWITCH n	
318	ATTACHM.POS.HEAT EXCHANGER IN FRONT LEFT PREPARED	
343	VERSION PULSE SENSOR SFA H68 WITHOUT GROOVE	
347	PROT.CAP PULSE SENSOR SFA H68 n	
348	NO. PULSES PULSE SENSOR SFAH68 6 IMP/U	
353	VER. PULSE SENSOR TRANSM. H70 WITHOUT GROOVE	
357	PROT.CAP PULSE SENSOR TM H70 n	
358	NO PULSES PULSE SENSOR TM H70 6 IMP/U	
359	ASSEMBLY POS PULSE SENSOR H70 1	
360	NOTE ASS. POS PULSE SENSOR H70 INSTALLATION DRAWING	
375	POSITION, OIL FILLER HOUSING LEFT+RIGHT	
376	NOTE ON OIL FILL FILL IN OVERFLOW	



Pos.	Information	Amendment number
377	OIL CAPACITY, GEARBOX 13 dm3	
379	OIL GRADE PERMISSIBLE ACC. TO TE-ML02	
380	OIL CLASS FIRST FILLING H	
381	CODING OUTER CONSERVATION KA1	
382	SCOPE OUTER CONSERVATION T	
383	CODING INNER CONSERVATION KI2	
384	CONSERVATION SPECIFICATION ZFN 916	
386	COLOR BLACK-GREY	
387	COLOUR CLASSIFICATION ACC. TO RAL 7021	
389	INFO TO PAINTING INSTRUCTIONS	
394	Alias ID -----	
395	IVECO MAGIRUS AG 8868699	

# Assembly group overview

Page 1 from 2

Material number: 1316.051.196



16 S 221 /

Graphics	Pos.	Material number	Name	Quantity	Amend. no.	Techn. Info.
068.01.05-1	110	1316.101.103	TRANSMISSION HOUSING	1		
068.01.58-1	120	1316.101.957	TRANSMISSION HOUSING	1		
068.02.57-1	140	1315.102.415	CONNECTION PLATE	1		
068.02.82-1	150	1315.102.811	INPUT SHAFT	1		
068.02.02-1	910	1316.102.036	INPUT SHAFT	1		
068.03.80-1	180	1316.103.803	COUNTERSHAFT	1		
068.03.01-1	920	1316.103.012	COUNTERSHAFT	1		
068.04.10-1	930	1316.104.034	MAIN SHAFT	1		
068.06.01-1	230	1316.106.008	SHIFT SYSTEM	1		
068.06.43-1	234	1315.106.422	CONNECTING PARTS	1		
068.06.80-1	238	1315.106.800	SHIFT SYSTEM	1		
068.07.09-1	282	1315.107.836	GEAR SHIFT HOUSING	1		
068.07.12-1	910	1316.107.035	GEAR SHIFT HOUSING	1		
068.07.16-1	914	1316.107.433	GEARSHIFT SHAFT	1		
068.07.09-1	920	1316.107.005	CONNECTING PARTS	1		
068.08.17-1	926	1316.170.001	SHIFT TURRET	1		
068.08.06-1	930	1316.170.031	COVER	1		
068.08.14-1	934	1316.170.808	COVER	1		
068.08.15-1	938	1316.170.442	CONNECTING PARTS	1		
068.12.01-1	922	1316.149.005	SET OF SPRINGS	1		
068.40.04-1	500	1316.112.014	GV-SHIFT SYSTEM	1		
068.40.40-1	502	1315.112.402	CONNECTING PARTS	1		
068.43.21-1	10	1315.131.047	COVER	1		
068.43.06-1	20	1315.131.050	RC HOUSING	1		
068.43.45-1	24	1315.131.401	CONNECTING PARTS	1		
068.43.40-1	30	1315.131.400	CLOSING COMPONENTS	1		
068.43.80-1	512	1315.131.805	RC HOUSING	1		
068.44.03-1	40	1316.132.014	PLANETARY DRIVE	1		
068.44.41-1	50	1316.132.400	PLANETARY DRIVE	1		
068.45.02-1	70	1316.133.002	SYNCHRONIZER	1		
068.45.40-1	80	1315.133.404	SYNCHRONIZER	1		
073.98.01-1	80	1272.298.934	SMALL COMP.SET	1		



# Assembly group overview

Page 2 from 2

Material number: 1316.051.196



16 S 221 /

Graphics	Pos.	Material number	Name	Quantity	Amend. no.	Techn. Info.
068.46.02-1	90	1316.134.021	GP SHIFT SYSTEM	1		
068.46.40-1	554	1315.134.413	CONNECTING PARTS	1		
068.57.04-1	390	1316.145.002	RANGE SELECTION	1		

# Plant

Page 1 from 2

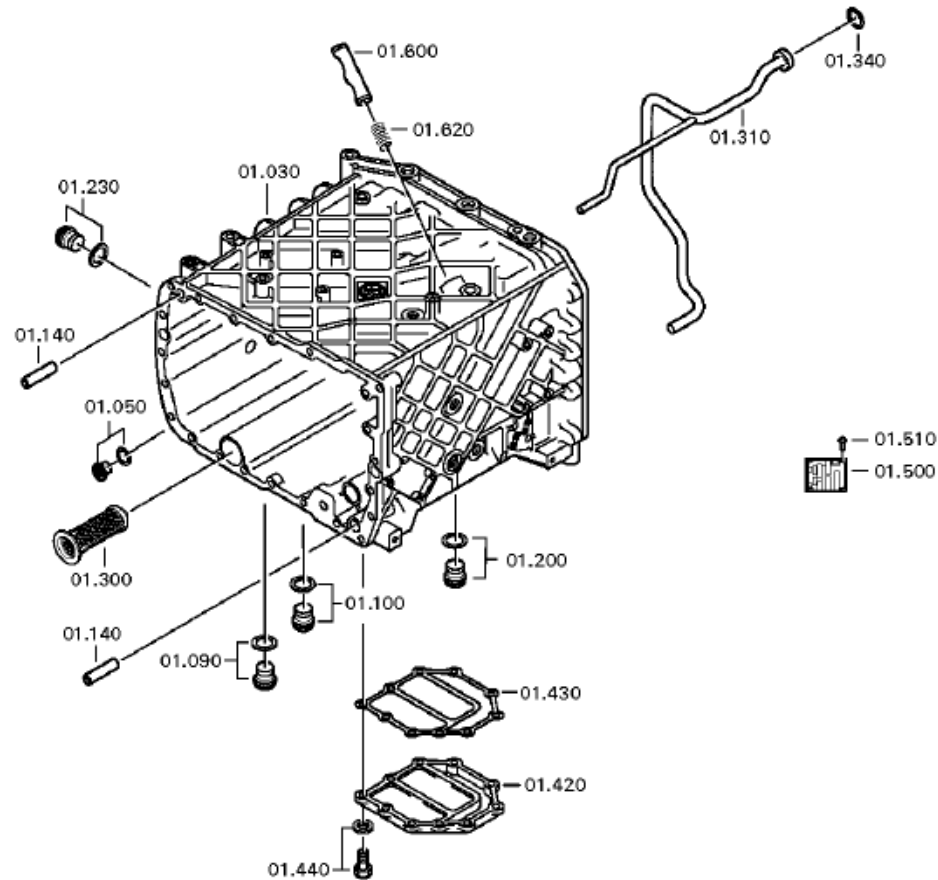
Material number: 1316.051.196

Plant: 068.01.05-1

TRANSMISSION HOUSING



16 S 221 /  
TRANSMISSION HOUSING



# Plant

Page 2 from 2

Material number: 1316.051.196

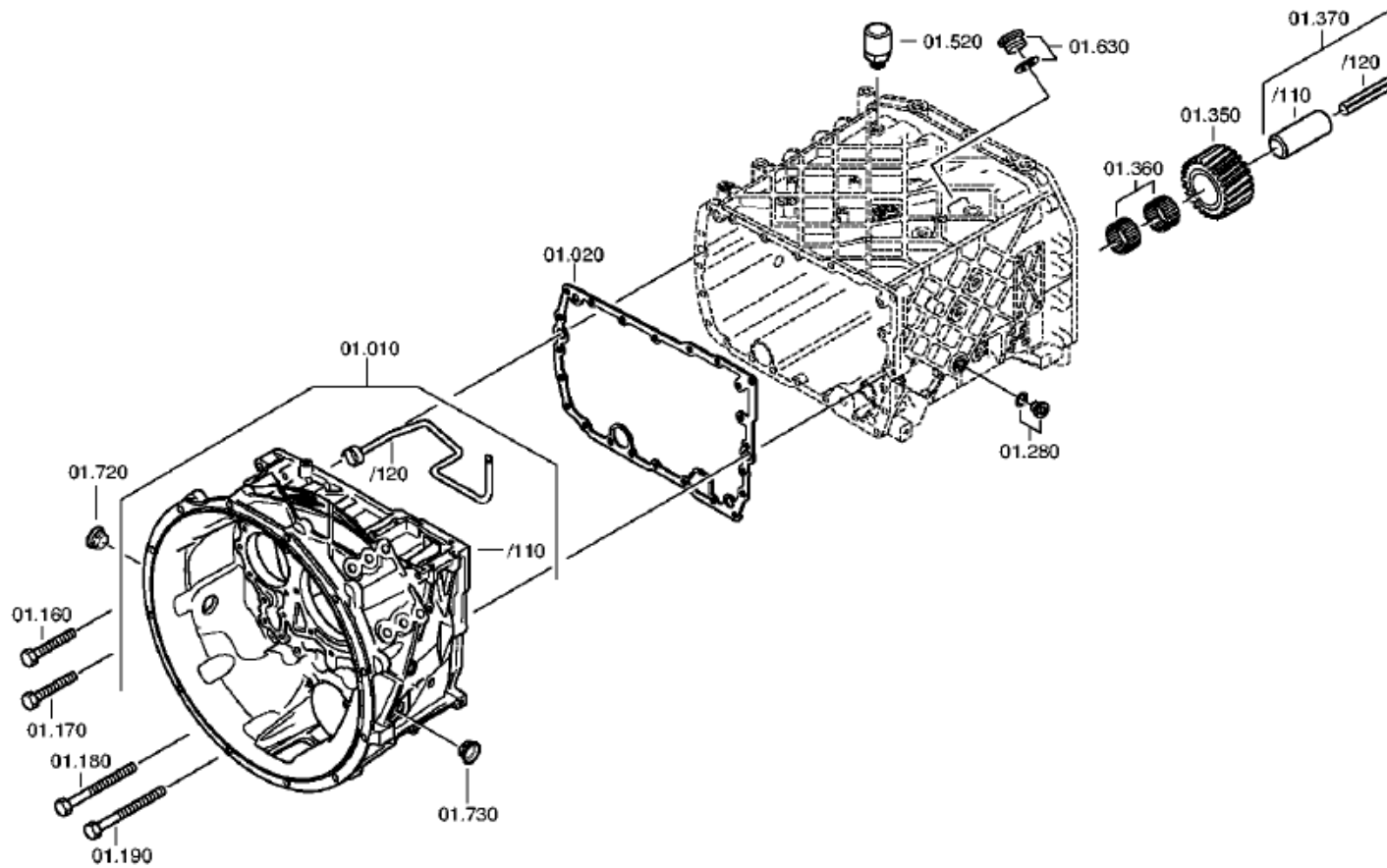
Plant: 068.01.58-1

TRANSMISSION HOUSING



16 S 221 /

TRANSMISSION HOUSING



# Parts list

Page 1 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.01.05-1

Material-assembly-group-no: 1316.101.103

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.201.142	1427603	CLUTCH HOUSING	1			KPL.		
/110	1316.301.064		CLUTCH HOUSING	1			ENTHALT.IN 1316 301 060(0)		
/120	1315.201.097	ZF-1315 201 097	TUBE	1			KPL.		
20	1315.301.233	5 5367 0	GASKET	1		C01005348C10			
30	1316.201.110	1635031	HOUSING	1		C01002290A10	KPL.DG IN 1316 201 108(0)		
50	---		SCREW PLUG	1		Z00010176111	M24X1,5		
---	0736.300.160	4471982.1	SCREW PLUG	1		Z00010176110	M24X1,5 M24X1,5		
---	0730.008.637	1428103	SEALING RING	1		Z00010176110	24X29		
90	---		SCREW PLUG	1		Z00010164013	50N.M*DICHTRING M22X1,5		
---	0636.100.824		SCREW PLUG	1		Z00010164019	M22X1,5		
---	0730.009.515	0730009515	SEALING RING	1		Z00010164019	A22X27		
100	---		SCREW PLUG	1		Z00010164013	50N.M*DICHTRING M22X1,5		
---	0636.100.824		SCREW PLUG	1		Z00010164019	M22X1,5		
---	0730.009.515	0730009515	SEALING RING	1		Z00010164019	A22X27		
140	0731.201.563	1290941	CYLINDRICAL PIN	4					
160	0736.300.123	1880233	HEXAGON SCREW	14			M10X70 M10X70		
170	---		HEXAGON SCREW	1			M10X70		
---	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
180	0736.300.119	1896749	HEXAGON SCREW	6		Z00009403410	M10X140 M10X140		
190	---		HEXAGON SCREW	1		Z00009403410	M10X140		
---	0736.300.119	1896749	HEXAGON SCREW	1		Z00009403412	M10X140 M10X140		
200	---		SCREW PLUG	1		Z00010112111	60N.M*DICHTRING M24X1,5		
---	0636.304.088	1882905	SCREW PLUG	1		Z00010112110	M24X1,5		
---	0730.008.637	1428103	SEALING RING	1		Z00010112110	24X29		
230	---		SCREW PLUG	1		Z00010112111	60N.M*DICHTRING M24X1,5		
---	0636.304.088	1882905	SCREW PLUG	1		Z00010112110	M24X1,5		
---	0730.008.637	1428103	SEALING RING	1		Z00010112110	24X29		
280	---		SCREW PLUG	1		Z00010112111	60N.M*DICHTRING M24X1,5		
---	0636.304.088	1882905	SCREW PLUG	1		Z00010112110	M24X1,5		
---	0730.008.637	1428103	SEALING RING	1		Z00010112110	24X29		
300	0501.318.802	5718 742 08	SCREEN INSERT	1		C01000947C10			
310	1316.201.056		SPRAY TUBE	1			KPL. IN 1315 201 112(0)		
340	0634.313.198	1000004936	O-RING	1			20X3		
350	---		REVERSE IDLER GEAR	1		C01006413F10			

# Parts list

Page 2 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.01.05-1

Material-assembly-group-no: 1316.101.103

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
---	1316.305.001		REVERSE IDLER GEAR	1			Z22 IN 1295 305 050(1)		
---	1316.305.008	1882761	REVERSE IDLER GEAR	1			Z22 IN 1295 305 050(1)		
360	0750.115.369	820-400-2290	NEEDLE CAGE	2			45,0X57,0X25,0		
370	1316.201.029		REVERSE IDLER SHAFT	1			KPL.16S221*DG*L=107		
/120	0631.329.296		SLOTTED PIN	1			10X123		
420	1315.301.151		COVER	1					
430	0501.316.146	133-198-1940	GASKET	1		C01002166A10			
440	0636.100.432		HEXAGON SCREW	10		Z00007349511	M10X28		
500	---		TYPE PLATE	1			KONZERN		
---	0730.365.241		TYPE PLATE	1			EINHEITSSCH. VERDREHSICHER		
---	0730.365.259		TYPE PLATE	1			EINHEITSSCH.VERDREHSICHER BRASILIAN		
---	0730.365.267		TYPE PLATE	1			CHINA		
---	0730.300.258		TYPE PLATE	1			EINHEITSSCH.VERDREHSICHER		
---	0730.365.271		TYPE PLATE	1			RUSSLAND/ KYRILLISCH		
---	0730.365.257		TYPE PLATE	1			S.S.CH IRAN		
---	0730.365.800		TYPE PLATE	1		Z00015972510			
---	0730.302.754		TYPE PLATE	1			AUSFUEHRUNG UNIVERSAL		
510	0731.300.027		BLIND RIVET	4		Z00007904810			
520	0501.218.540	1896008	BREATHER	1					
600	1313.306.013		LOCKING PIN	1					
620	0732.040.736	2150041300	COMPRESSION SPRING	1					
630	---		SCREW PLUG	1		Z00010164412	70N.M*DICHTRING M26X1,5		
---	0636.100.811		SCREW PLUG	1		Z00010164420	M26X1,5		
---	0634.801.249		SEALING RING	1		Z00010164420	26X31		
720	0501.321.840	1803936	PLUG	1					
730	0501.321.840	1803936	PLUG	1					



# Plant

Page 2 from 3

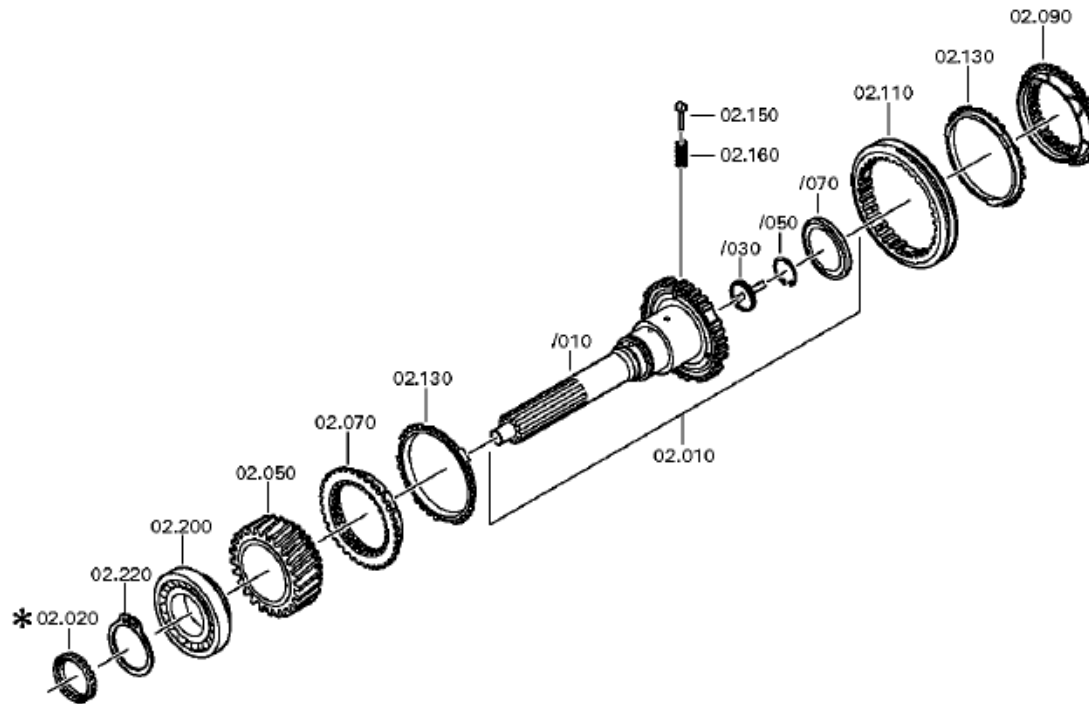
Material number: 1316.051.196

Plant: 068.02.02-1

CONNECTION PLATE



16 S 221 /  
CONNECTION PLATE



# Plant

Page 3 from 3

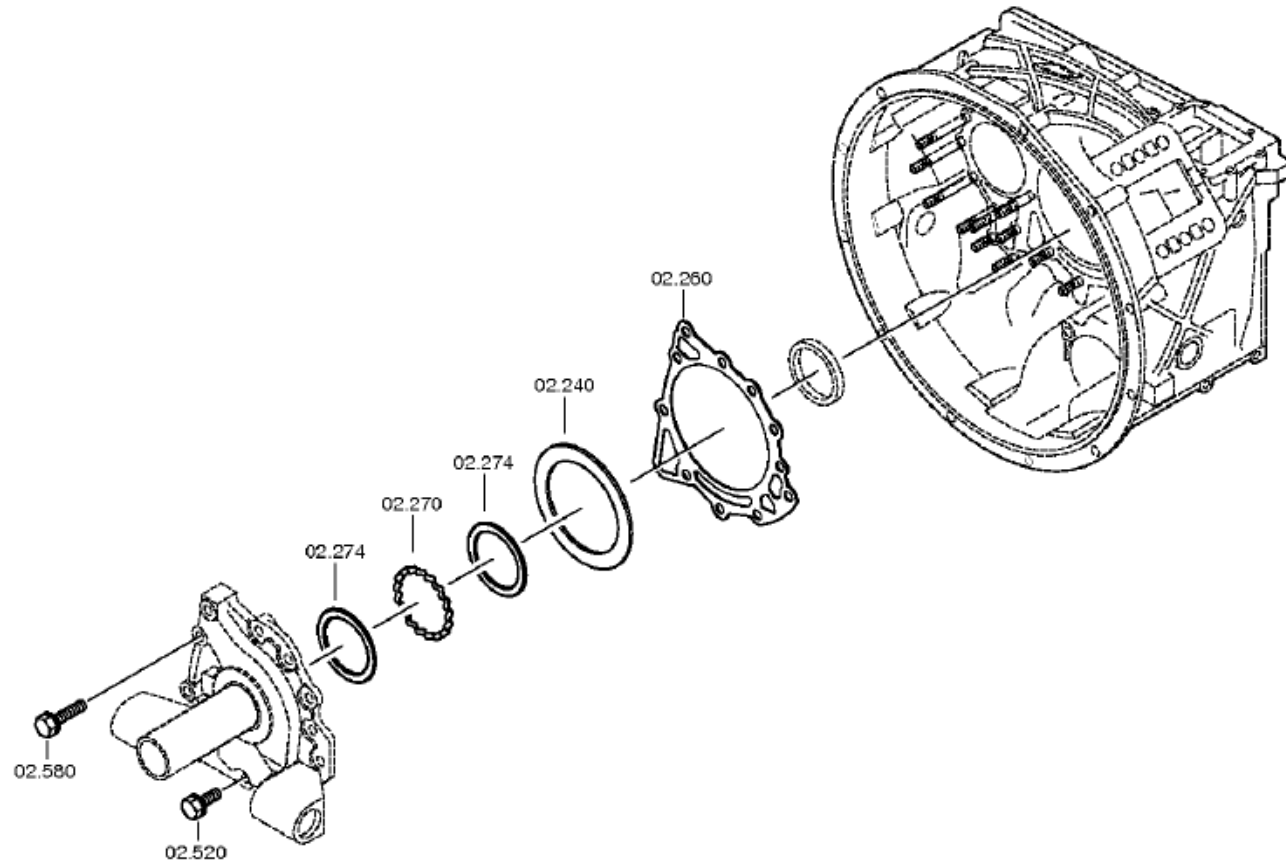
Material number: 1316.051.196

Plant: 068.02.82-1

CONNECTION PLATE



16 S 221 /  
CONNECTION PLATE





# Parts list

Page 1 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.02.57-1

Material-assembly-group-no: 1315.102.415

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.202.026		INPUT SHAFT	1			KPL.L117*GL100*ZAPF.25		
/30	1354.302.019		TUBE	1		Z00003830511			
/50	0630.502.027	0382816	RETAINING RING	1			50X2		
/70	0750.101.179	1896784	OIL DAM	1		Z00007187910	77,0X95,5X6,0		
50	1316.302.066	1369642	HELICAL GEAR	1			ENTHALT.IN 1316 302 026(1)		
70	1312.304.027	81.32425-0092	CLUTCH BODY	1			ENTHALT.IN 1310 304 107(1)		
90	1312.304.027	81.32425-0092	CLUTCH BODY	1		C01004681D10	ENTHALT.IN 1310 304 107(1)		
110	1310.304.202	5 5321 0	SLIDING SLEEVE	1		C01005378A10			
130	1297.304.484	81.32420-0230	SYNCHRO.RING	2					
150	1297.304.436	0068332	PRESSURE PART	3					
160	0732.040.409	02967403	COMPRESSION SPRING	3		C01007317F10			
200	0750.117.732	5 8301 0	TAPERED ROLLER BEARING	1			85,0X150,0X30,5		
220	0730.501.598		RETAINING RING	1		C01007992110	85X4		
240	---		SHIM	1			H= 0,90- 2,40(ABSTUFUNG:0,05MM)		
---	2050.309.094		SHIM	1			A=2,2 IN 2050 309 090 C45E WW.F500 ZFN410		
---	0730.007.489		SHIM	1			A=2,15 IN 2050 309 090(2)		
---	0730.007.488		SHIM	1			A=2,10 IN 2050 309 090(2)		
---	0730.007.487		SHIM	1			A=2,05 IN 2050 309 090(2)		
---	0730.007.486		SHIM	1			A=2,00 IN 2050 309 090(2)		
---	0730.007.485		SHIM	1			A=1,95 IN 2050 309 090(2)		
---	0730.007.484	1833897	SHIM	1			A=1,90 IN 2050 309 090(2)		
---	0730.007.483		SHIM	1			A=1,85 IN 2050 309 090(2)		
---	0730.007.482		SHIM	1			A=1,80 IN 2050 309 090(2)		
---	0730.007.481		SHIM	1			A=1,75 IN 2050 309 090(2)		
---	0730.007.480	1833896	SHIM	1			A=1,70 IN 2050 309 090(2)		
---	0730.007.479		SHIM	1			A=1,65 IN 2050 309 090(2)		
---	0730.007.136	1290955	SHIM	1			A=1,60 IN 2050 309 090(2)		
---	0730.007.135		SHIM	1			A=1,55 IN 2050 309 090(2)		
---	0730.007.134		SHIM	1			A=1,50 IN 2050 309 090(2)		
---	0730.007.133		SHIM	1			A=1,45 IN 2050 309 090(2)		
---	0730.007.132		SHIM	1			A=1,40 IN 2050 309 090(2)		
---	0730.007.131		SHIM	1			A=1,35 IN 2050 309 090(2)		
---	0730.007.130		SHIM	1			A=1,30 IN 2050 309 090(2)		

# Parts list

Page 2 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.02.57-1

Material-assembly-group-no: 1315.102.415

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
---	0730.007.129		SHIM	1			A=1,25 IN 2050 309 090(2)		
---	2050.309.034		SHIM	1			A=1,2 IN 2050 309 090 C45E WW.F500 ZFN410		
---	0730.007.128		SHIM	1			A=1,15 IN 2050 309 090(2)		
---	0730.007.127	0730 007 127	SHIM	1			A=1,10 IN 2050 309 090(2)		
---	0730.007.126		SHIM	1			A=1,05 IN 2050 309 090(2)		
---	2050.309.065		SHIM	1			A=1,0 IN 2050 309 090 C45E WW.F500 ZFN410		
---	0730.005.749		SHIM	1			A=0,95 IN 2050 309 090(2)		
---	0730.005.748	5 5258 0	SHIM	1			A=0,90 IN 2050 309 090(2)		
---	0730.301.503		SHIM	1			h=2,25		
---	0730.301.504		SHIM	1			h=2,30		
---	0730.301.505		SHIM	1			h=2,35		
---	0730.301.506		SHIM	1			h=2,40		
260	0501.314.587	5 6095 0	GASKET	1					
270	1315.302.040		SPACER RING	1					
274	0730.150.766		WASHER	2					
280	1315.202.055		CONNECTION PLATE	1			KPL.		
/110	1315.302.072		CONNECTION PLATE	1					
/120	0750.111.575	0750111575	SHAFT SEAL	1			30X37X4		
/130	0730.260.398	1615933	BUSH	1			A=25,00		
/140	0730.260.398	1615933	BUSH	1			A=25,00		
/150	0750.111.575	0750111575	SHAFT SEAL	1			30X37X4		
/220	0750.111.575	0750111575	SHAFT SEAL	1			30X37X4		
/230	0730.260.398	1615933	BUSH	1			A=25,00		
/240	0730.260.398	1615933	BUSH	1			A=25,00		
/250	0750.111.575	0750111575	SHAFT SEAL	1			30X37X4		
290	0734.310.387	5 8002 0	SHAFT SEAL	1		Z00023718610	55X75X8/9,2 FA.CFW		
520	0636.015.685		HEXAGON SCREW	8		Z00009177310	M10X35		
580	0636.102.270	0636 102 270 01	HEXAGON SCREW	3		Z00009177410	M10X60		

# Plant

Page 1 from 2

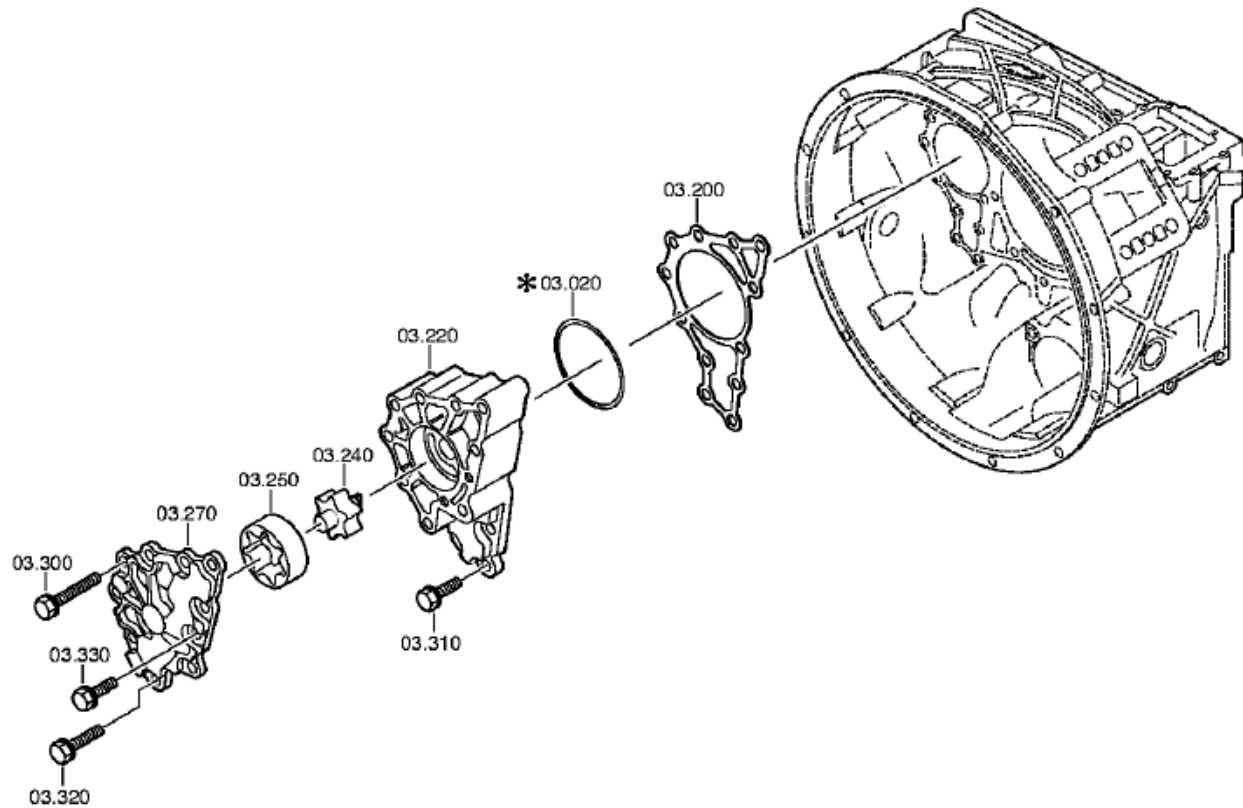
Material number: 1316.051.196

Plant: 068.03.80-1

COUNTERSHAFT



16 S 221 /  
COUNTERSHAFT



# Plant

Page 2 from 2

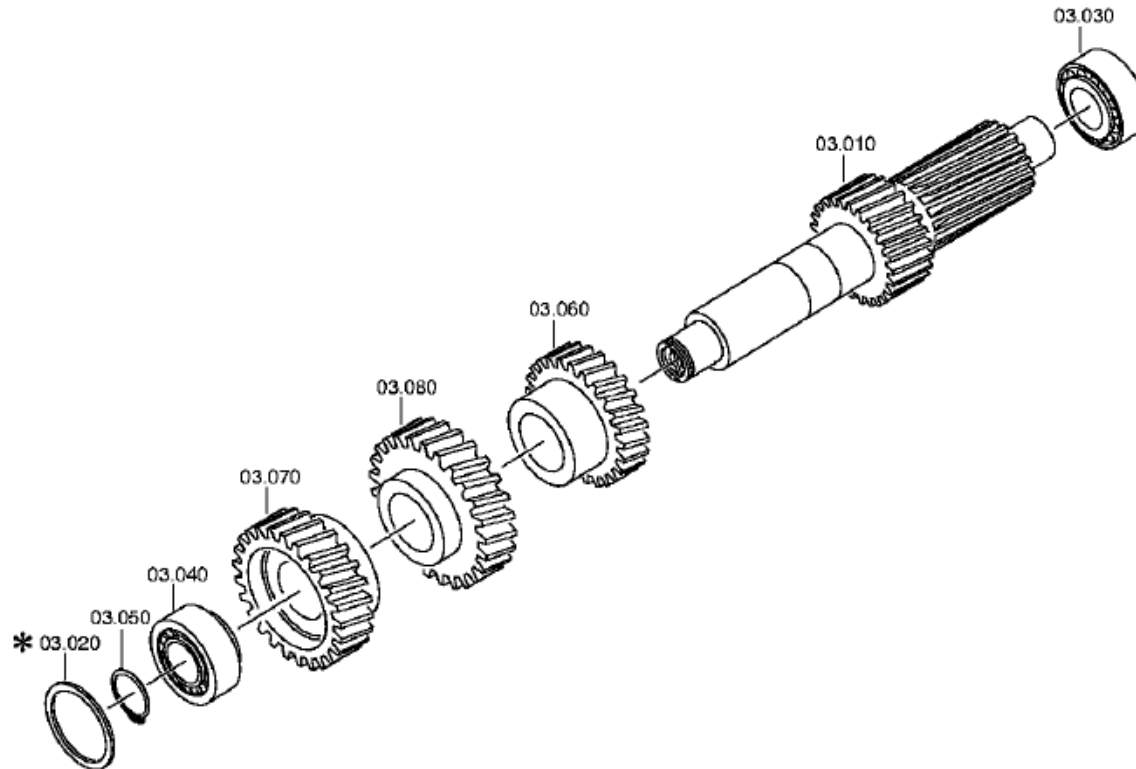
Material number: 1316.051.196

Plant: 068.03.01-1

COUNTERSHAFT



16 S 221 /  
COUNTERSHAFT



# Parts list

Page 1 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.03.80-1

Material-assembly-group-no: 1316.103.803

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.303.033	5 5340 0	COUNTERSHAFT	1			ENTHALT.IN 1316 303 032(0)		
20	---		SHIM	1			H= 1,85- 3,25(ABSTUFUNG:0,05MM)		
---	0730.112.938		SHIM	1		C01007375C10	A=3,25		
---	0730.112.937		SHIM	1		C01007375C10	A=3,20		
---	0730.112.936		SHIM	1		C01007375C10	A=3,15		
---	0730.112.935		SHIM	1		C01007375C10	A=3,10		
---	0730.106.860	ZF-0730 106 860	SHIM	1		C01007375C10	A=3,05 IN 0730 106 904(2)		
---	0730.106.917	ZF-0730 106 917	SHIM	1			A=3,00 IN 0730 106 904(2)		
---	0730.106.916	1833921	SHIM	1			A=2,95 IN 0730 106 904(2)		
---	0730.106.915	1833920	SHIM	1			A=2,90 IN 0730 106 904(2)		
---	0730.106.914	1833919	SHIM	1			A=2,85 IN 0730 106 904(2)		
---	0730.106.913	1833918	SHIM	1			A=2,80 IN 0730 106 904(2)		
---	0730.106.912		SHIM	1			A=2,75 IN 0730 106 904(2)		
---	0730.106.911	1833917	SHIM	1			A=2,70 IN 0730 106 904(2)		
---	0730.106.910	1833916	SHIM	1			A=2,65 IN 0730 106 904(2)		
---	0730.106.909	1833915	SHIM	1			A=2,60 IN 0730 106 904(2)		
---	0730.106.908	1833914	SHIM	1			A=2,55 IN 0730 106 904(2)		
---	0730.100.799		SHIM	1			A=2,50 IN 0730 106 904(2)		
---	0730.100.800	1833898	SHIM	1			A=2,45 IN 0730 106 904(2)		
---	0730.100.801	ZF-0730 100 801	SHIM	1			A=2,40 IN 0730 106 904(2)		
---	0730.100.802	1833900	SHIM	1			A=2,35 IN 0730 106 904(2)		
---	0730.100.803	1833905	SHIM	1			A=2,30 IN 0730 106 904(2)		
---	0730.101.466	ZF-0730 101 466	SHIM	1			A=2,25 IN 0730 106 904(2)		
---	0730.101.467	1833906	SHIM	1			A=2,20 IN 0730 106 904(2)		
---	0730.101.468	1833907	SHIM	1			A=2,15 IN 0730 106 904(2)		
---	0730.101.469	1833909	SHIM	1			A=2,10 IN 0730 106 904(2)		
---	0730.101.470	1833910	SHIM	1			A=2,05 IN 0730 106 904(2)		
---	0730.101.471		SHIM	1			A=2,00 IN 0730 106 904(2)		
---	0730.106.907	1833912	SHIM	1			A=1,95 IN 0730 106 904(2)		
---	0730.106.906	1833911	SHIM	1			A=1,90 IN 0730 106 904(2)		
---	0730.106.905		SHIM	1			A=1,85 IN 0730 106 904(2)		
30	0750.117.009	8 8449 0	TAPERED ROLLER BEARING	1			49,213X103,188X44,475		
40	0750.117.009	8 8449 0	TAPERED ROLLER BEARING	1			49,213X103,188X44,475		
50	---		RETAINING RING	1		C01002877A10	H= 2,40- 3,00(ABSTUFUNG:0,05MM)		

# Parts list

Page 2 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.03.80-1

Material-assembly-group-no: 1316.103.803

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
---	0630.531.065	8603574	RETAINING RING	1			50X3		
---	0630.501.111		RETAINING RING	1			50X2,95		
---	0630.501.112	0002640551	RETAINING RING	1			50X2,9		
---	0630.501.113		RETAINING RING	1			50X2,85		
---	0630.501.114	0002641451	RETAINING RING	1			50X2,8		
---	0630.501.115		RETAINING RING	1			50X2,75		
---	0630.501.116	0002641351	RETAINING RING	1			50X2,7		
---	0630.501.117	0140310	RETAINING RING	1			50X2,65		
---	0630.501.118	0002641251	RETAINING RING	1			50X2,6		
---	0630.501.160		RETAINING RING	1			50X2,55		
---	0630.531.064	1663657	RETAINING RING	1			50X2,5		
---	0630.501.159		RETAINING RING	1			50X2,45		
---	0630.501.148	0002641051	RETAINING RING	1			50X2,4		
60	1316.303.005	1295190	HELICAL GEAR	1			3G/Z26 IN 1312 303 018(1)		
70	1316.303.030		HELICAL GEAR	1			KON/Z39 IN 1316 303 029(1)		
80	1316.303.065	1360899	HELICAL GEAR	1			Z35 IN 1312 303 013(1)		
200	1315.303.060	H0491909	GASKET	1		C01005349C10			
220	---		PUMP HOUSING	1			GD*GSLs		
---	1315.302.121	5 5355 0	PUMP HOUSING	1					
---	1315.302.117		PUMP HOUSING	1					
240	1314.202.039	5 5842 0	PUMP SHAFT	1			KPL.		
250	1315.303.027	5 5857 0	ROTOR	1					
270	---		PUMP COVER	1			GD*GSLs		
---	1315.302.120	5 5855 0	PUMP COVER	1					
---	1315.302.116		PUMP COVER	1					
300	0636.015.684		HEXAGON SCREW	8		Z00009177510	M10X85		
310	0636.015.685		HEXAGON SCREW	3		Z00009177310	M10X35		
320	0636.102.270	0636 102 270 01	HEXAGON SCREW	1		Z00009177410	M10X60		
330	0636.015.685		HEXAGON SCREW	2		Z00009177310	M10X35		



# Parts list

Page 1 from 3



16 S 221 /

Material number: 1316.051.196

Plant: 068.04.10-1

Material-assembly-group-no: 1316.104.034

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.304.130		MAIN SHAFT	1					
40	0750.115.303	5 8158 0	NEEDLE CAGE	1			92,0X100,0X63,0		
50	1316.304.002	133-242-3900	HELICAL GEAR	1			2G/Z38 IN 1316 304 005(1)		
90	1315.204.006		SYNCHRONIZER	1			KPL.1+2G*DK		
/110	1312.304.106	5 5328 0	CLUTCH DISC	1					
/120	1268.304.424	5 5280 0	INNER RING	1					
/130	1268.304.494	820-400-2510	INTERMEDIATE RING	1			ENTHALT.IN 6002 306 153(0)		
/140	1268.304.525	5 5288 0	OUTER RING	1			ENTHALT.IN 1310 304 095(1)		
/150	1312.304.158	1250147	SYNCHRO.BODY	1			ZF-D171/164		
/160	1312.304.159	1300312	COUPLING ELEMENT	3		C01006893A10			
/170	1310.304.175	5 5320 0	SLIDING SLEEVE	1		C01007317F10			
/180	0732.040.409	02967403	COMPRESSION SPRING	3					
/190	1297.304.436	0068332	PRESSURE PART	3					
/200	1268.304.525	5 5288 0	OUTER RING	1			ENTHALT.IN 1310 304 095(1)		
/210	1268.304.494	820-400-2510	INTERMEDIATE RING	1			ENTHALT.IN 6002 306 153(0)		
/220	1268.304.424	5 5280 0	INNER RING	1					
/230	1312.304.106	5 5328 0	CLUTCH DISC	1					
140	1312.304.084	42480712	BUSH	1			ENTHALT.IN 1312 304 007(2)		
150	0750.115.327	5 8157 0	NEEDLE CAGE	1			96,0X104,0X72,0		
160	1316.304.010	1316304010	HELICAL GEAR	1			1G/Z47 IN 1312 304 033(0)		
180	1312.304.124	1295199	CLUTCH BODY	1			ENTHALT.IN 1312 304 055(0)		
200	1316.304.133	42480812	BUSH	1			A=50,00 IN 1312 304 010(2)		
210	0750.115.326	5 8156 0	NEEDLE CAGE	1			90,0X98,0X50,0		
220	---		HELICAL GEAR	1					
---	1316.304.012	133-242-3920	HELICAL GEAR	1			RG*Z44 IN 1312 304 125(0)		
---	1316.304.235		HELICAL GEAR	1					
260	0750.117.678	8 8114 0	TAPERED ROLLER BEARING	1			80,0X140,0X36,5		
270	---		RETAINING RING	1			H= 3,00- 3,65(ABSTUFUNG:0,05MM)		
---	0630.501.316	820-400-2580	RETAINING RING	1			80X3,5		
---	0630.501.336	H0109516	RETAINING RING	1			80X3,45		
---	0630.501.315	820-400-2582	RETAINING RING	1			80X3,4		
---	0630.501.335	H0109514	RETAINING RING	1			80X3,35		
---	0630.501.314	820-400-2584	RETAINING RING	1			80X3,3		
---	0630.501.334	820-400-2585	RETAINING RING	1			80X3,25		



# Parts list

Page 2 from 3



16 S 221 /

Material number: 1316.051.196

Plant: 068.04.10-1

Material-assembly-group-no: 1316.104.034

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
---	0630.501.313	820-400-2586	RETAINING RING	1			80X3,2		
---	0630.501.333	820-400-2587	RETAINING RING	1			80X3,15		
---	0630.501.312	820-400-2588	RETAINING RING	1			80X3,1		
---	0630.501.337	820-400-2589	RETAINING RING	1			80X3,55		
---	0630.501.338	820-400-2590	RETAINING RING	1			80X3,6		
---	0630.501.339	820-400-2591	RETAINING RING	1			80X3,65		
300	1312.304.150	5 5177 0	TUBE	1					
320	0750.115.303	5 8158 0	NEEDLE CAGE	1			92,0X100,0X63,0		
330	1316.304.008	133-242-3930	HELICAL GEAR	1			3G/Z34 IN 1312 304 135(1)		
350	1316.304.190	1831990	CLUTCH BODY	1		Z00006981311	ZF-BK 144 O		
370	1356.204.006		SYNCHRONIZER	1		Z00006981311	KPL.3+4G*BK144 MOLYBDAEN* ANSCHL.INTEGR VERST*ECOSPLIT 3+4		
/10	1356.304.019	1833885	SYNCHRO.BODY	1		Z00006981313			
/20	1356.304.023	1833891	SLIDING SLEEVE	1		Z00006981313	ZF-BK 144		
/30	1316.304.189	1832004	SYNCHRO.RING	2		Z00006981313	ZF-BK 144		
/50	1297.304.436	0068332	PRESSURE PART	3		Z00006981313			
/60	0732.040.409	02967403	COMPRESSION SPRING	3		Z00006981313			
390	1316.304.190	1831990	CLUTCH BODY	1		Z00006981311	ZF-BK 144 O		
410	0750.101.158		THRUST WASHER	2					
420	0750.119.124	5 8910 0	INNER RING	1			67,0X77,0X66,1		
430	0750.115.531	5 8908 0	ROLLER CAGE	2			77,0X101,0X29,0		
440	1316.304.103	5 5341 0	HELICAL GEAR	1			Z32		
460	---		AXIAL WASHER	1			H= 7,30- 8,00(ABSTUFUNG:0,10MM)		
---	1315.304.048	5 5877 0	AXIAL WASHER	1			A=8,00 IN 1315 304 042(2)		
---	1315.304.047	5 5859 0	AXIAL WASHER	1			A=7,90 IN 1315 304 042(2)		
---	1315.304.046	ZF-1315 304 046	AXIAL WASHER	1			A=7,80 IN 1315 304 042(2)		
---	1315.304.045	5 5858 0	AXIAL WASHER	1			A=7,70 IN 1315 304 042(2)		
---	1315.304.044	ZF-1315 304 044	AXIAL WASHER	1			A=7,60 IN 1315 304 042(2)		
---	1315.304.043	ZF-1315 304 043	AXIAL WASHER	1			A=7,50 IN 1315 304 042(2)		
---	1315.304.085	ZF-1315 304 085	AXIAL WASHER	1			A=7,40 IN 1315 304 042(2)		
---	1315.304.086	1833949	AXIAL WASHER	1			A=7,30 IN 1315 304 042(2)		
480	0750.117.232	81.93501.0080	TAPERED ROLLER BEARING	1			42,0X40,3		
500	1312.204.040		SPLIT RING	1			GESTANZT		

# Parts list

Page 3 from 3



16 S 221 /

Material number: 1316.051.196

Plant: 068.04.10-1

Material-assembly-group-no: 1316.104.034

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
/10	---		SPLIT RING	2			H= 4,60- 5,00(ABSTUFUNG:0,10MM)		
---	0730.107.023	820-400-2660	SPLIT RING	2			A=5,00 IN 0730 106 207(2)		
---	0730.107.022	820-400-2661	SPLIT RING	2			A=4,90 IN 0730 106 207(2)		
---	0730.107.021	820-400-2662	SPLIT RING	2			A=4,80 IN 0730 106 207(2)		
---	0730.107.020	820-400-2663	SPLIT RING	2			A=4,70 IN 0730 106 207(2)		
---	0730.107.019	820-400-2664	SPLIT RING	2			A=4,60 IN 0730 106 207(2)		
/20	0730.062.781	H0224840	RETAINING RING	1			ENTHALT.IN 0730 062 636(2)		

# Plant

Page 1 from 3

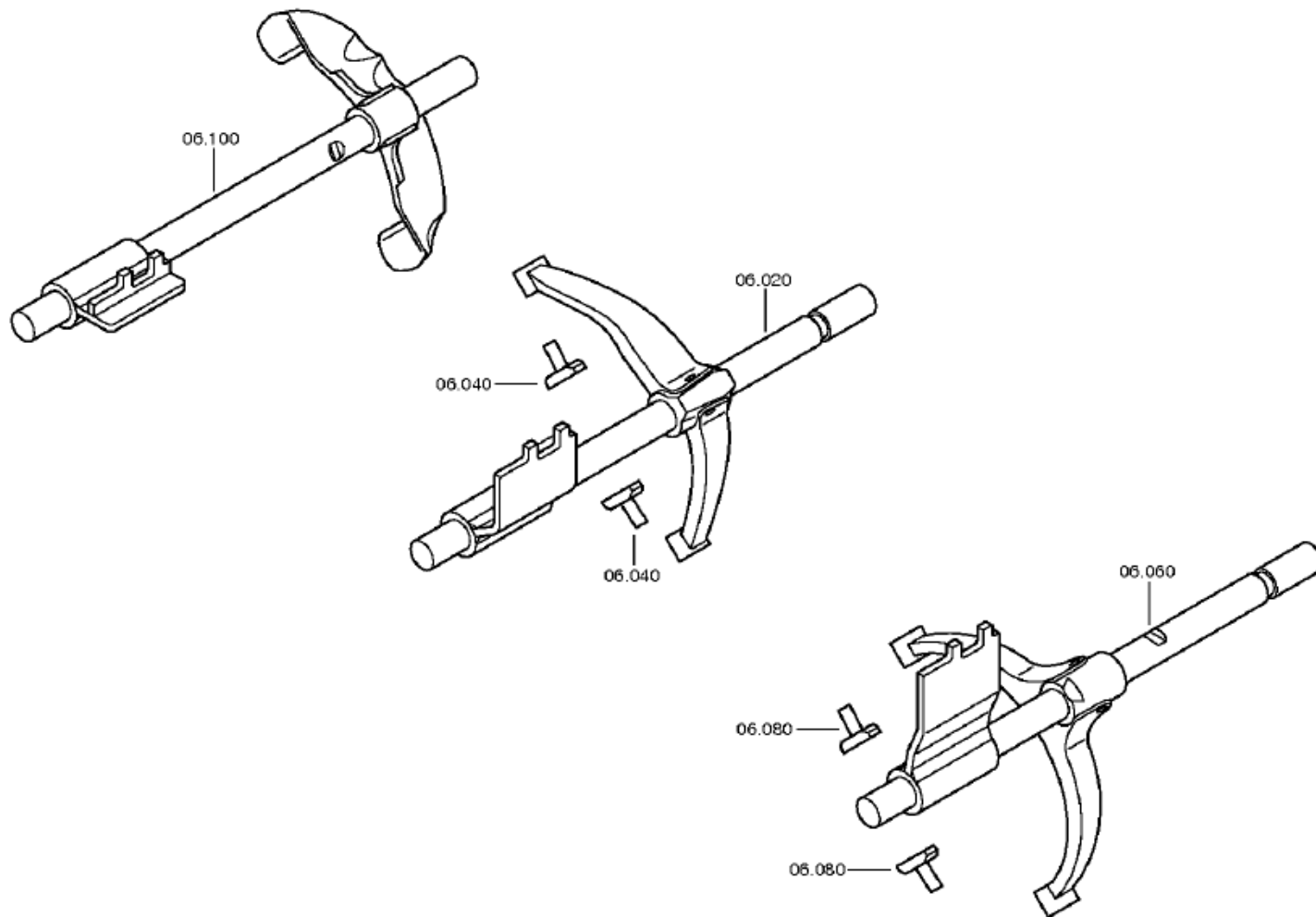
Material number: 1316.051.196

Plant: 068.06.01-1

SHIFT SYSTEM



16 S 221 /  
SHIFT SYSTEM



# Plant

Page 2 from 3

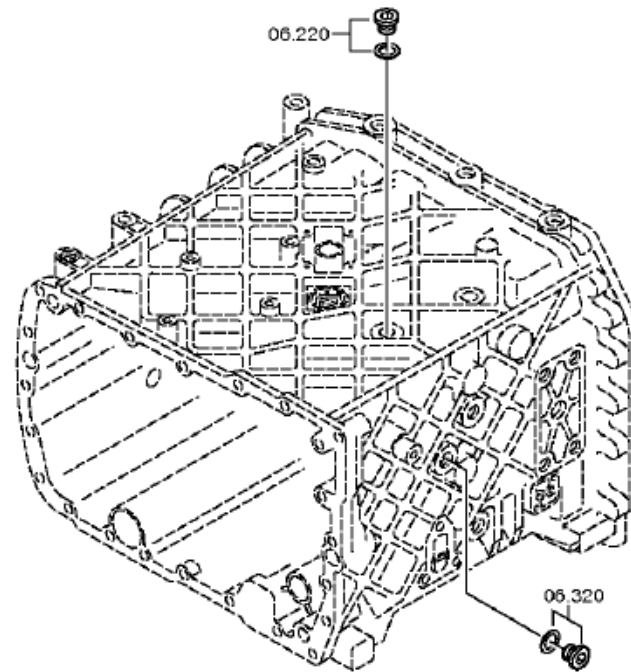
Material number: 1316.051.196

Plant: 068.06.43-1

SHIFT SYSTEM



16 S 221 /  
SHIFT SYSTEM



# Plant

Page 3 from 3

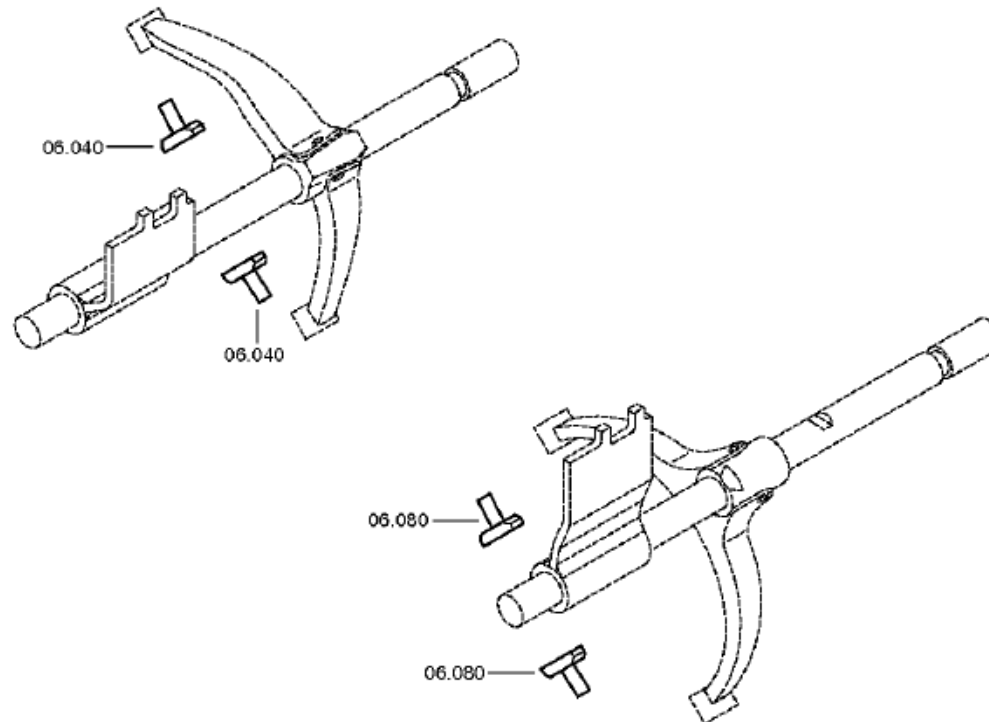
Material number: 1316.051.196

Plant: 068.06.80-1

SHIFT SYSTEM



16 S 221 /  
SHIFT SYSTEM



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.06.01-1

Material-assembly-group-no: 1316.106.008

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
20	1316.206.055	1815771	GEAR SHIFT RAIL	1			1+2GANG*LANG*WI		
40	1316.306.015	5 5342 0	SLIDING PAD	2					
60	1316.206.058	1815772	GEAR SHIFT RAIL	1			3+4GANG*LANG*WI		
/10	1316.306.030		GEAR SHIFT RAIL	1					
/20	1325.306.028		GEAR SHIFT FORK	1			3/4G		
/50	0631.329.086		SLOTTED PIN	1			8X40		
/60	0631.329.057	0.900.2207.5	SLOTTED PIN	1			5X40		
80	1316.306.015	5 5342 0	SLIDING PAD	2					
100	1316.206.061	1815773	GEAR SHIFT RAIL	1			R-GANG*LANG*WI		
/10	1316.306.028		GEAR SHIFT RAIL	1					
/20	1355.306.003		GEAR SHIFT FORK	1			RG		
/50	0631.329.086		SLOTTED PIN	1			8X40		
/60	0631.329.057	0.900.2207.5	SLOTTED PIN	1			5X40		
220	---		SCREW PLUG	1		Z00010111513	35N.M*DICHTRING M18X1,5		
---	0636.100.791		SCREW PLUG	1		Z00010111521	M18X1,5		
---	0634.801.062	1698381	SEALING RING	1		Z00010111521	18X24		
320	---		SCREW PLUG	1		Z00010111513	35N.M*DICHTRING M18X1,5		
---	0636.100.791		SCREW PLUG	1		Z00010111521	M18X1,5		
---	0634.801.062	1698381	SEALING RING	1		Z00010111521	18X24		

# Plant

Page 1 from 3

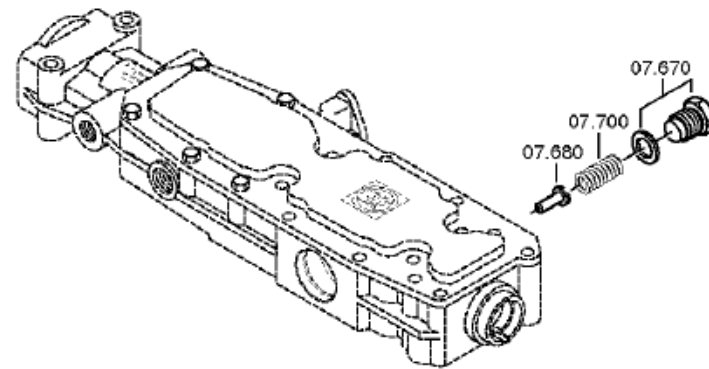
Material number: 1316.051.196

Plant: 068.07.09-1

GEAR SHIFT HOUSING



16 S 221 /  
GEAR SHIFT HOUSING



# Plant

Page 2 from 3

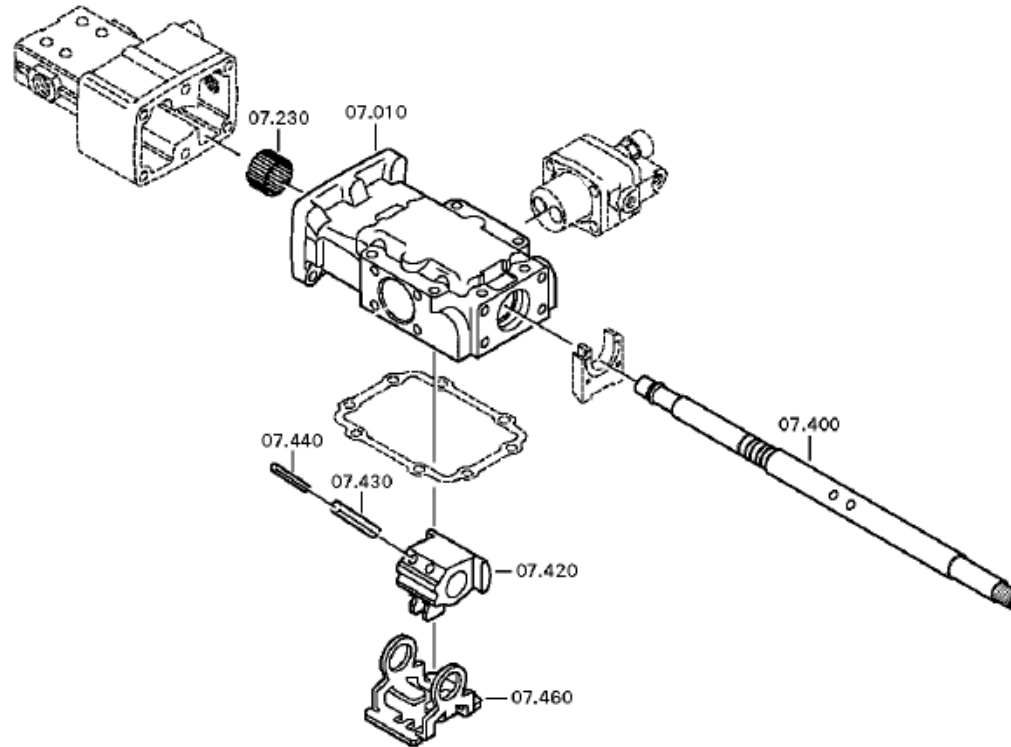
Material number: 1316.051.196

Plant: 068.07.12-1

GEAR SHIFT HOUSING



16 S 221 /  
GEAR SHIFT HOUSING





# Plant

Page 3 from 3

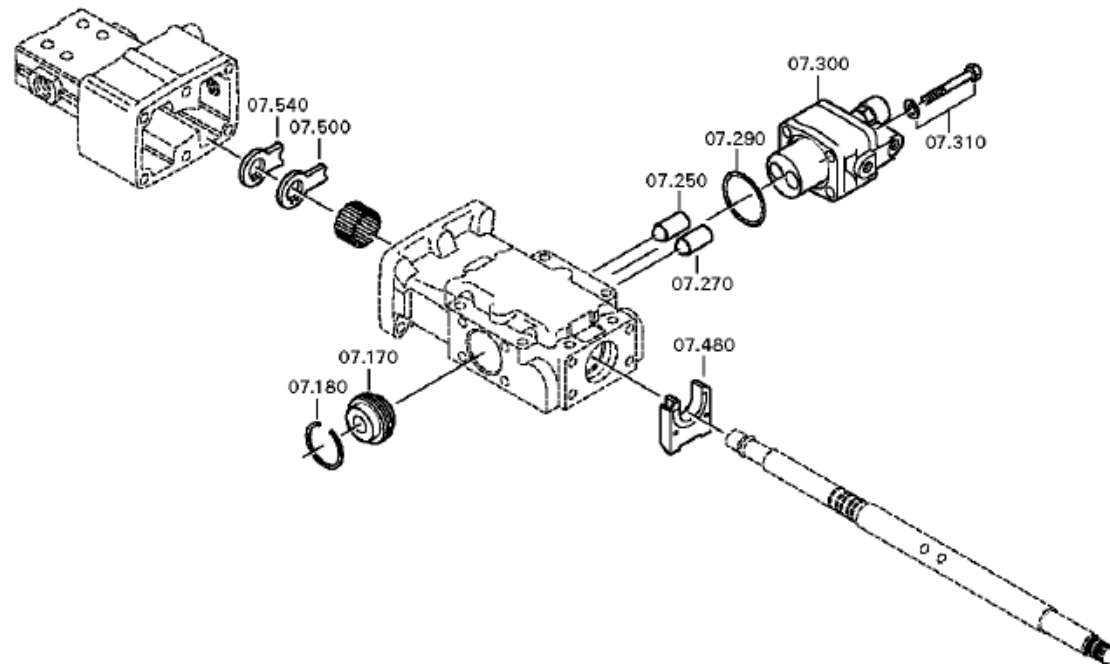
Material number: 1316.051.196

Plant: 068.07.16-1

GEAR SHIFT HOUSING



16 S 221 /  
GEAR SHIFT HOUSING



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.07.09-1

Material-assembly-group-no: 1315.107.836

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1315.307.123		GEAR SHIFT HOUSING	1			ENTHALT.IN 1315 307 122(0)		
20	1315.307.013	133-138-1020	GASKET	1					
30	0736.300.136		HEXAGON SCREW	8		Z00009195210	M8X75 M8X75		
170	0501.209.212	5 5247 0	DETENT	1			KPL.		
180	0630.532.130	0630532130	V-RING	1					
230	0635.303.053		NEEDLE SLEEVE	1			25X32X20		
250	0501.209.188	5 6102 0	BALL CASTER	1			KPL.		
270	0501.209.188	5 6102 0	BALL CASTER	1			KPL.		
290	0634.313.505	1295216	O-RING	1			42X3		
300	6038.202.043	5 6065 0	CUT-OFF VALVE	1		C01002144C10	KPL.H-H*ZULUFTDROSSEL 1,55		
310	---		HEXAGON SCREW	4		Z00007054112	M8X65		
---	0636.100.519		HEXAGON SCREW	4		Z00007054110	M8X65		
---	0630.100.295	436-4451	WASHER	4		Z00007158414			
400	1315.307.094	5 5866 0	GEARSHIFT SHAFT	1			ENTHALT.IN 1315 307 157(1)		
420	---		DRIVER	1			W I		
---	1315.307.092		DRIVER	1					
430	0631.329.101	0631329101	SLOTTED PIN	2			10X45		
440	0631.329.073	0631329073	SLOTTED PIN	2			6X45		
460	1315.307.308	1351617	LOCKING PIECE	1					
500	1315.307.304	1353839	DETENT SHEET	1					
540	1315.307.120		DETENT	1					
670	---		SCREW	1		Z00010146310	M22X1,5		
---	1315.307.736		SCREW	1		Z00010146312	M22X1,5		
---	0730.009.515	0730009515	SEALING RING	1		Z00010146312	A22X27		
680	1315.307.190		BOLT	1			ENTHALT.IN 1250 307 589(2)		
700	0732.040.985	5 5874 0	COMPRESSION SPRING	1					

# Plant

Page 1 from 4

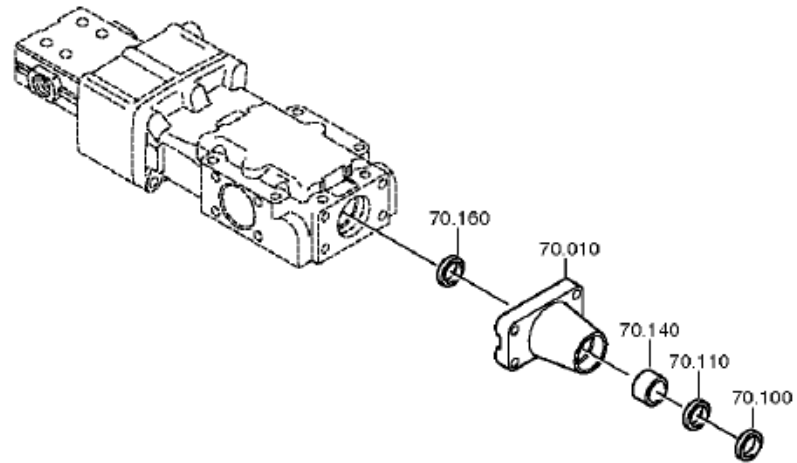
Material number: 1316.051.196

Plant: 068.08.17-1

SHIFT TURRET



16 S 221 /  
SHIFT TURRET



# Plant

Page 2 from 4

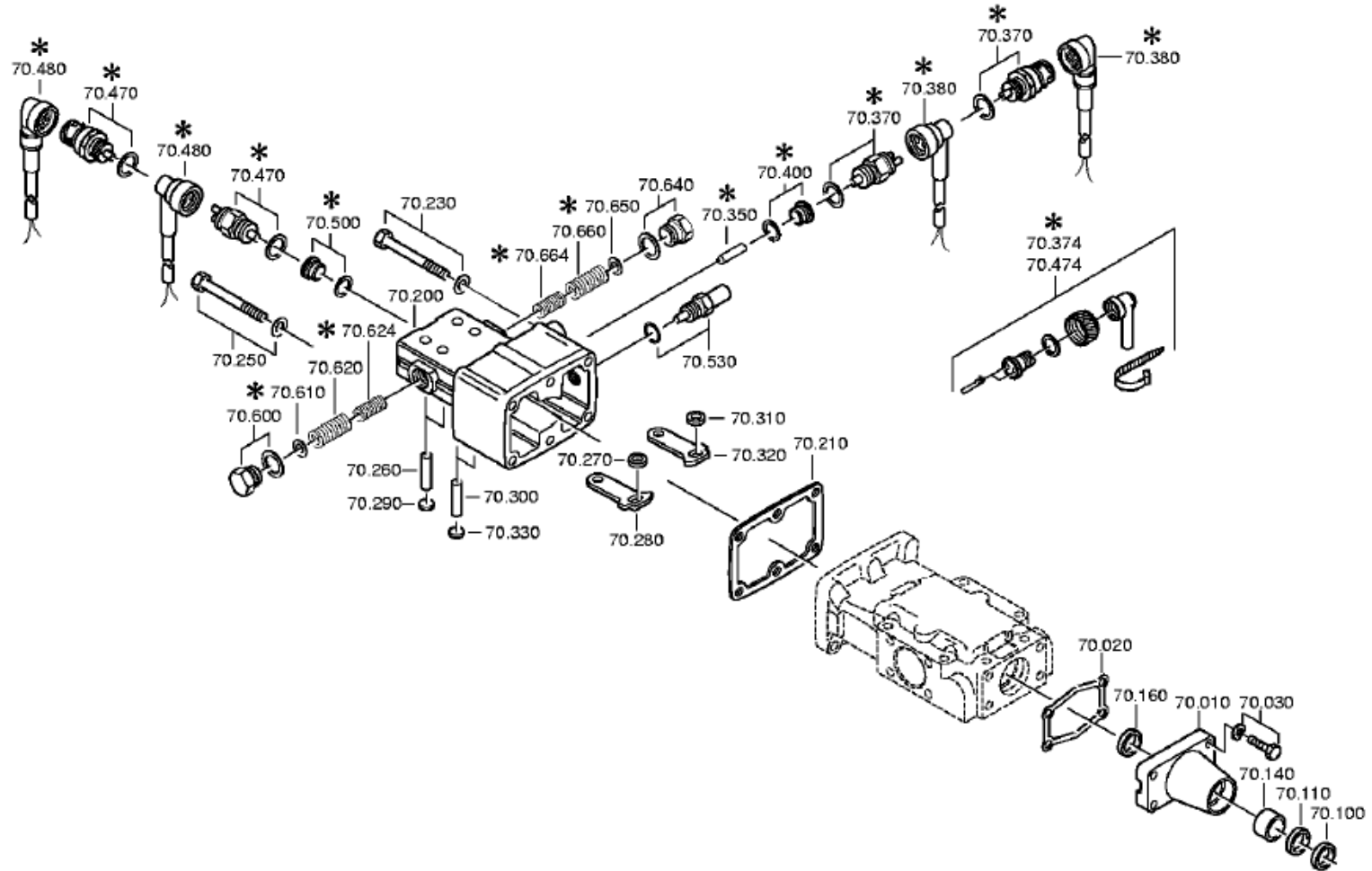
Material number: 1316.051.196

Plant: 068.08.06-1

SHIFT TURRET



16 S 221 /  
SHIFT TURRET



# Plant

Page 3 from 4

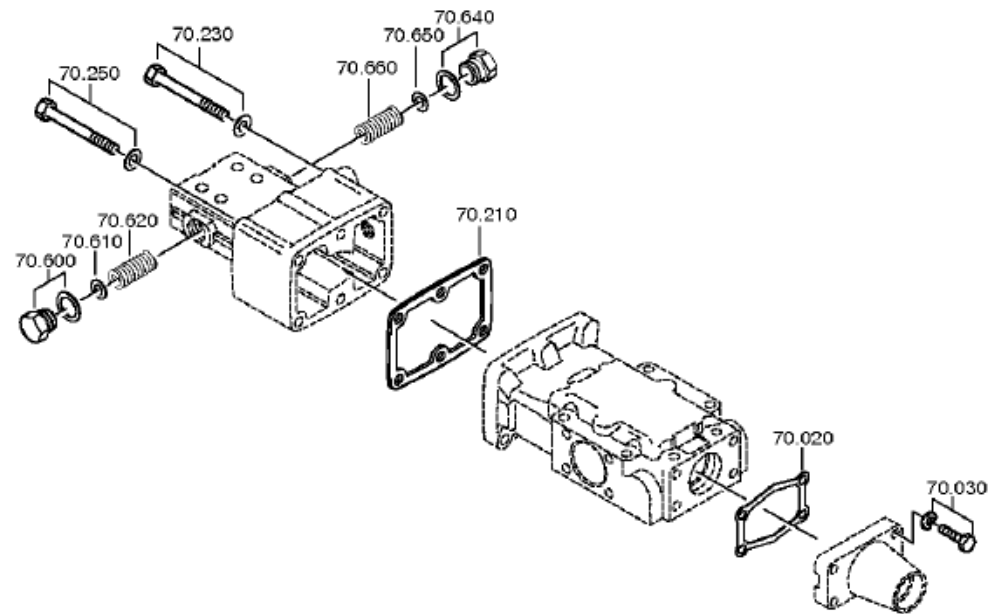
Material number: 1316.051.196

Plant: 068.08.14-1

SHIFT TURRET



16 S 221 /  
SHIFT TURRET



# Plant

Page 4 from 4

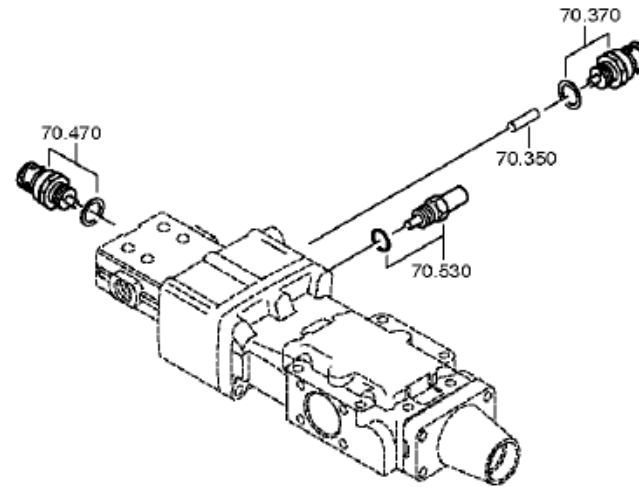
Material number: 1316.051.196

Plant: 068.08.15-1

SHIFT TURRET



16 S 221 /  
SHIFT TURRET



# Parts list

Page 1 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.08.17-1

Material-assembly-group-no: 1316.170.001

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1304.307.425	100CP4633	GEAR SHIFT COVER	1					
20	0501.318.308	1395308	GASKET	1					
30	---		HEXAGON SCREW	4		Z00007891312	M8X30		
---	0636.100.797		HEXAGON SCREW	4		Z00007891310	M8X30		
---	0630.100.295	436-4451	WASHER	4		Z00007158414			
100	0634.307.367		SCRAPER	1					
110	---		SHAFT SEAL	1		C01008933B10	25X35X7		
---	0734.300.196	0734300196	SHAFT SEAL	1			25X35X7 FA.CFW		
140	0730.260.330	3120-12-177-0347	BEARING BUSH	1			A=20,00 IN 0730 260 546(2)		
160	0634.300.020	5330-12-183-7877	SHAFT SEAL	1			25X32X5		
200	1315.307.140		HOUSING	1			GASSEN-SPERRE		
210	1315.307.012	1290993	GASKET	1					
230	---		HEXAGON SCREW	3		Z00007069014	M8X85		
---	0636.011.764		HEXAGON SCREW	3		Z00007069013	M8X85		
---	0630.100.295	436-4451	WASHER	3		Z00007158414			
250	---		HEXAGON SCREW	3		Z00007069014	M8X85		
---	0636.011.764		HEXAGON SCREW	3		Z00007069013	M8X85		
---	0630.100.295	436-4451	WASHER	3		Z00007158414			
260	0631.306.226		CYLINDRICAL PIN	2			6X32		
270	0730.006.347	S301607	RING	1			A=6,00		
280	1304.307.019		DETENT LEVER	1					
290	---		SEALING CAP	2			14		
---	0630.361.032	7009801	SEALING CAP	2					
300	0631.306.226		CYLINDRICAL PIN	2			6X32		
310	0730.006.347	S301607	RING	1			A=6,00		
320	1304.307.019		DETENT LEVER	1					
330	---		SEALING CAP	2			14		
---	0630.361.032	7009801	SEALING CAP	2					
350	0731.208.230	ZF-0731 208 230	PIN	1			A=30,0		
370	---		SWITCH	1		Z00004287211	OEFF*45N.M*DICHTRING*BAJONETT* SCHUTZKAPPE		
---	0501.219.856	1946804	SWITCH	1			OEFFNER DIN BAJONETT		
---	0634.801.062	1698381	SEALING RING	1			18X24		

# Parts list

Page 2 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.08.17-1

Material-assembly-group-no: 1316.170.001

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
470	---		SWITCH	1		Z00025033610	SCHL*45N.M*DICHTRING*BAJONETT* SCHUTZKAPPE		
---	0501.331.660	2007380	SWITCH	1		Z00025033617			
---	0634.801.062	1698381	SEALING RING	1		Z00025033617	18X24		
530	---		DETENT PLUNGER	1			168N*50N.M*WL		
---	1324.207.004	1882876	DETENT PLUNGER	1		Z00009531710	KPL. *168 N		
---	0630.000.072	1000000168	SHIM RING	1			16X22X1		
600	---		SCREW	1		Z00010146310	M22X1,5		
---	1315.307.736		SCREW	1		Z00010146312	M22X1,5		
---	0730.009.515	0730009515	SEALING RING	1		Z00010146312	A22X27		
610	0630.001.051		WASHER	1					
620	0732.040.986	0692228	COMPRESSION SPRING	1					
640	---		SCREW	1		Z00010146310	M22X1,5		
---	1315.307.736		SCREW	1		Z00010146312	M22X1,5		
---	0730.009.515	0730009515	SEALING RING	1		Z00010146312	A22X27		
650	0630.001.051		WASHER	1					
660	0732.040.986	0692228	COMPRESSION SPRING	1					



# Plant

Page 1 from 1

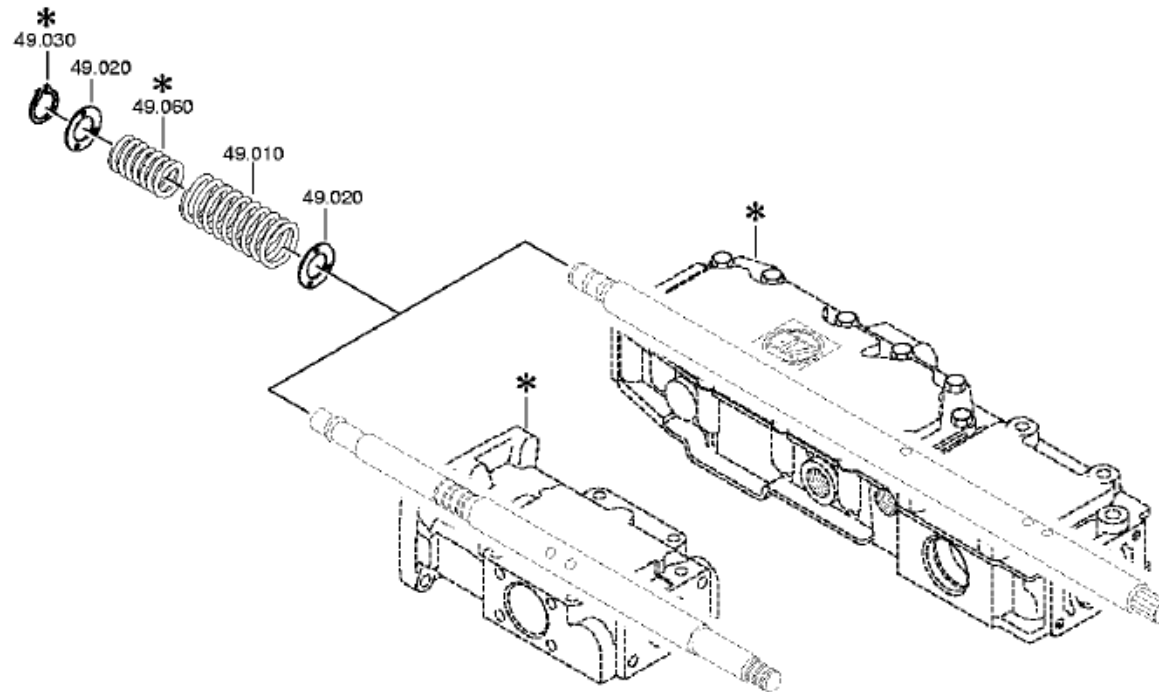
Material number: 1316.051.196

Plant: 068.12.01-1

Material-assembly-group-no: 1316.149.005



16 S 221 /  
SET OF SPRINGS



# Parts list

Page 1 from 1

Material number: 1316.051.196

Plant: 068.12.01-1

Material-assembly-group-no: 1316.149.005



16 S 221 /

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	0732.040.630	0971350020	COMPRESSION SPRING	1					
20	0730.301.376	1884285	WASHER	2		Z00008917410			
30	0630.532.138	5004143	V-RING	1					

# Plant

Page 1 from 2

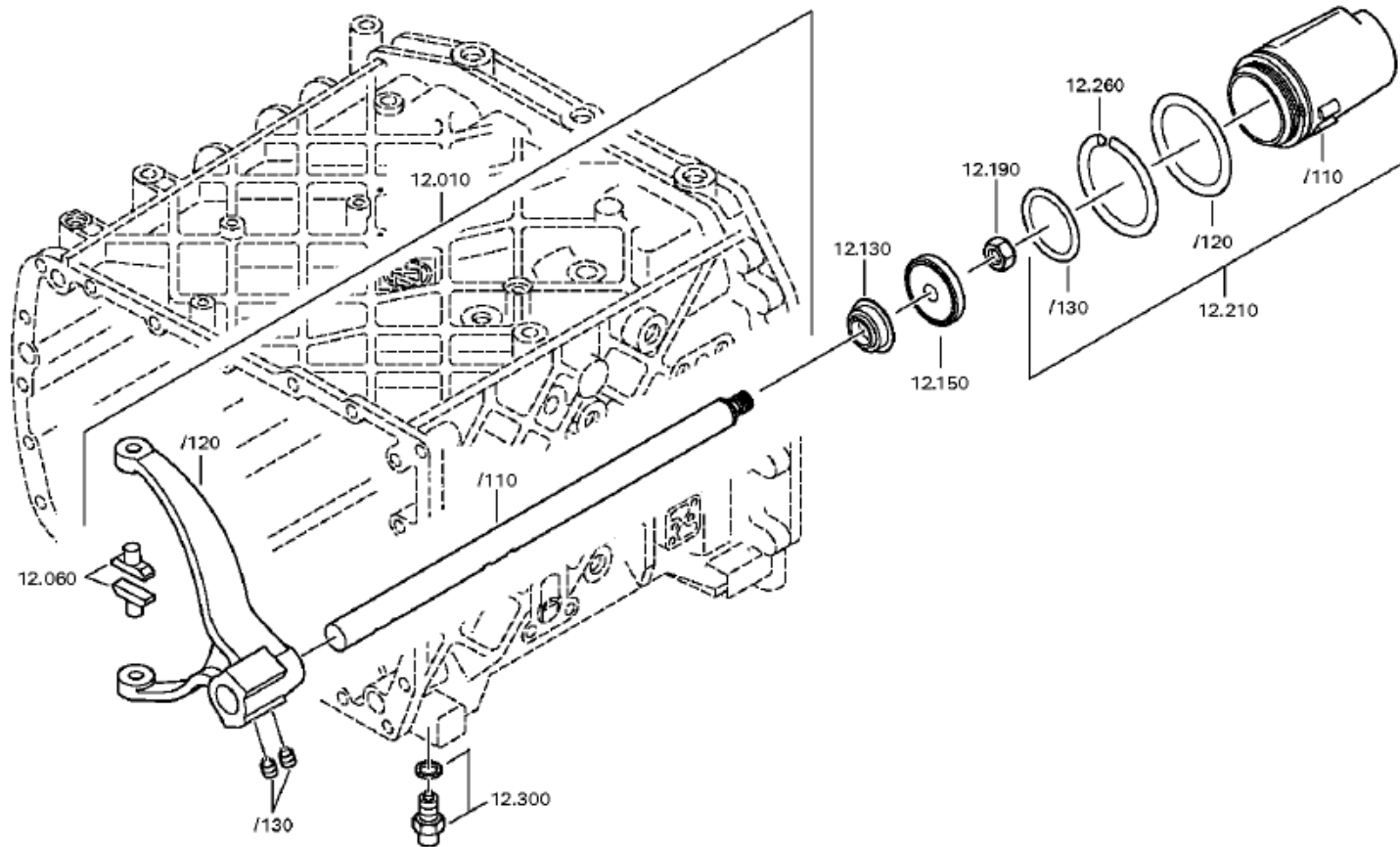
Material number: 1316.051.196

Plant: 068.40.04-1

GV-SHIFT SYSTEM



16 S 221 /  
GV-SHIFT SYSTEM



# Plant

Page 2 from 2

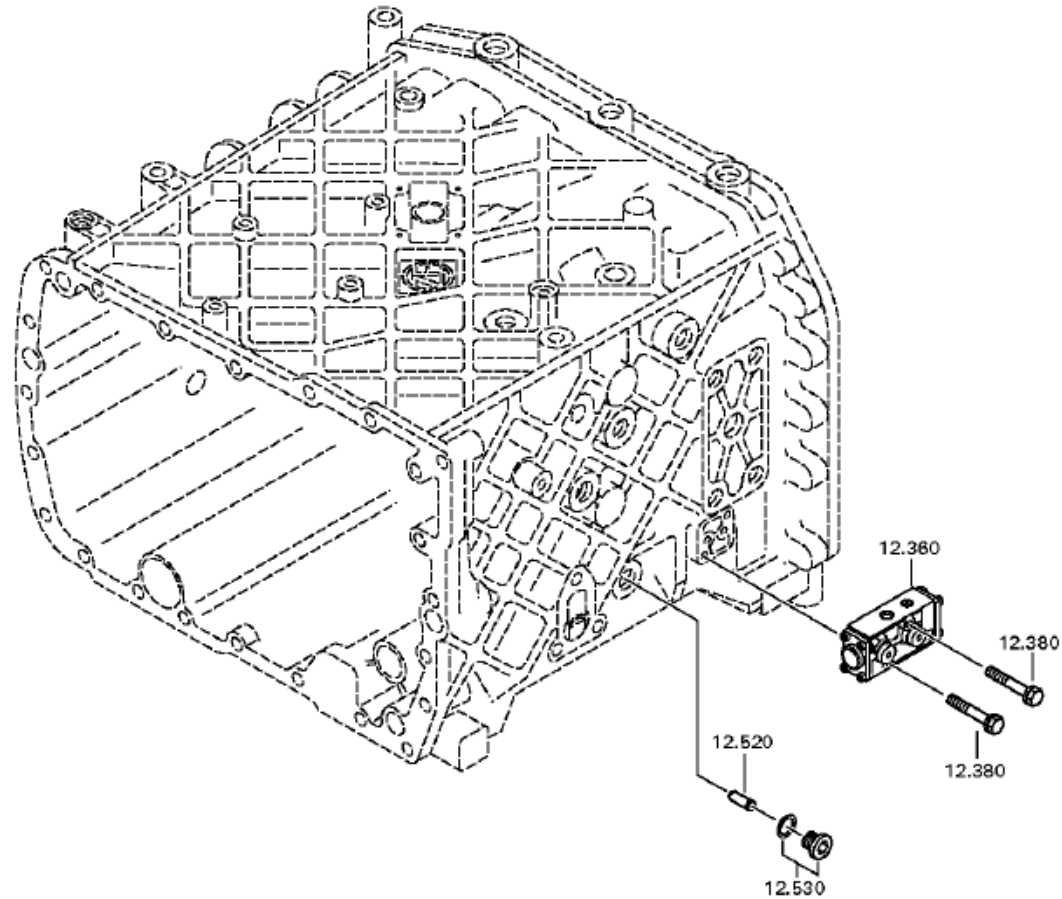
Material number: 1316.051.196

Plant: 068.40.40-1

GV-SHIFT SYSTEM



16 S 221 /  
GV-SHIFT SYSTEM



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.40.04-1

Material-assembly-group-no: 1316.112.014

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.212.010		GEAR SHIFT RAIL	1		Z00012212711	KPL.GV.LAG.GEH.1		
/110	1316.312.023	1604639	GEAR SHIFT RAIL	1					
/120	1315.312.074		GEAR SHIFT FORK	1			GV ECO 3		
/130	1315.312.047	42172912	SET SCREW	2			M12X1		
60	1316.306.015	5 5342 0	SLIDING PAD	2		Z00012212711			
130	0750.112.131	8 8342 0	FLANGE PACKING	1		Z00012212711	25X40X15		
150	0501.324.670	1887735	PISTON	1		Z00012212711			
190	0737.300.037	1874075	LOCKING NUT	1			MS16X1,5		
210	1316.212.007		CYLINDER	1		Z00012212711	KPL.		
/110	1316.312.015	1317310	CYLINDER	1			ENTHALT.IN 1315 312 033(1)		
/120	0634.313.018	TTZF140097	O-RING	1			82X3		
/130	0634.313.320	8 8327 0	O-RING	1			67X3		
260	1315.312.034		SPRING	1		Z00012212711			
300	---		DETENT PLUNGER	1		Z00012212711	235N*50N.M		
---	1324.207.033	H0472564	DETENT PLUNGER	1			KPL. *235 N		
---	0730.008.604	286526519940	SEALING RING	1		C01009860C10			
360	0501.219.309	1897663	5/2 WAY VALVE	1		Z00015060510			
380	0636.100.468	1897021	SCREW WITH WASHER ASSEMBLY	2		Z00021359310	M6X40		
520	1295.212.006		PIN	1			KPL.		
530	---		SCREW PLUG	1		Z00010111513	35N.M*DICHTRING M18X1,5		
---	0636.100.791		SCREW PLUG	1		Z00010111521	M18X1,5		
---	0634.801.062	1698381	SEALING RING	1		Z00010111521	18X24		

# Plant

Page 1 from 5

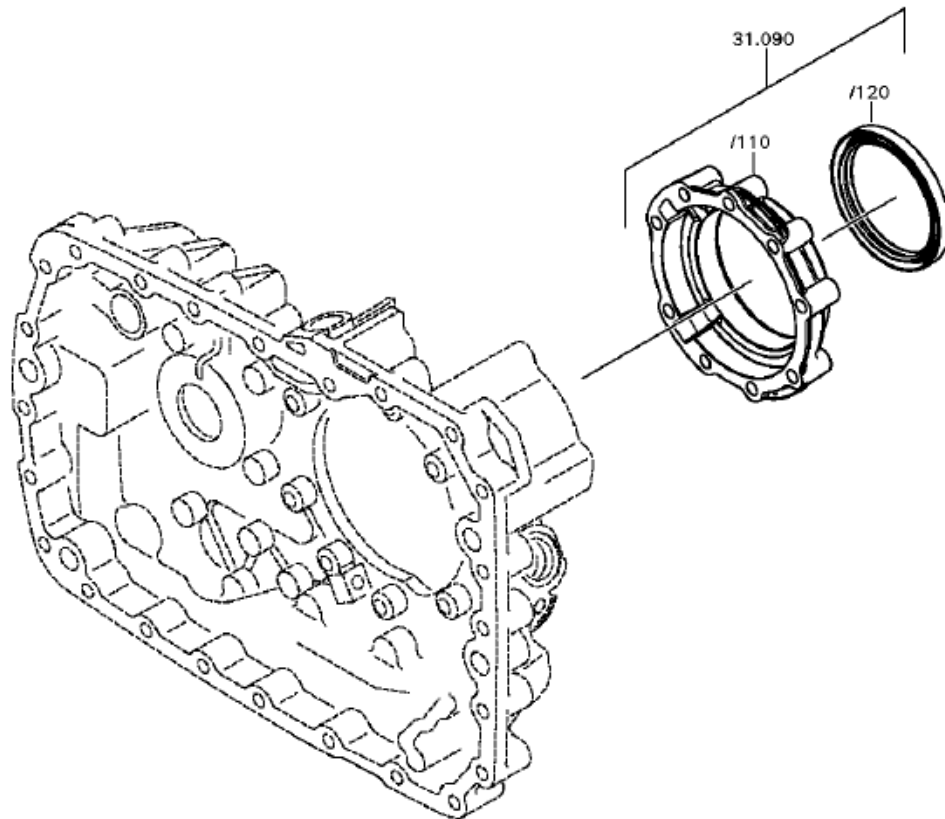
Material number: 1316.051.196

Plant: 068.43.21-1

COVER



16 S 221 /  
COVER



# Plant

Page 2 from 5

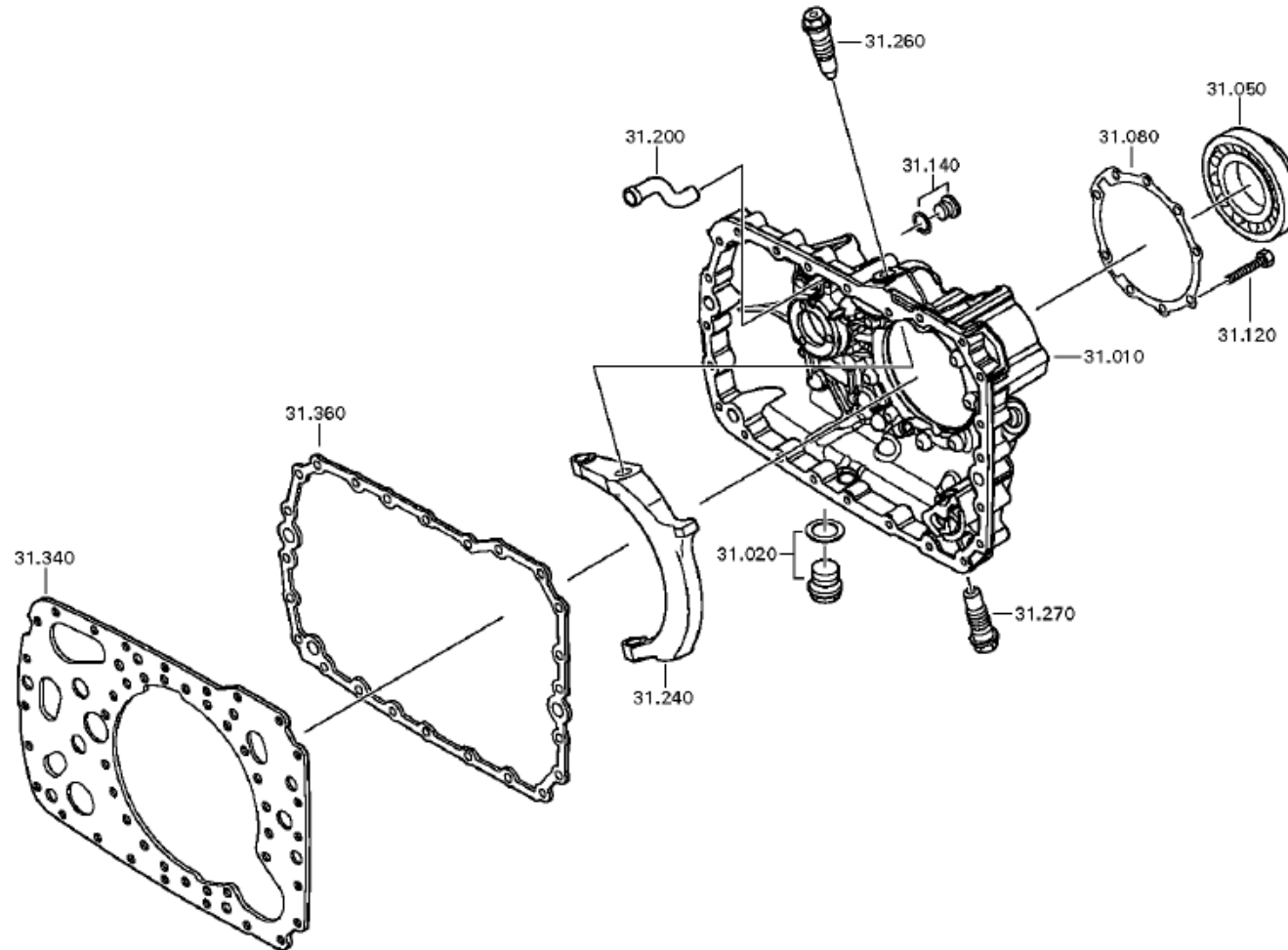
Material number: 1316.051.196

Plant: 068.43.06-1

COVER



16 S 221 /  
COVER



# Plant

Page 3 from 5

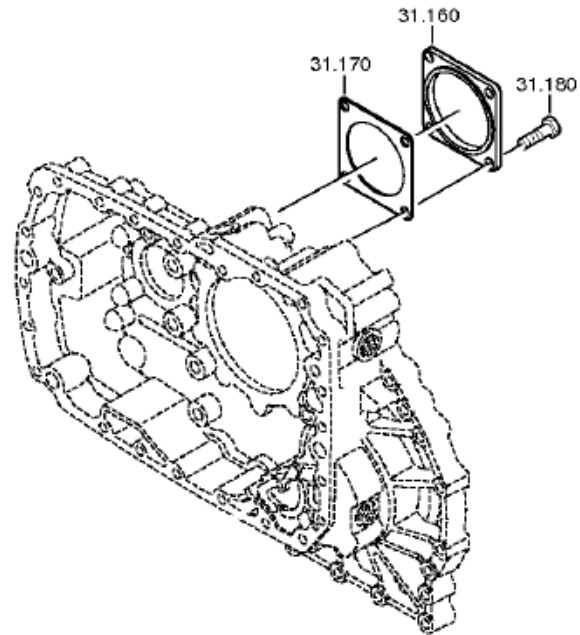
Material number: 1316.051.196

Plant: 068.43.40-1

COVER



16 S 221 /  
COVER





# Plant

Page 4 from 5

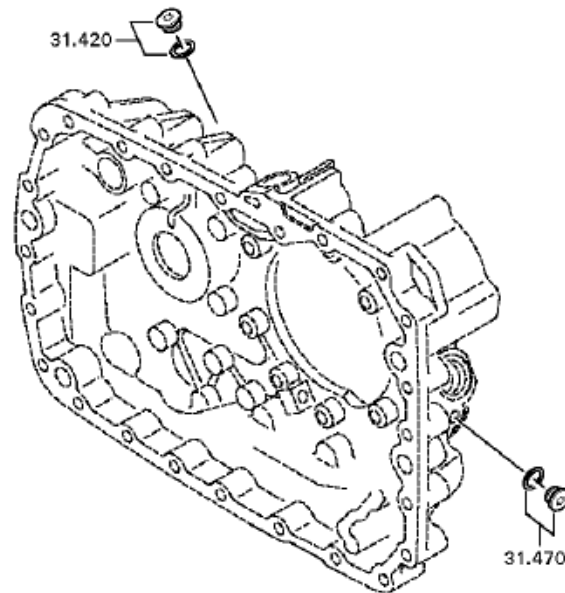
Material number: 1316.051.196

Plant: 068.43.45-1

COVER



16 S 221 /  
COVER



# Plant

Page 5 from 5

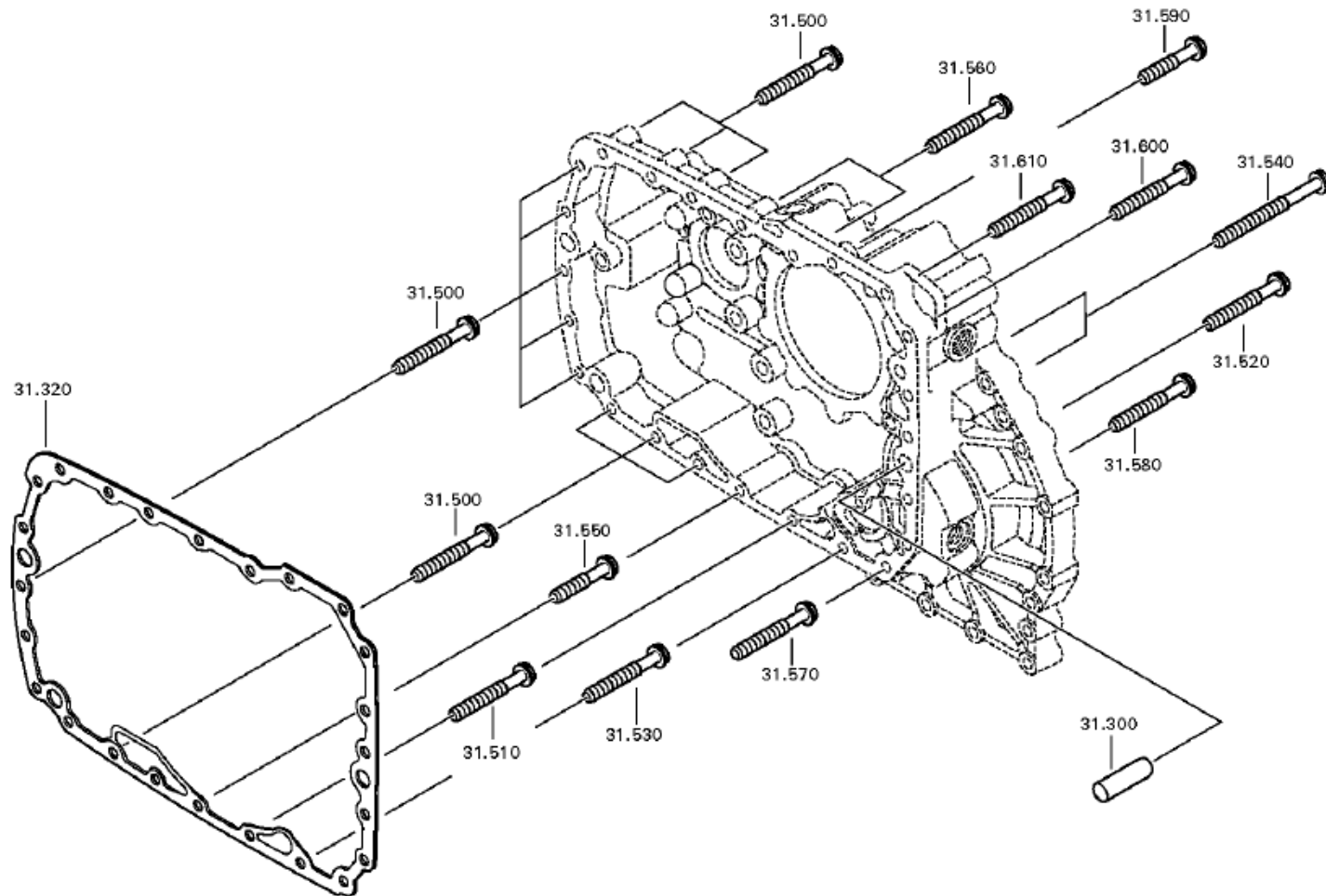
Material number: 1316.051.196

Plant: 068.43.80-1

COVER



16 S 221 /  
COVER



# Parts list

Page 1 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.43.21-1

Material-assembly-group-no: 1315.131.047

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1315.301.224		HOUSING	1			ENTHALT.IN 1315 301 222(0)		
20	---		SCREW PLUG	1		Z00010112111	60N.M*DICHTRING M24X1,5		
---	0636.304.088	1882905	SCREW PLUG	1		Z00010112110	M24X1,5		
---	0730.008.637	1428103	SEALING RING	1		Z00010112110	24X29		
50	0750.116.394	5 8092 0	BALL BEARING	1		C01007214E10	90,0X160,0X30,0		
80	1315.331.001	1621206	GASKET	1		C01005350C10			
90	1315.231.004		COVER	1			KPL.		
/120	0750.111.341	8 8812 0	SHAFT SEAL	1			105X130X12		
//10	0734.319.253		SHAFT SEAL	1			105X130X12 FA.CFW		
//20	0734.319.551		SHAFT SEAL	1					
120	0636.016.405		HEXAGON SCREW	9		Z00007060111	M10X60		
140	---		SCREW PLUG	1		C01004359F10	15N.M*DICHTRING M10X1		
---	0636.100.793	ZGAQ-01759	SCREW PLUG	1		Z00010111613	M10X1		
---	0730.008.055		SEALING RING	1			10X14		
160	1328.301.170	1878388	COVER	1		Z00008068010			
170	1238.308.201	5006880	GASKET	1			ENTHALT.IN 1238 308 202(2)		
180	0636.016.406		HEXAGON SCREW	4		Z00007061014	M12X25		
200	1296.301.008	70561090	SPRAY TUBE	1					
240	1315.334.039		GEARSHIFT FORK	1					
260	---		SWIVEL SCREW	1		Z00004075611	O.SCHEIBE M24X1,5 SK6		
---	1315.334.074	1877888	SWIVEL SCREW	1		Z00004075610			
270	---		SWIVEL SCREW	1		Z00004075611	O.SCHEIBE M24X1,5 SK6		
---	1315.334.074	1877888	SWIVEL SCREW	1		Z00004075610			
300	0731.201.563	1290941	CYLINDRICAL PIN	3					
320	1316.301.042	133-158-1320	GASKET	1					
340	1315.301.118	H0166247	INTERMEDIATE PLATE	1			ENTHALT.IN 1315 301 144(0)		
360	1316.301.042	133-158-1320	GASKET	1					
420	---		SCREW PLUG	1		Z00010111513	35N.M*DICHTRING M18X1,5		
---	0636.100.791		SCREW PLUG	1		Z00010111521	M18X1,5		
---	0634.801.062	1698381	SEALING RING	1		Z00010111521	18X24		
470	---		SCREW PLUG	1		Z00010111513	35N.M*DICHTRING M18X1,5		
---	0636.100.791		SCREW PLUG	1		Z00010111521	M18X1,5		
---	0634.801.062	1698381	SEALING RING	1		Z00010111521	18X24		
500	0736.300.123	1880233	HEXAGON SCREW	11			M10X70 M10X70		

# Parts list

Page 2 from 2



16 S 221 /

Material number: 1316.051.196

Plant: 068.43.21-1

Material-assembly-group-no: 1315.131.047

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
510	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
520	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
530	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
540	0736.300.122		HEXAGON SCREW	2		Z00009403110	M10X110 M10X110		
550	0736.300.134		HEXAGON SCREW	1		Z00011103210	M10X45 M10X45		
560	0736.300.123	1880233	HEXAGON SCREW	2			M10X70 M10X70		
570	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
580	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
590	0736.300.134		HEXAGON SCREW	1		Z00011103210	M10X45 M10X45		
600	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		
610	0736.300.123	1880233	HEXAGON SCREW	1			M10X70 M10X70		



# Plant

Page 2 from 2

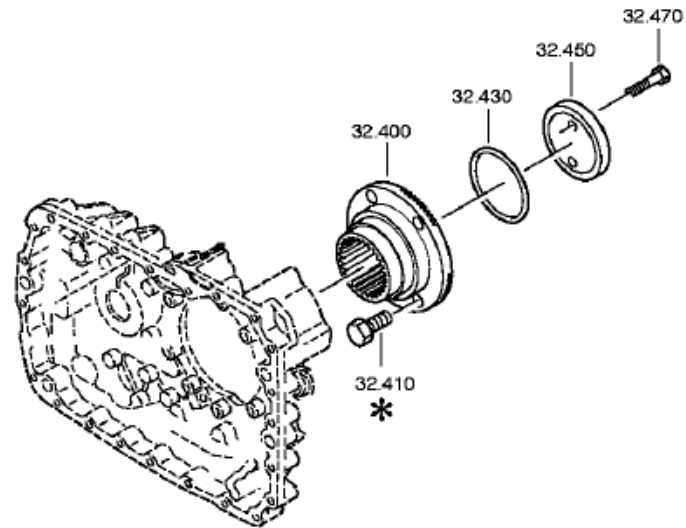
Material number: 1316.051.196

Plant: 068.44.41-1

PLANETARY DRIVE



16 S 221 /  
PLANETARY DRIVE



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.44.03-1

Material-assembly-group-no: 1316.132.014

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.232.038		PLANET CARRIER	1		Z00014438012			
40	1312.232.014		PLANET GEAR SET	1			KPL.		
50	0730.107.168		INTERMEDIATE WASHER	15			A=1,00 IN 0730 105 951(2)		
60	0501.308.981		WASHER	10			ENTHALT.IN 0501 304 086(2)		
70	0750.119.160		ROLLER	140		Z00025484311	10,0X16,8		
90	1316.332.142	1935804	PLANET SHAFT	5		Z00014438012			
110	0631.329.147	1909945	SLOTTED PIN	5		Z00014438012	6X26		
120	0631.329.261	1909946	SLOTTED PIN	5			3,5X26		
140	1316.332.129		RING GEAR CARRIER	1		C01007308F10			
170	0635.338.035	1227592	BALL BEARING	1			100X125X13		
190	---		SNAP RING	1		C01006763B10	H= 2,00- 2,40(ABSTUFUNG:0,10MM)		
---	0730.513.917		SNAP RING	1			A=2,40		
---	0730.513.916		SNAP RING	1			A=2,30		
---	0730.513.915		SNAP RING	1			A=2,20		
---	0730.513.914		SNAP RING	1			A=2,10		
---	0730.513.913		SNAP RING	1			A=2,00		
210	1295.332.086	0069091	RING GEAR	1		C01007204A10	Z86 IN 1295 332 085(1)		
220	0730.505.056		LOCKING WIRE	1			A=3,20 IN 0730 505 052(2)		
350	1297.238.005		BUSH	1			KPL.		
400	1297.333.110	H0176297	OUTPUT FLANGE	1			ENTHALT.IN 1314 332 007(0)		
430	0634.313.805	1351646	O-RING	1		C01007959910	82X4		
450	1312.332.028		WASHER	1					
470	0636.011.777		HEXAGON SCREW	2		Z00007292012	M12X60		

# Plant

Page 1 from 2

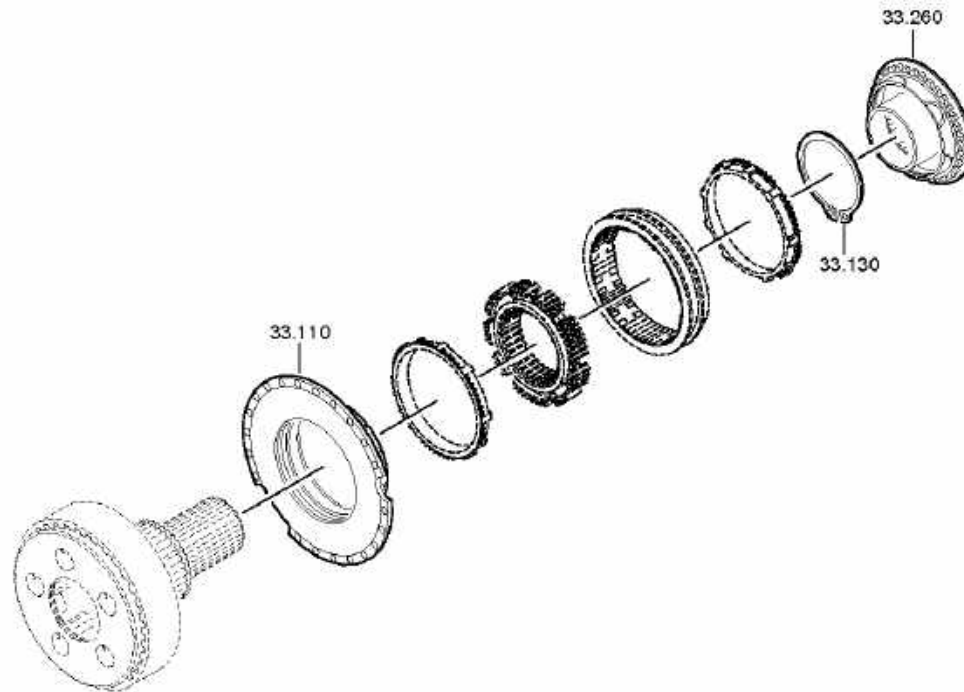
Material number: 1316.051.196

Plant: 068.45.02-1

SYNCHRONIZER



16 S 221 /  
SYNCHRONIZER





# Plant

Page 2 from 2

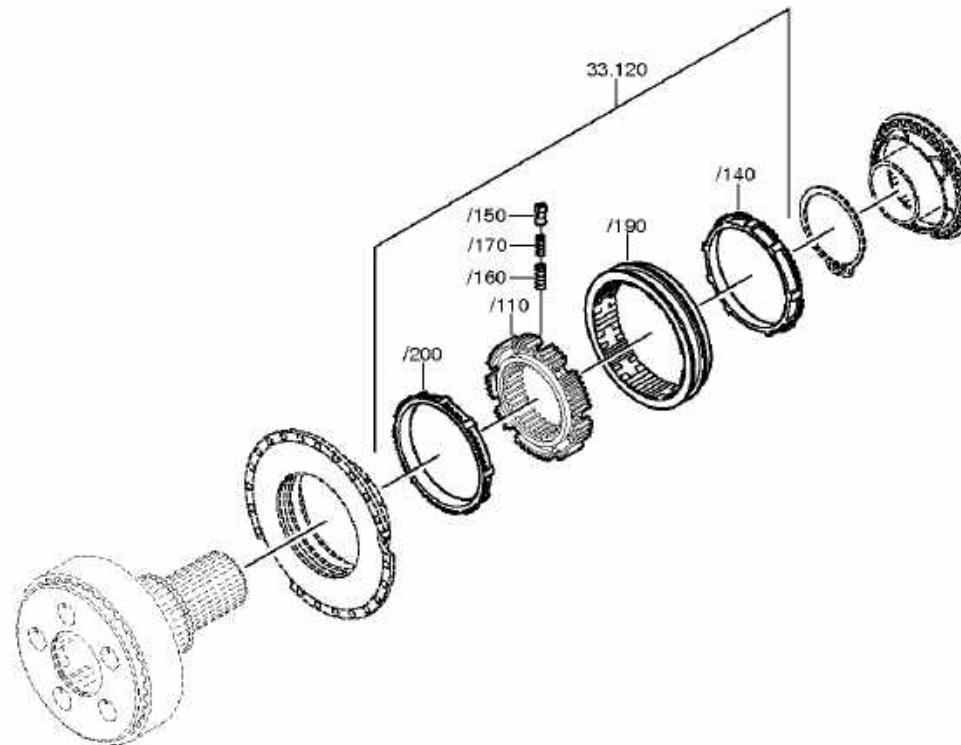
Material number: 1316.051.196

Plant: 068.45.40-1

SYNCHRONIZER



16 S 221 /  
SYNCHRONIZER



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.45.02-1

Material-assembly-group-no: 1316.133.002

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
80	1272.298.934		SMALL COMP.SET	1			KPL.5S90*GP*SYNCHRONIESIE.		
110	1315.233.006	5 5331 0	CLUTCH BODY	1			KPL. IN 1315 233 007(0)		
120	1316.233.021		SYNCHRONIZER	1			KPL.PROFIL 90 GV-GP 16S221		
/110	1297.333.115		SYNCHRO.BODY	1			ENTHALT.IN 1296 333 014(1)		
/140	1296.333.045	5 5301 0	SYNCHRO.RING	1					
/150	1240.304.278	3362640239	PRESSURE PART	9					
/160	0732.040.385	3362640693	COMPRESSION SPRING	9					
/170	0732.040.386	3362640793	COMPRESSION SPRING	9					
/190	1316.333.034	1780340	SLIDING SLEEVE	1		C01007317F10	ZF-B 165/74 GP		
/200	1296.333.045	5 5301 0	SYNCHRO.RING	1					
130	0630.501.175	0692274	RETAINING RING	1		Z00006943010	125X3,7		
260	1316.233.030		CLUTCH BODY	1		C01007308F10	KPL. ZF-B 165/74		

# Plant

Page 1 from 1

Material number: 1316.051.196

Plant: 073.98.01-1

Material-assembly-group-no: 1272.298.934



16 S 221 /  
SMALL COMP.SET



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 073.98.01-1

Material-assembly-group-no: 1272.298.934

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
80	1272.298.934		SMALL COMP.SET	1			KPL.5S90*GP*SYNCHRONIESIE.		

# Plant

Page 1 from 2

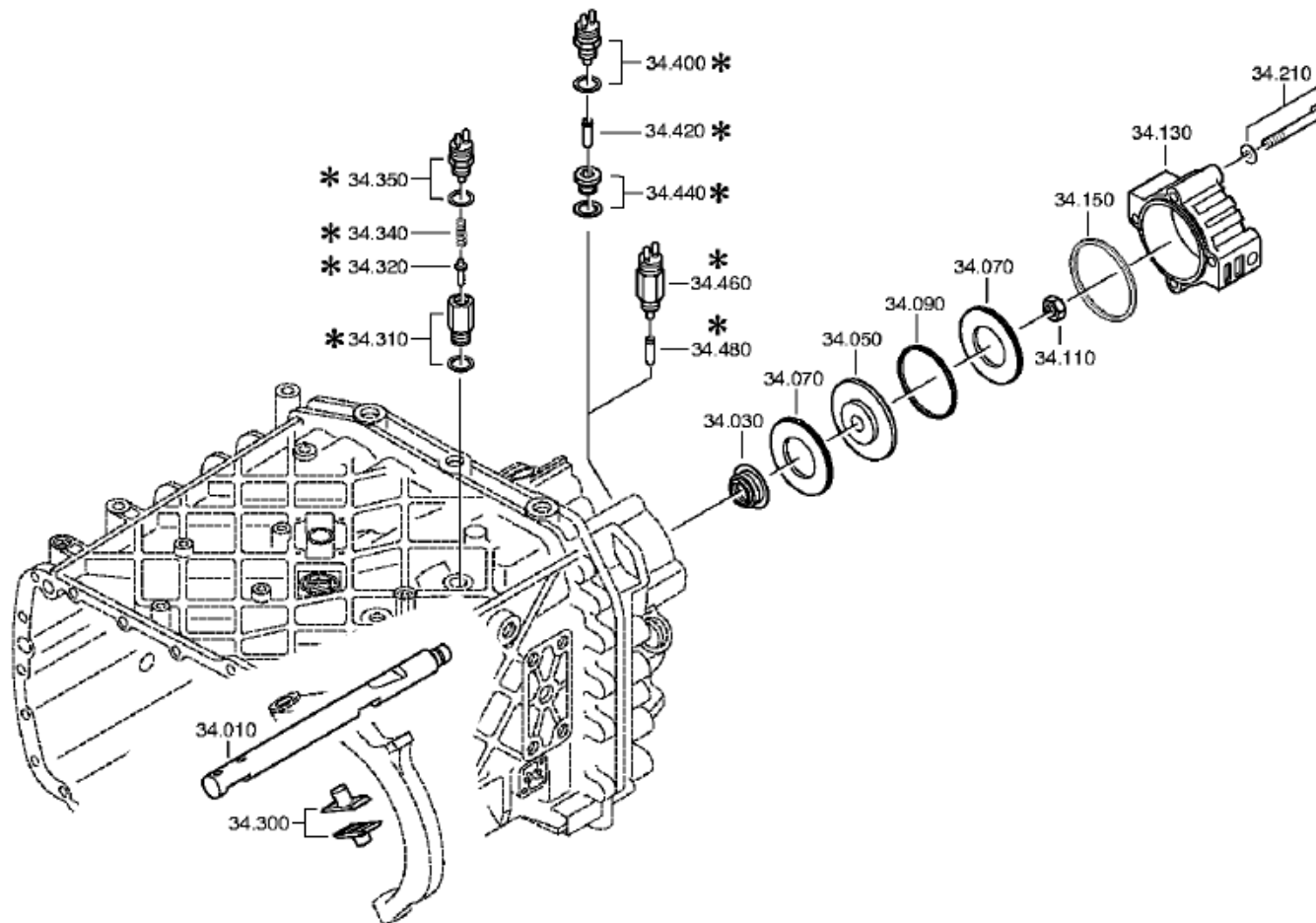
Material number: 1316.051.196

Plant: 068.46.02-1

GP SHIFT SYSTEM



16 S 221 /  
GP SHIFT SYSTEM



# Plant

Page 2 from 2

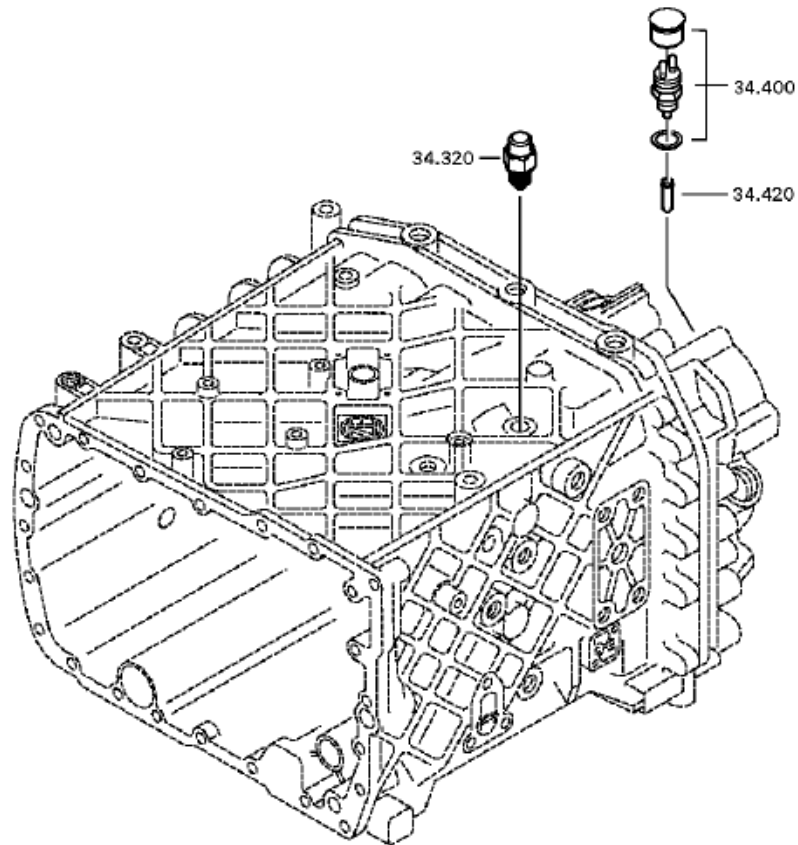
Material number: 1316.051.196

Plant: 068.46.40-1

GP SHIFT SYSTEM



16 S 221 /  
GP SHIFT SYSTEM



# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.46.02-1

Material-assembly-group-no: 1316.134.021

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.334.016	1781368	GEAR SHIFT RAIL	1					
30	0750.112.253	5 8342 0	FLANGE PACKING	1			25X40X15		
50	---		PISTON	1			GP		
---	1315.334.034		PISTON	1			ENTHALT.IN 1315 334 040(2)		
---	1315.334.063		PISTON	1					
70	0734.307.294	5 8400 0	SEALING RING	2			49X91X7,4 FA.KACO		
90	0750.112.066	5 5131 0	GUIDE RING	1					
110	0737.300.037	1874075	LOCKING NUT	1			MS16X1,5		
130	1315.334.069	5 5836 0	CYLINDER	1					
150	0501.317.536	5 6096 0	PROFILE SEALING RING	1					
210	---		HEXAGON SCREW	4		Z00007349210	M10X90		
---	0636.015.688	1896739	HEXAGON SCREW	4		Z00007349212	M10X90		
---	0630.100.294	1894557	WASHER	4		Z00007158111			
300	1296.334.004	5 5174 0	SLIDING PAD	2					
320	---		DETENT PLUNGER	1			145N*50N.M		
---	1324.207.035	H0472239	DETENT PLUNGER	1			KPL. *145 N		
---	0730.008.604	286526519940	SEALING RING	1					
400	---		SWITCH	1		Z00025033610	SCHL*45N.M*DICHTRING*BAJONETT* SCHUTZKAPPE		
---	0501.331.660	2007380	SWITCH	1		Z00025033617			
---	0634.801.062	1698381	SEALING RING	1		Z00025033617	18X24		
420	1295.212.006		PIN	1			KPL.		

# Plant

Page 1 from 1

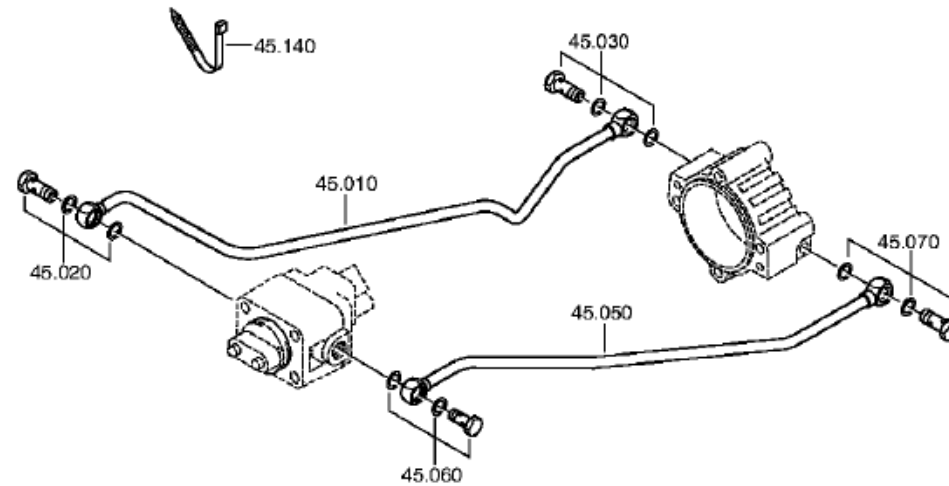
Material number: 1316.051.196

Plant: 068.57.04-1

Material-assembly-group-no: 1316.145.002



16 S 221 /  
RANGE SELECTION





# Parts list

Page 1 from 1



16 S 221 /

Material number: 1316.051.196

Plant: 068.57.04-1

Material-assembly-group-no: 1316.145.002

Pos.	Material number	Customer material	Name	Quantity	ME	Amend. no.	Techn. Info.	Rep kit	Alternative material
10	1316.245.012		TUBE	1		C01003831B10	KPL.GP RE*L=589MM*12X1,5		
/110	0737.300.040		RING PIECE	1		Z00008929310			
/120	1316.345.007		TUBE	1					
/130	0737.300.040		RING PIECE	1		Z00008929310			
20	---		UNION SCREW	1		Z00010274511	M14X1,5		
---	0737.300.061	1907567	UNION SCREW	1		Z00012473710	M14X1,5		
---	0634.801.217	99707034424	SEALING RING	1		Z00010274513	14X20		
30	---		UNION SCREW	1		Z00010274511	M14X1,5		
---	0737.300.061	1907567	UNION SCREW	1		Z00012473710	M14X1,5		
---	0634.801.217	99707034424	SEALING RING	1		Z00010274513	14X20		
50	1316.245.013		TUBE	1		C01003831B10	KPL.GP LI*L=605MM*12X1,5		
60	---		UNION SCREW	1		Z00010274511	M14X1,5		
---	0737.300.061	1907567	UNION SCREW	1		Z00012473710	M14X1,5		
---	0634.801.217	99707034424	SEALING RING	1		Z00010274513	14X20		
70	---		UNION SCREW	1		Z00010274511	M14X1,5		
---	0737.300.061	1907567	UNION SCREW	1		Z00012473710	M14X1,5		
---	0634.801.217	99707034424	SEALING RING	1		Z00010274513	14X20		
140	0659.160.081		CABLE CLIP	1		C01006654E10	4,7X210		