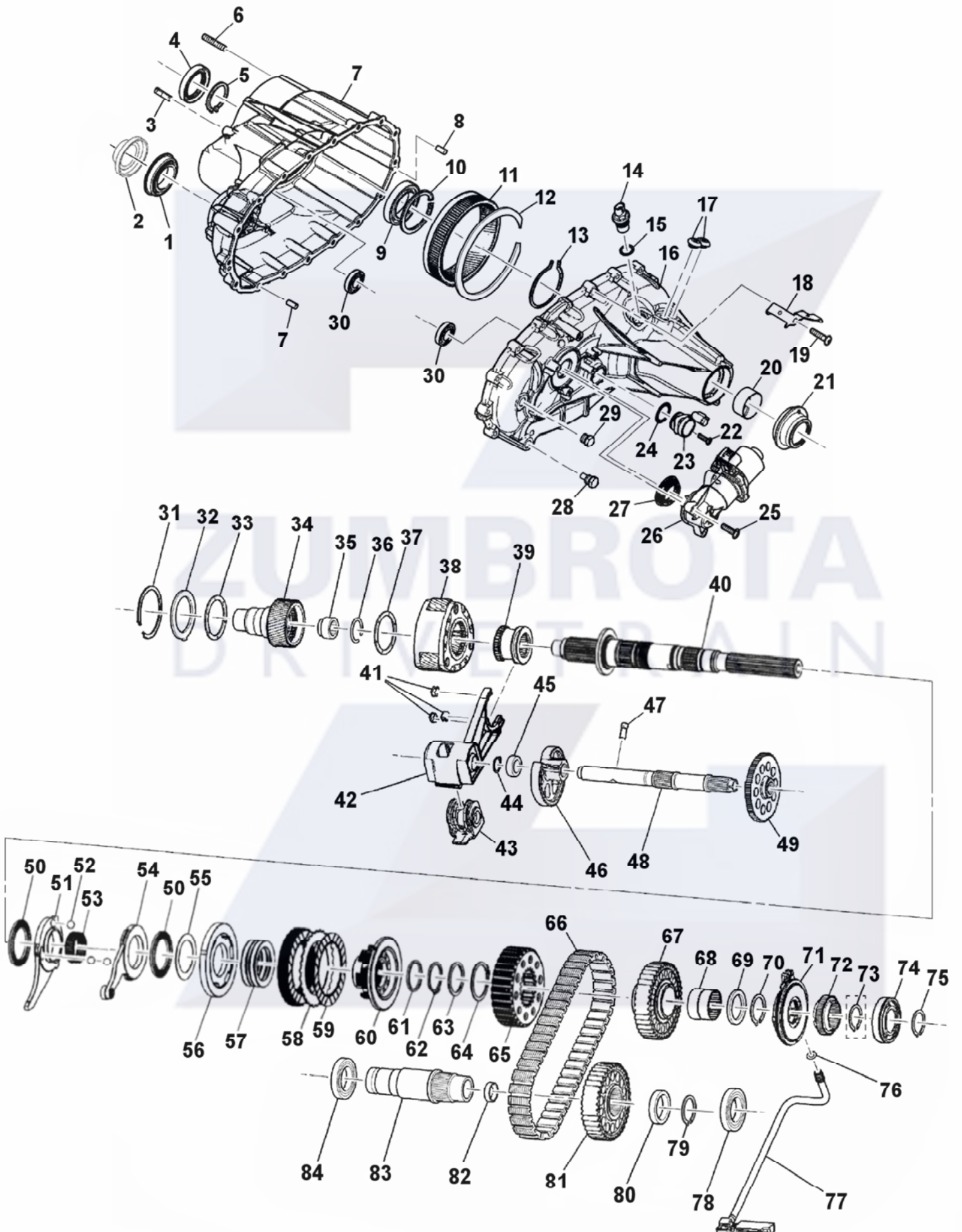


# NQH - MP 3023/3024



## MP3023/3024 - GM option code NQH

Item #	Description	Application	Notes	GM Part#	ZBAG Part#
1.	Front output seal			19133157 19259179	ZTSEA447316
2.	Front output seal dust shield			19259182	Call
3.	Vent tube			19133166	ZTMP19133166
4.	Input seal	MP3023	w/M30-4L60/M70-4L70/M99-Hybrid trans Can be used on all applications Double lip seal	19133155 24299083	ZTSEA13362
		MP3023/3024	w/MYC-6L80/MYD-6L90 transmission Single lip seal	19133156 24299084	Use ZTSEA13362
5.	Input bearing to shaft snap ring			19133024	Call
6.	Mounting stud			19133005	GM19133005
7.	Front case half	2007-12 MP3023/3024 First design planetary		19132998	Call
		2012-16 MP3023/3024 Second design planetary	Use when updating 2007-12 MP3023/3024	19299077	ZTNP19299077
8.	Dowel pin			19133004	Call
9.	Input bearing			19133006	BRG6010N
10.	Input bearing to case snap ring			19133007	Call
11.	Annulus gear			N/A	Call
12.	Annulus gear to case snap ring	2007-12 MP3023/3024 First design planetary		19133009	Call
		2012-16 MP3023/3024 Second design planetary	Use when updating 2007-12 MP3023/3024	14037953	Call
13.	Rear mainshaft bearing to case snap ring			19168238	Call
14.	Speed sensor			12376520	Call
15.	Speed sensor O-ring			19133158	ZTSEAS020
16.	Rear case half	MP3023	w/M30-4L60/M70-4L70/M99- Hybrid/MYC-6L80 transmission w/32 spline mainshaft	19133139	ZTMP19133139
		MP3024	w/MYD-6L90 transmission w/31 spline mainshaft	19133140	ZTMP19133140
17.	Rear case access hole plug			19133165	ZTSEA40113
18.	Wire loom bracket			19133154	Call
19.	Case half bolt			19169068	Call
20.	Tail bushing	MP3023	w/M30-4L60/M70-4L70/M99- Hybrid/MYC-6L80 transmission w/32 spline output shaft	15665313	ZTBSH17475
		MP3024	w/MYD-6L90 transmission w/31 spline mainshaft	89059588	ZTBSH18172
21.	Rear seal	MP3023	w/M30-4L60/M70-4L70/M99- Hybrid/MYC-6L80 transmission w/32 spline mainshaft	19133150 24233898	ZTSEA5191
		MP3024	w/MYD-6L90 transmission w/31 spline mainshaft	19133151 24226707	ZTSEA21938
22.	Position sensor retaining bolt			19133161	Call
23.	Position sensor			19133159	Call
24.	Position sensor seal			19133160	ZMSEAS030
25.	Shift motor retaining bolt			19179124	Call
26.	Shift motor			19133168 24256064 19258696	ZTSM600-899
27.	Shift motor seal			19133207	ZTSEA35587
28.	Drain plug		Aluminum	19133162	ZTNP30412
			Steel		ZTNP91340194
29.	Fill plug		Aluminum	15032997	ZTNP30412
			Steel		ZTNP91340194
30.	Shift shaft bearing			19133010	BRG16004
31.	Planetary snap ring	2007-12 MP3023/3024 First design planetary		19132997	ZTMP19132997
		2012-14 MP3023/3024 Second design planetary	Use when updating 2007-12 MP3023/3024	15547397	ZTNP83503527
32.	Planetary lock plate	2007-12 MP3023/3024 First design planetary	1 tab, all	19132996	ZTMP19132996
		2012-16 MP3023 Second design planetary	3 tab, w/3 pinion planetary Use when updating 2007-12 MP3023	19300745	Call
		2012-16 MP3024 Second design planetary	2 tab, w/6 pinion planetary Use when updating 2007-12 MP3024	15664905	ZTNP17483
33.	Front planetary thrust washer	2007-12 MP3023/3024 First design planetary	no tab, all	19132995	ZTMP19132995
		2012-16 MP3023/3024 Second design planetary	no tab, all	12470959	Call

\*\*\* Call for availability on items that do not have a ZBAG part number listed \*\*\*

## MP3023/3024 – GM option code NQH

Item #	Description	Application	Notes	GM Part#	ZBAG Part#
34.	Input shaft	2007-12 MP3023	w/M30-4L60/M70-4L70 transmission 27 spline, first design planetary	19132977	ZTMP19132977
		2007-12 MP3023	w/MYC-6L80/M99-hybrid transmission 32 spline, first design planetary	19132978	ZTMP19132978
		2007-12 MP3024	w/MYD-6L90 transmission 29 spline, first design planetary	19132979	ZTMP19132979
		2012-16 MP3023	w/M30-4L60/M70-4L70 transmission 27 spline, second design planetary Use when updating 2007-12 MP3023	19299085	ZTMP19299085
		2012-16 MP3023	w/ MYC-6L80/M99 hybrid transmission 32 spline, second design planetary Use when updating 2007-12 MP3023	19299088	Call
		2012-16 MP3024	w/MYD-6L90 transmission 29 spline, second design planetary Use when updating 2007-12 MP3024	19299086	Call
35.	Input pocket bearing	MP3023 w/27 or 32 spline input shaft	w/M30/M70/M99/MYC transmission 1.5” O.D. x 1.125” I.D.	19132983	BRGDB59856
		MP3024 w/29 spline Input shaft	w/MYD-6L90 transmission 1.625” O.D.	19132984	BRGDB73167
36.	Input pocket bearing retaining ring	MP3024 w/29 spline input	MYD-6L90 transmission w/31 spline mainshaft only	19132985	Call
37.	Rear planetary thrust washer	2007-12 MP3023/3024 First design planetary	no tab, 3 and 5 pinion planetary	19132995	ZTMP19132995
		2012-16 MP3023 Second design planetary	3 tab, w/3 pinion planetary	19300746	ZTNP45163
		2012-16 MP3024 Second design planetary	2 tab, w/6 pinion planetary	15547390	ZTNP16437
38.	Planetary gear assembly	2007-12 MP3023 First design planetary	3 pinion	19132986	ZTMP19132987
		2007-12 MP3024 First design planetary	5 pinion	19132987	ZTMP19132987
		2012-16 MP3023 Second design planetary	3 pinion	19299090	ZTNP4796903
		2012-16 MP3024 Second design planetary	6 pinion	19299091	ZTNP17869
39.	High/low range hub	2007-12 MP3023 First design planetary	w/M30-4L60/M70-4L70 transmission bias pointing engagement teeth, leading edges are not symmetrical	19133056 19260068	Call
		2007-12 MP3023/3024 First design planetary	w/M99-hybrid trans/MYC-6L80/MYD- 6L90 transmission, neutral pointing engagement teeth, leading edges are symmetrical	19133055 19260067	ZTMP19260067
		2012-16 MP3023 Second design planetary	w/M30-4L60/M70-4L70 transmission bias pointing engagement teeth, leading edges are not symmetrical Use when updating 2007-12 MP3023	19299092	Call
		2012-16 MP3023/3024 Second design planetary	w/M99-hybrid trans/MYC-6L80/MYD- 6L90 transmission, neutral pointing engagement teeth, leading edges are symmetrical Use when updating 2007-12 MP3023/3024	19299093	ZTMP19299093
40.	Mainshaft	MP3023	w/M30-4L60/M70-4L70/MYC-6L80 trans, 32 spline, 1.476” I.D. on rear bearing snap ring groove, 1.575” diameter on rear bearing surface	19133059	ZTMP19133059
		MP3023	w/M99-hybrid trans, 32 spline, 1.299” I.D. on rear bearing snap ring groove, 1.378” diameter on rear bearing surface	19178898	ZTMP19178898
		MP3024	w/MYD-6L90 transmission, 31 spline, 1.516” I.D. on rear bearing snap ring groove, 1.614” diameter on rear bearing surface	19133060	ZTMP19133060
41.	Range fork pads			19133033	ZTMP3023-28
42.	Range fork			19133031	ZTMP19133031
43.	Range fork spring assembly			19133034	Call
44.	Shift shaft snap ring			19133027	Call
45.	Shift shaft spacer			19133028	Call
46.	Mode assembly shift cam			19133029	Call
47.	Range fork pin			19133202	ZTMP19133202
48.	Shift shaft			19133025	Call
49.	Shift shaft gear			19133138	Call
50.	Thrust bearing			19133063	ZTMP19133063

\*\*\* Call for availability on items that do not have a ZBAG part number listed \*\*\*

## MP3023/3024 - GM option code NQH

Item #	Description	Application	Notes	GM Part#	ZBAG Part#
51.	Stationary mode lever	MP3023	0.374" thick between bearing surfaces Must update to MP3024 style w/GM19257393, GM19168257, GM19257394, and GM19168258	19133065	Call
		MP3024	0.413" thick between bearing surfaces Use when updating MP3023's to second design lever assembly	19168254 19257394	ZTMP19257394
52.	Actuating ball	MP3023	0.512" diameter	19133071	ZTMP19133071
		MP3024	0.394" diameter Use when updating MP3023's to second design lever assembly	19168257	ZTMP19168257
53.	Needle bearing			19133064	ZTMP19133064
54.	Control mode lever	MP3023	0.374" thick between bearing surfaces Must update to MP3024 style w/GM19257393, GM19168257, GM19257394, and GM19168258	19133066	Call
		MP3024	0.413" thick between bearing surfaces Use when updating MP3023's to second design lever assembly	19168255 19257393	ZTMP19257393
55.	Control actuator lever washer	MP3023	0.039" thick	19133072	ZTMP19133072
		MP3024	0.098" thick, Use when updating MP3023's to second design lever assembly	19168258	ZTMP19168258
56.	Pressure plate			19133073	ZTMP19133073
57.	Pressure plate return spring			19133074	ZTMP19133074
58.	Clutch pack steel			19133077	ZTMP19133077
59.	Clutch pack fiber			19133076	ZTMP19133076
60.	Clutch hub			19133075	ZTMP19133075
61.	Clutch pack shim		2.2mm thick	19133078	ZTMP19133078
			2.4mm thick	19133079	ZTMP19133079
			2.6mm thick	19133080	ZTMP19133080
			2.8mm thick	19133081	ZTMP19133081
			3.0mm thick	19133082	ZTMP19133082
			3.2mm thick	19133083	ZTMP19133083
			3.4mm thick	19133084	ZTMP19133084
			3.6mm thick	19133085	ZTMP19133085
			3.8mm thick	19133086	ZTMP19133086
			4.0mm thick	19133087	ZTMP19133087
			4.2mm thick	19133088	ZTMP19133088
			4.4mm thick	19133089	ZTMP19133089
			4.6mm thick	19133090	ZTMP19133090
			4.8mm thick	19133091	ZTMP19133091
62.	Clutch pack snap ring			19133092	ZTMP19133092
63.	Mainshaft spacer			19133112	ZTMP19133112
64.	Clutch drum snap ring			19133110	ZTMP19133110
65.	Clutch drum			19133109	ZTMP19133109
66.	Drive chain	MP3023 w/32 spline output shaft	1.25" wide	19133129	ZTCHHV501
		MP3024 w/31 spline output shaft	1.5" wide	19133130	ZTCHHV502
67.	Drive sprocket	MP3023 w/32 spline output shaft	1.071" wide	19133205	ZTMP19133205
		MP3024 w/31 spline output shaft	1.319" wide	19133206	ZTMP19133103
68.	Drive sprocket bearing		46x53x20, requires 2	19133111	BRGF553670
69.	Drive sprocket spacer			19169064	ZTMP19169064
70.	Drive sprocket snap ring			19133113	Call
71.	Oil pump			19133114	ZTMP19133114
72.	Speed sensor tone wheel		All except M99 hybrid trans w/M99-hybrid trans, 1.016" thick	19133124 19178899	Call Call
73.	Speed sensor snap ring	MP3023	w/M30-4L60/M70-4L70/MYC-6L80 trans, w/32 spline mainshaft, 1.476" I.D.	19133125	ZTMP19133125
		MP3024	w/MYD-6L90 transmission w/31 spline mainshaft, 1.516" I.D.	19133126	ZTMP19133126
74.	Rear mainshaft bearing	MP3023	w/M30-4L60/M70-4L70/MYC-6L80 trans, w/32 spline mainshaft, 1.575" I.D.	19133127	BRG6208N
		MP3023	w/M99-hybrid trans w/32 spline mainshaft, 1.378" I.D.	88962351	BRG573305D
		MP3024	w/MYD-6L90 transmission w/31 spline mainshaft, 1.614" I.D.	19133128	BRGB41-6

\*\*\* Call for availability on items that do not have a ZBAG part number listed \*\*\*

## MP3023/3024 - GM option code NQH

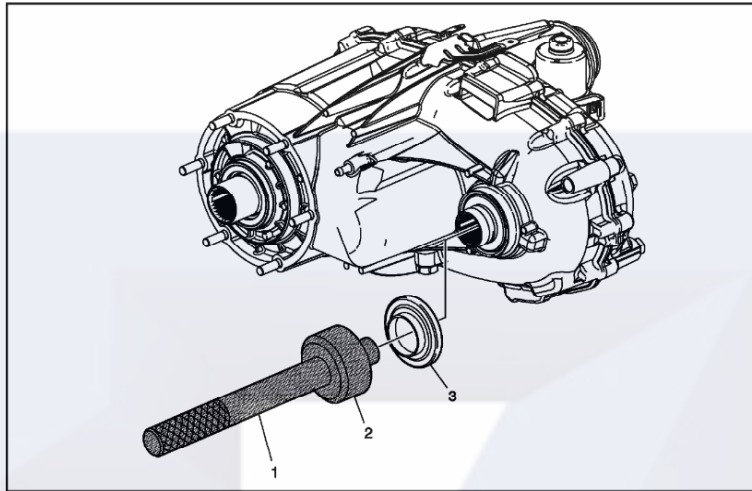
Item #	Description	Application	Notes	GM Part#	ZBAG Part#	
75.	Rear mainshaft bearing snap ring	MP3023	w/M30-4L60/M70-4L70/MYC-6L80 trans, w/32 spline mainshaft, 1.476" I.D.	19133125	ZTMP19133125	
		MP3023	w/M99hybrid trans, w/32 spline mainshaft, 1.299" I.D.	19178900	ZTMP19178900	
		MP3024 w/29 spline input shaft	w/MYD-6L90 transmission, w/31 spline mainshaft, 1.516" I.D.	19133126	ZTMP19133126	
76.	Oil tube O-ring			19133122	ZMSEAAS110	
77.	Oil pickup tube assembly			19133120	ZTMP19133120	
78.	Front output shaft rear bearing			19133136	BRGBB1-3321	
79.	Driven sprocket wave spring		Use w/19169064 spacer	19169065	Call	
80.	Driven sprocket rear spacer		w/step, use with wave spring 19169065	19169064	ZTMP19169064	
			w/o step, do not use wave spring when using this spacer	19133101	ZTMP19133101	
81.	Driven sprocket	MP3023 w/32 spline output shaft	1.157" wide	19133134	ZTMP19133134	
		MP3024 w/31 spline output shaft	1.398" wide	19133135	ZTMP19133135	
82.	Front output shaft plug			12473236	Call	
83.	Front output shaft	First design	Does not use dust shield	19133132	Call	
		Second design	Must also replace seal and add dust shield when updating	24259180	Call	
84.	Front output shaft front bearing			19133136	BRGBB1-3321	
Not Shown	Bearing kit	MP3010/MP3023			ZTBK517	
		MP3024			ZTBK512	
	Gasket and seal kit				ZTTSK1222	
	Adapter gasket		Round case pattern		ZTGASTC2030-9	
	Slip yokes		32 Spline, 1355 U-Joint, 7.75" Long 1.88" Seal surface, outer snap ring		22944357 88964470 40021420	ZTY40021420
			31 Spline, 1415 U-Joint, 8.34 Long 2.2" Seal surface One piece drive shaft		15897990 22918658 40039583	ZTY5001683
			31 Spline, 1415 U-Joint, 8.375" Long 2.2" Seal surface Two piece drive shaft		22918660	ZTY5001683
		31 Spline, 1485 U-Joint, 8.34" Long 2.2" Seal surface		22918657 22918659 89058880 40039594	ZTY5001672	

\*\*\* Call for availability on items that do not have a ZBAG part number listed \*\*\*



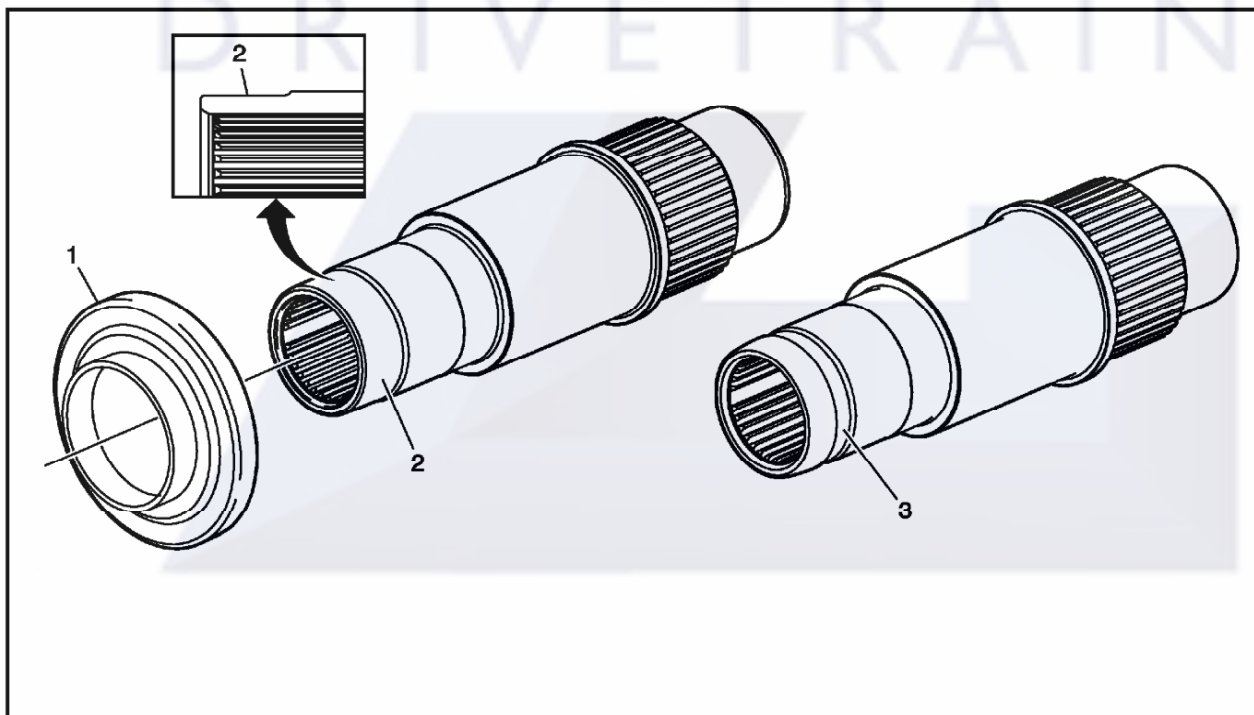
## TRANSFER CASE IDENTIFICATION FIRST DESIGN VS. SECOND DESIGN

### INTERIM MODEL YEAR DESIGN CHANGE - NQF/NQG/NQH/NPO FRONT OUTPUT SHAFT, DEFLECTOR, SEAL



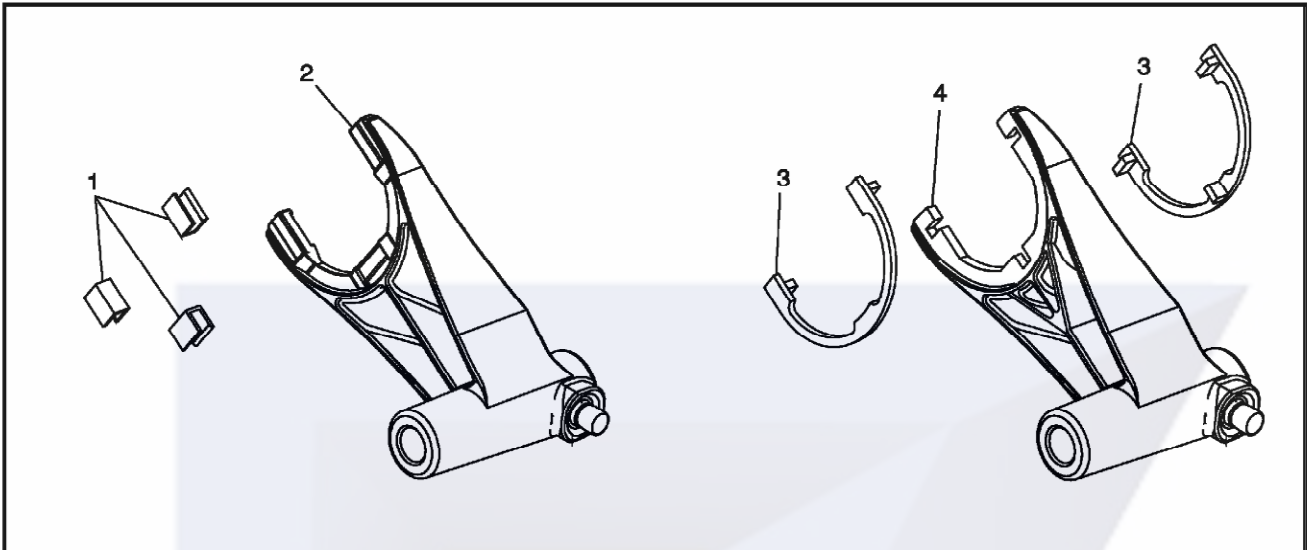
Interim 2012 model year, a new design front output shaft deflector (3) was implemented into production for second design NQF-HD/SHD and NQG-HD applications. First design 2011 model year NQF and NQG applications can be identified as not having the deflector on the front output shaft.

For service, the new design front output shaft, deflector and new design seal may be installed on current and prior model year Magna NQF-HD/SHD, NQG-LD/HD, NQH-LD/HD and NP0 applications providing the new design front output shaft is also installed. The front output shaft deflector is to be installed using the **J 8092** driver handle (1) and **DT 50649** seal installer (2).

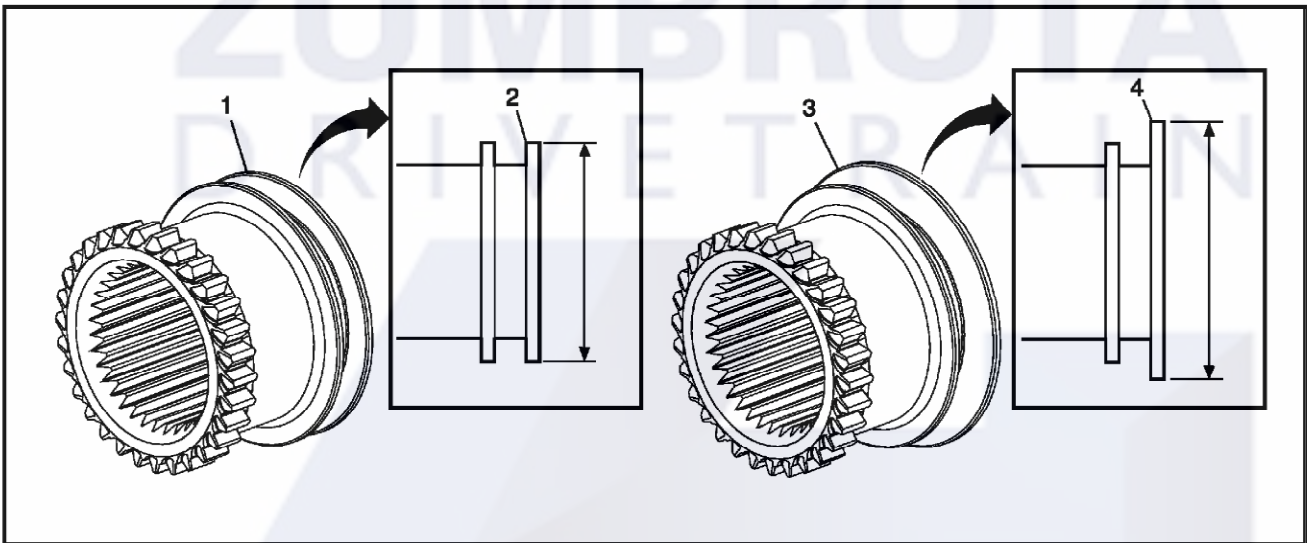


The new design deflector (1) can be installed onto all current and prior model year Magna RPOs NQF, NQG, NQH and NP0 applications providing the new design front output shaft (2) is also installed. Second design front output shafts can be identified by the machined area on the OD output end of the shaft (2). First design front output shafts can be identified by the dust boot clamp groove (3) located at the OD output end of the shaft. The new design slinger will NOT install onto the first design shafts.

# INTERIM MODEL YEAR DESIGN CHANGE - NQG HIGH/LOW SHIFT FORK, FORK PAD, AND HIGH/LOW CLUTCH



Interim 2012 model year the High/Low shift fork, fork pad and High/Low clutch design changed. The first design forks (2) can be identified as having three flat un-notched fork pad areas with three separate fork pads (1). The second design forks (4) can be identified as having a half-round shaped pad area with three notches for pad orientation and installation and upper and lower half-round fork pads (3). The second design shift fork (4) and pads (3) are the only design available for service and must be used with the second design High/Low clutch.

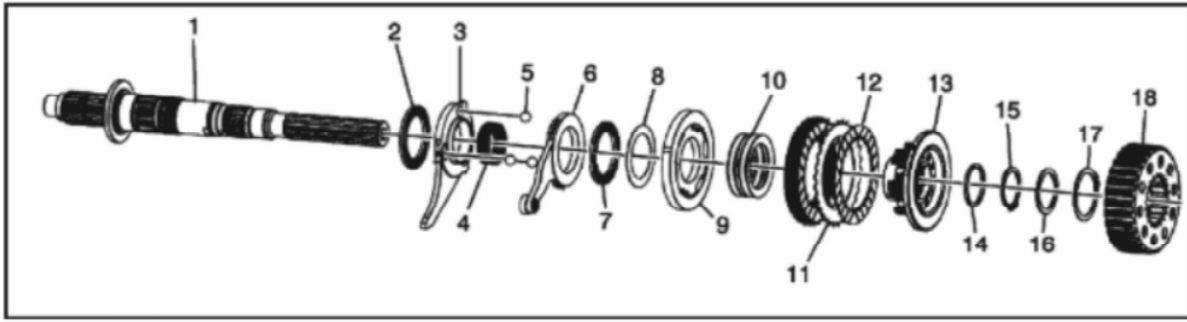


Interim 2012 model year the High/Low shift fork, fork pad and High/Low clutch design changed. The first design high/low clutch (1) can be identified by having a 73 mm (2.87 in) OD rear flange (2). The second design high/low clutch (3) can be identified by having a 76 mm (2.99 in) OD rear flange (4).

For service:

- The first design 73 mm (2.87 in) high/low clutch may NOT be used with the second design fork and pad.
- The second design 76 mm (2.99 in) high/low clutch must be used with the second design fork and fork pad.
- The second design 76 mm (2.99 in) high/low clutch may also be used with the first design fork and pad if first design fork replacement is not required.

## SERVICE PARTS RELEASE USAGE CHANGE-NQH/NPO CONTROL ACTUATOR LEVERS



Light Duty (LD) 2007-2010 MP3023-NQH and 2010 MP3010-NP0 production transfer cases are built with LD control actuator levers (3 and 6) and are used with 13 mm (0.52 in) diameter control actuator lever balls (5).

Heavy duty (HD) 2007-2010 MP3024-NQH production transfer cases are built with HD control actuator levers (3 and 6) and are used with Heavy 10 mm (0.39 in) control actuator lever balls.

When replacement of one or both of the LD control actuator levers is required, it is necessary to replace both of the levers and all three balls with the HD components as a set. It is also necessary to re-measure and adjust clutch pack clearances as required and to perform the Transfer Case High/Low Clutch Reset. Refer to Measuring/Adjusting Clutch Assembly Height in Transfer Case Assemble, Transfer Case Description and Operation and Transfer Case High/Low Clutch Reset. Heavy duty (HD) components are the only parts available for service.

## INTERIM MODEL YEAR DESIGN CHANGE - NQF/NQG/NQH FRONT CASE HALF ASSEMBLY, INPUT SHAFT, PLANETARY CARRIER HIGH/LOW CLUTCH

Interim 2012 model year for Magna light-duty and heavy-duty transfer case RPOs NQF / NQG / NQH, a second-design front case half assembly, planetary internal gear, gear retaining ring, locking plate, thrust washer-front, input shaft, pilot bearing, thrust washer-rear, high/low planetary carrier and high/low clutch were implemented into second-design assemblies.

The second-design light duty (LD), heavy duty (HD), and super-heavy duty (SHD) applications have a reduced OD dimension carrier and the second-design planetary internal gear has a reduced ID dimension. The planetary internal gear is a press-fit non-serviceable component and must be serviced with the front case half assembly. In service it is possible that a new or remanufactured transfer case may contain first or second-design content.

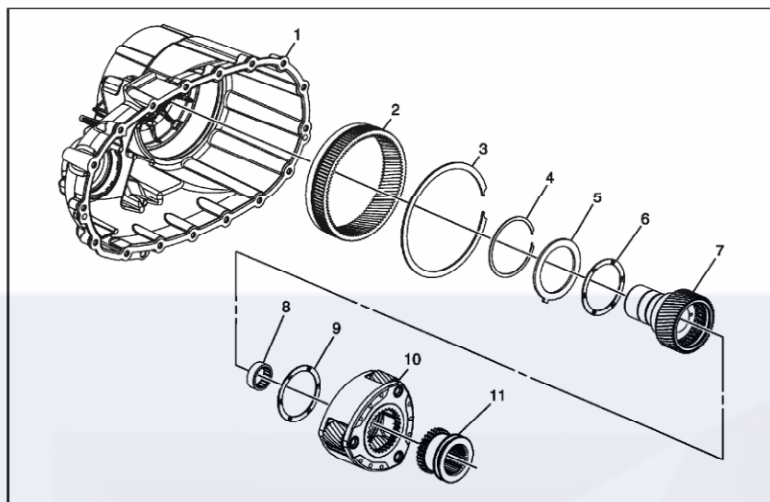
If a second-design transfer case has been installed into a vehicle that originally contained a first-design assembly, TCCM reprogramming is not required.

For production, the following transfer cases variations were produced:

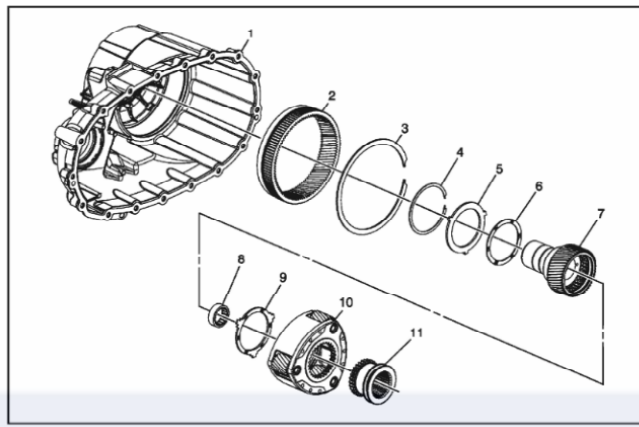
- 2007-12i Magna LD NQG/NQH - produced with first-design content. First design service components are available. A second-design assembly may be used for back-service in a first-design application.
- 2007-10 Magna HD NQF - produced with only first-design content. Service components are available.
- 2007-10 Magna HD NQG - produced with only first-design content. Service assemblies may contain either first or second design content. Both first and second design service components are available.
- 2007-12i Magna HD NQH - produced with first-design content. First design service components are available. A second-design assembly may be used for back-service in a first-design application.
- 2011-12i Magna SHD NQF/NQG - produced with first design content. First design service components are available. A second-design assembly may be used for back-service in a first-design application.
- 2012i-13 Magna LD NQG/NQH - produced with second-design content. Second design service components are available.
- 2012i-13 Magna HD NQH - produced with second-design content. Second design service components are available.
- 2012i-13 Magna SHD NQF/NQG - produced with second-design content. Second design service components are available.



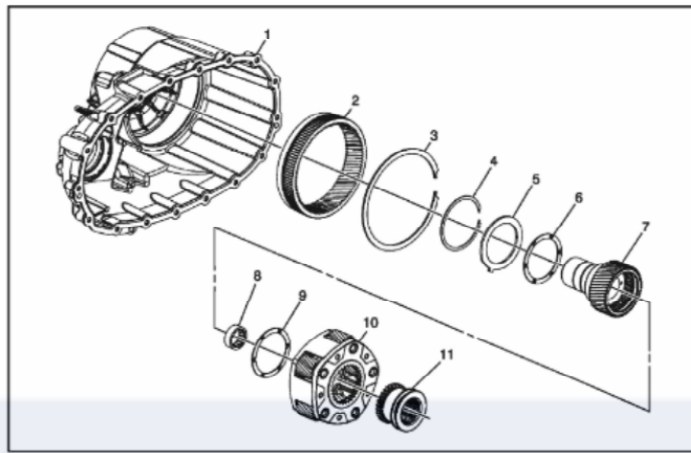
# SERVICE PARTS LIST



<b>Magna Light Duty NQG/NQH/NP0 - First Design</b>			
<b>Callout</b>	<b>Description</b>	<b>GM PN</b>	<b>Service Usage</b>
1	Front Case Half Assembly - w/gear (2) and ring (3)	19132998	NQH
1	Front Case Half Assembly - w/gear (2) and ring (3)	19133000	NQG
1	Front Case Half Assembly - w/o gear (2) and ring (3)	19255999	NP0
2	High/Low Internal Gear- Not serviceable-part of case assembly	NO/PN	NQG/NQH
3	High/Low Internal Gear Retaining Ring	19133009	NQG/NQH
4	High/Low Planetary Carrier Retaining Ring	19132997	NQG/NQH
5	High/Low Locking Plate-Single tab design	19132996	NQG/NQH
6	Thrust Washer-Front-No tab design	19132995	NQG/NQH
7	Input Shaft Assembly - w/pilot bearing	19132977	NQG/NQH-w/M30
7	Input Shaft Assembly- w/pilot bearing	19132978	NQH-w/M99
			NQG/ NQH-w/MYC
7	Input Shaft Assembly- w/pilot bearing	19255997	NP0-w/MYC
8	Pilot Bearing	19132983	NQG/NQH/NP0
9	Thrust Washer-Rear-No tab design	19132995	NQG/NQH
10	High/Low Planetary Carrier Assembly- Three pinion design	19132986	NQG/NQH
11	High/Low Clutch	19260068	NQG/NQH - w/M30
11	High/Low Clutch	19260067	NQG/NQH w/MYC and NQH w/M99



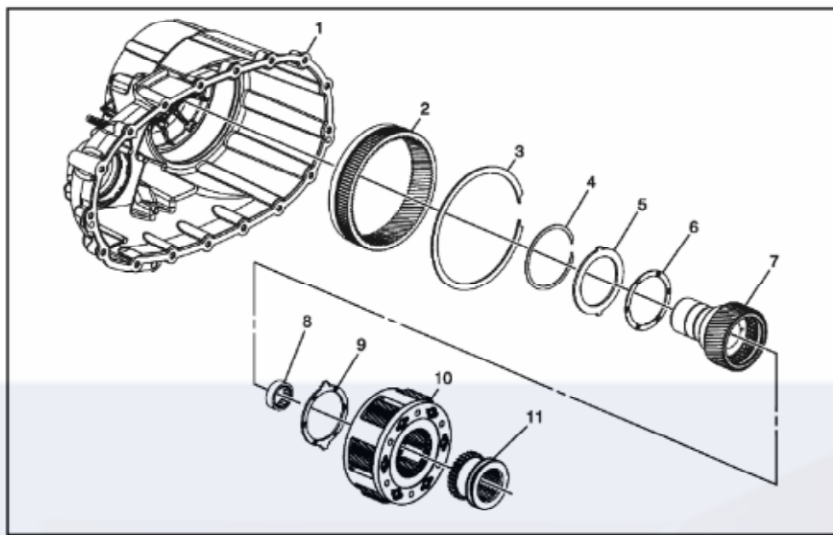
Magna Light Duty NQG/NQH/NP0 - Second Design			
Callout	Description	GM PN	Service Usage
1	Front Case Half Assembly - w/gear (2) and ring (3)	19299077	NQH
1	Front Case Half Assembly - w/gear (2) and ring (3)	19299078	NQG
1	Front Case Half Assembly - w/o gear (2) and ring (3)	19299076	NP0 <b>NOTE:</b> The second design NP0 front case half assembly w/o gear (2) and ring (3) is interchangeable with first design
2	High/Low Internal Gear Not serviceable-part of case assembly	NO/PN	NQG/NQH
3	High/Low Internal Gear Retaining Ring	14037953	NQG/NQH
4	High/Low Planetary Carrier Retaining Ring	15547397	NQG/NQH
5	High/Low Locking Plate- three tab design	19300745	NQG/NQH
6	Thrust Washer-Front - No tab design	12470959	NQG/NQH
7	Input Shaft Assembly- w/pilot bearing	19299085	NQG/NQH-w/M30
7	Input Shaft Assembly - w/pilot bearing	19299088	NQH-w/M99 NQG/NQH-w/MYC
7	Input Shaft Assembly- w/pilot bearing	19255997	NP0-w/MYC
8	Pilot Bearing	19132983	NQG/NQH/NP0
9	Thrust Washer-Rear- Three tab design	19300746	NQG/NQH
10	High/Low Planetary Carrier Assembly- Three pinion design	19299090	NQG/NQH
11	High/Low Clutch	19299092	NQG/NQH - w/M30
11	High/Low Clutch	19299093	NQG/NQH w/MYC and NQH w/M99



**NOTE:**

**2007-2010 MY Heavy Duty NQF transfer case assemblies were only produced with first-design content. Service 2007-2010 MY Heavy Duty NQG transfer case service assemblies may contain either first or second design content.**

<b>Magna Heavy Duty NQF/NQG/NQH - First Design</b>			
<b>Callout</b>	<b>Description</b>	<b>GM PN</b>	<b>Service Usage</b>
1	Front Case Half Assembly w/gear (2) and ring (3)	19257420	2011-13 NQF
1	Front Case Half Assembly w/gear (2) and ring (3)	19133000	2007-10 NQG
1	Front Case Half Assembly w/gear (2) and ring (3)	19259038	2011-13 NQG
1	Front Case Half Assembly w/gear (2) and ring (3)	19132998	2007-13 NQH
2	High/Low Internal Gear- Not serviceable- part of case assembly	NO/PN	NQF/NQG/NQH
3	High/Low Internal Gear Retaining Ring	19133009	NQF/NQG/NQH
4	High/Low Planetary Carrier Retaining Ring	19132997	NQF/NQG/NQH
5	High/Low Locking Plate-Single tab design	19132996	NQF/NQG/NQH
6	Thrust Washer-No tab design - Front	19132995	NQF/NQGF/NQH
7	Input Shaft Assembly w/pilot bearing	19132979	NQH w/MYD
7	Input Shaft Assembly- w/pilot bearing	19257419	07-10MY NQF/NQG w/MYD and MW7
7	Input Shaft Assembly- w/pilot bearing	19259039	2007-13 NQF/NQG w/MYD
7	Input Shaft Assembly- w/pilot bearing	19259039	2011-13 NQF/NQG w/MW7
8	Pilot Bearing	19259040	2011-13MY NQF/NQG w/MW7
8	Pilot Bearing	19132984	2007-10MY NQF/NQG/NQH - w/ MW7 / MYD
8	Pilot Bearing	19132984	2007-13 NQH w/MYD
8	Pilot Bearing	19132984	2011-13 NQF/NQG w/MYD
9	Thrust Washer-No tab design-Rear	19132995	NQG/NQH
9	Thrust Washer-No tab design-Rear	19132995	2011-13 NQF
10	High/Low Planetary Carrier Assembly-Five pinion design	19132987	NQG/NQH
10	High/Low Planetary Carrier Assembly-Five pinion design	19132987	2011-13 NQF
11	High/Low Clutch	19260067	NQG/NQH
11	High/Low Clutch	19260067	2011-13 NQF

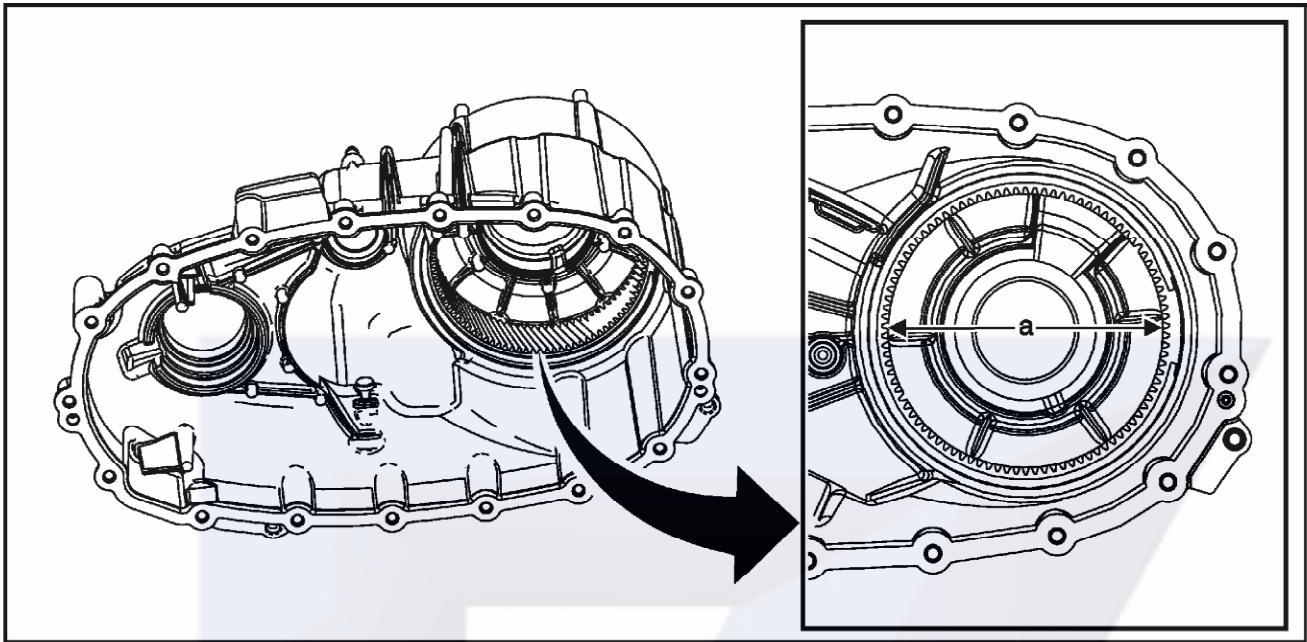


**Magna Heavy Duty NQF/NQG/NQH - Second Design**

Callout	Description	GM PN	Service Usage
1	Front Case Half Assembly w/gear (2) and ring (3)	19299079	2011-13 NQF
1	Front Case Half Assembly w/gear (2) and ring (3)	19299078	2007-10 NQG
1	Front Case Half Assembly w/gear (2) and ring (3)	19299080	2011-13 NQG
1	Front Case Half Assembly w/gear (2) and ring (3)	19299077	2007-13 NQH
2	High/Low Internal Gear Not serviceable part of case assembly	NO/PN	NQF/NQG/NQH
3	High/Low Internal Gear Retaining Ring	14037953	NQF/NQG/NQH
4	High/Low Planetary Carrier Retaining Ring	15547397	NQF/NQG/NQH
5	High/Low Locking Plate-Two tab design	15664905	NQF/NQG/NQH
6	Thrust Washer-No tab design - Front	12470959	NQF/NQG/NQH
7	Input Shaft Assembly-w/pilot bearing	19299086	NQH w/MYD 07-10MY NQG w/MYD and MW7
7	Input Shaft Assembly-w/pilot bearing	19299087	2011-13 NQF/NQG w/MYD
7	Input Shaft Assembly-w/pilot bearing	19299089	2011-13 NQF/NQG w/MW7
8	Pilot Bearing	19259040	2011-13MY NQF/NQG w/MW7
8	Pilot Bearing	19132984	2007-10MY NQF/NQG/NQH - w/MW7 / MYD 2007-13 NQH w/MYD 2011-13 NQF/NQG w/MYD
9	Thrust Washer-Two tab design-Rear	15547390	NQG/NQH 2011-13 NQF
10	High/Low Planetary Carrier Assembly-Six pinion design	19299091	NQG/NQH 2011-13 NQF
11	High/Low Clutch	19299093	NQG/NQH 2011-13 NQF



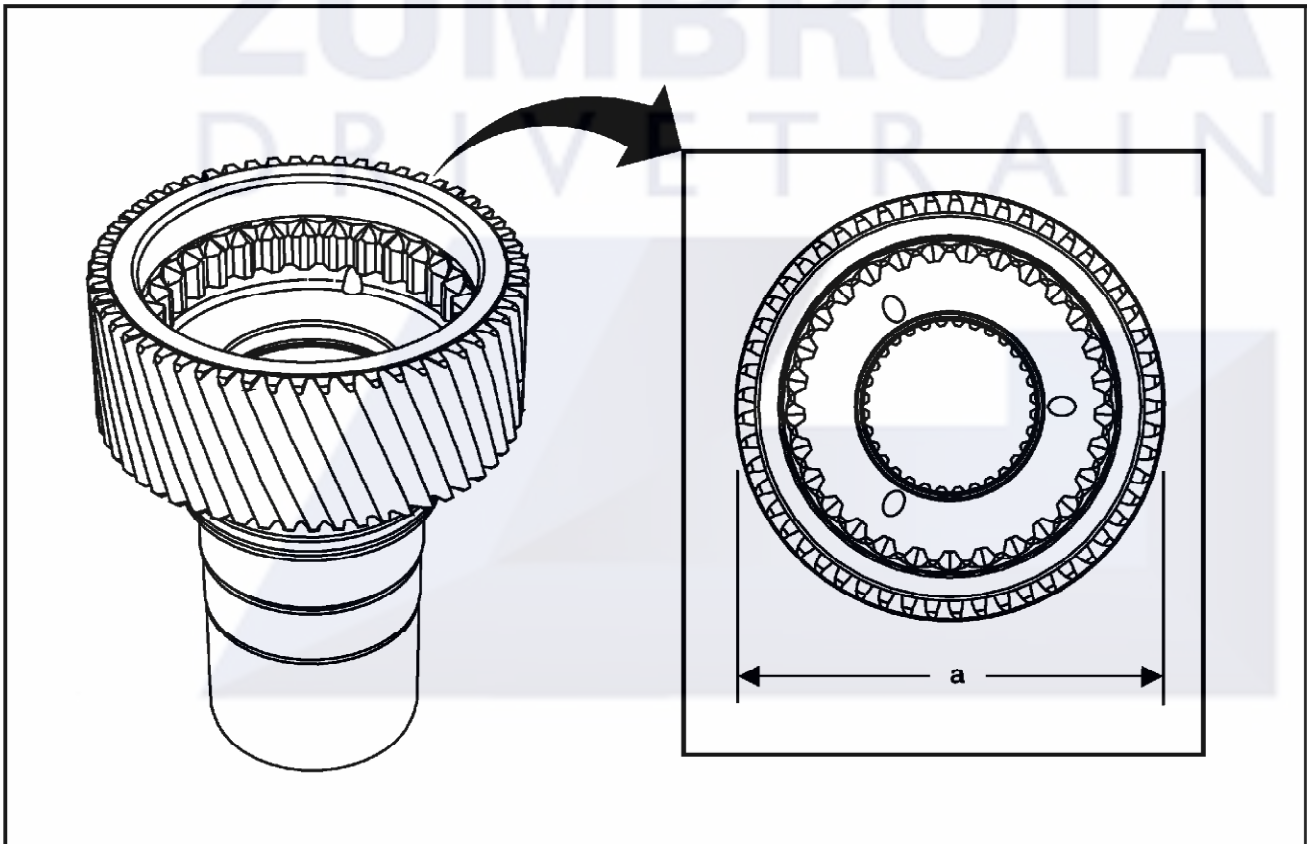
## FRONT CASE HALF IDENTIFICATION



The first design front case half assembly can be identified as having an internal gear that is a 94 tooth design with an inside diameter (a) of 148.5 mm (5.85 in).

The second design front case half assembly can be identified as having an internal gear that is a 91 tooth design with an inside diameter (a) of 142 mm (5.59 in).

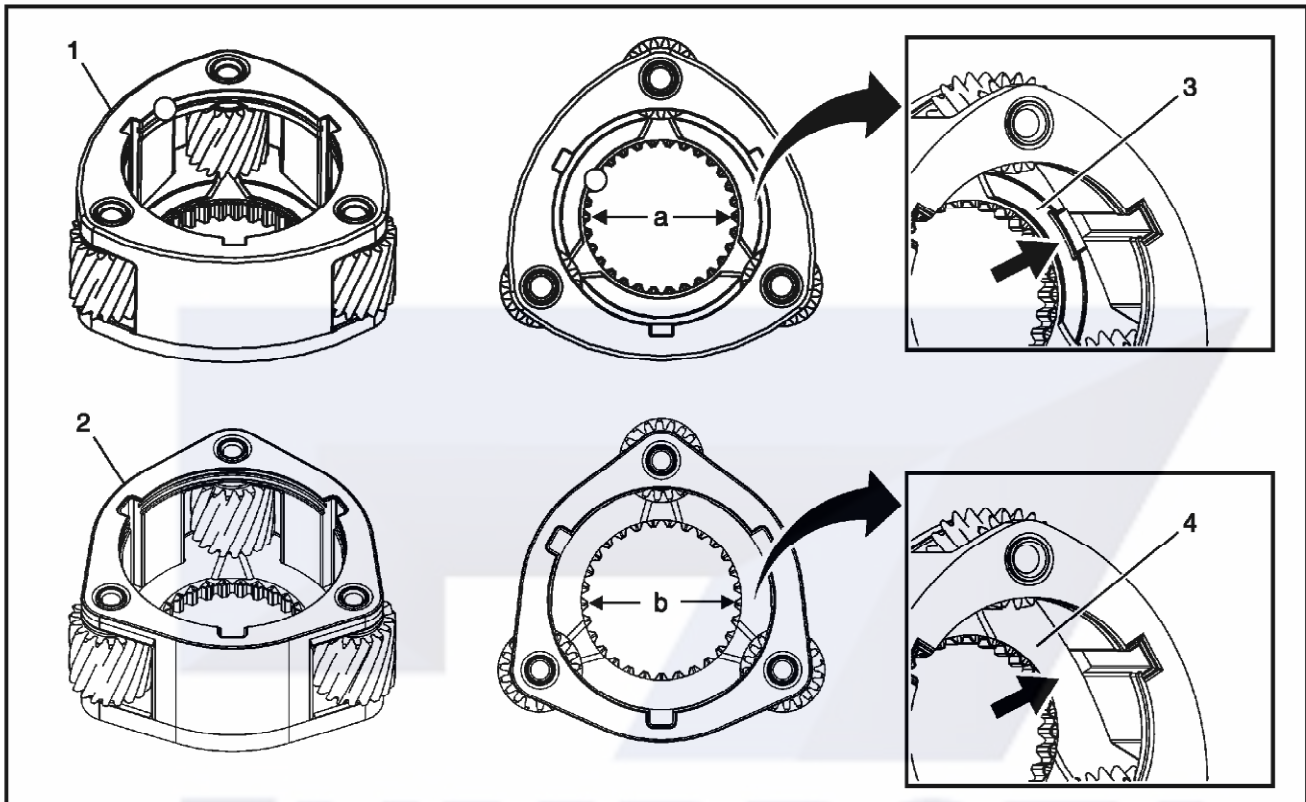
## INPUT SHAFT IDENTIFICATION



The first design input shaft can be identified as a 56 tooth design with an outside diameter (a) of 91.4 mm (3.60 in).

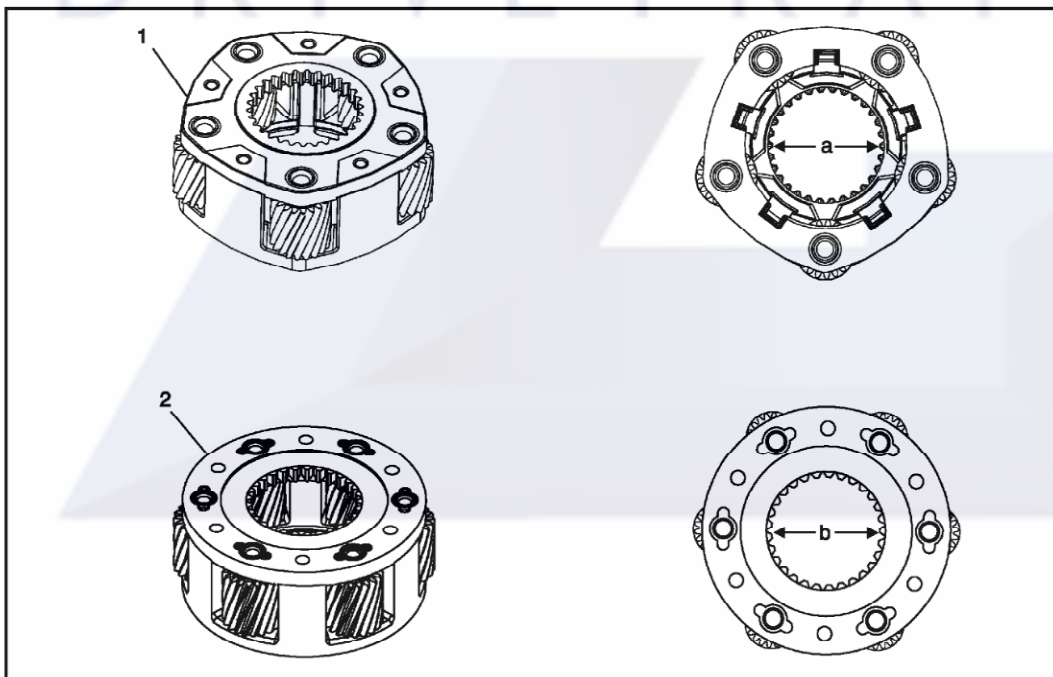
The second design input shaft can be identified as a 53 tooth design with an outside diameter (a) of 87.50 mm (3.44 in).

# HIGH/LOW PLANETARY CARRIER ASSEMBLY IDENTIFICATION



The first-design light-duty 3-pin planetary carrier (1) can be identified as having a 30 tooth design with an inside diameter (a) of 61.3 mm (2.41 in). In addition, the first-design carrier can also be identified by the presence of a recessed washer pocket (3) at the rear thrust washer location.

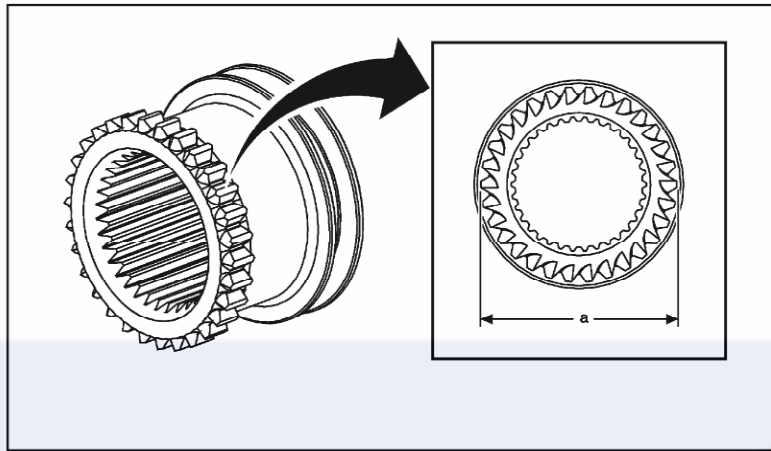
The second-design light-duty 3-pin planetary carrier (2) can be identified as having a 29 tooth design with an inside diameter (b) of 60.2 mm (2.37 in). In addition, the second-design carrier can also be identified by the lack of a recessed washer pocket (4) at the rear thrust washer location.



The first-design heavy-duty 5-pin planetary carrier (1) can be identified as having 5 pinions and a 30 tooth design with an inside diameter (a) of 61.3 mm (2.41 in).

The second-design heavy-duty 6-pin planetary carrier (2) can be identified as having 6 pinions and a 29 tooth design with an inside diameter (b) of 60.2 mm (2.37 in).

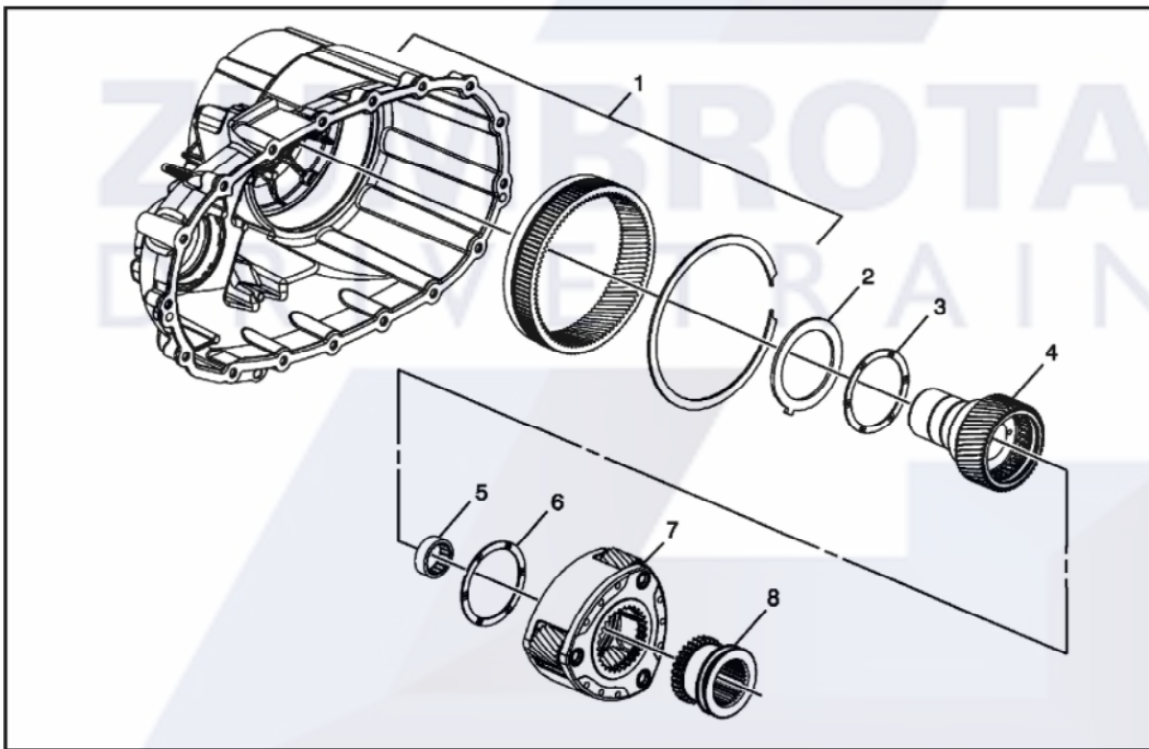
## HIGH/LOW CLUTCH



The first design high/low clutch can be identified as having a 30 tooth design with a gear tooth outside diameter (a) of 65.50 mm (2.58 in).

The second design high/low clutch can be identified as having a 29 tooth design with a gear tooth outside diameter (a) of 63.25 mm (2.49 in).

## COMPONENT REPLACEMENT - CONVERSION FROM FIRST DESIGN TO SECOND DESIGN



It is possible to repair a first-design assembly using second-design components. Refer to the parts catalog and the tables above for component part number clarification.

**NOTE:** First-design LD components are shown in the view above.

When servicing a first-design assembly with second-design components, the following components MUST be replaced as a group:

1. Front Case Half Assembly - with internal gear and retaining ring
2. Locking Plate
3. Thrust Washer (front)
4. Input Shaft
5. Pilot Bearing
6. Thrust Washer (rear)
7. Planetary Carrier Assembly
8. High/Low Clutch



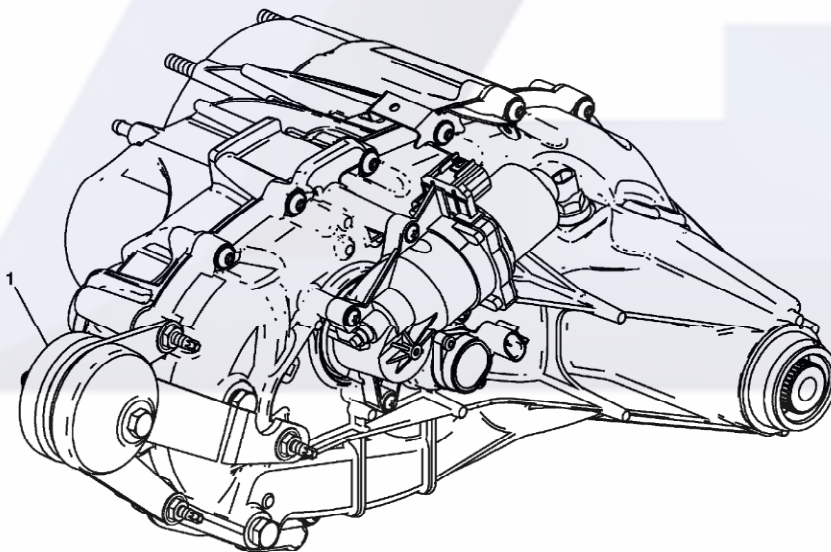
## PRODUCTION ASSEMBLY BREAKPOINTS

The design level and component content of the transfer case can be determined by referencing the assembly part number located on the identification label.

### PRODUCTION ASSEMBLY BREAKPOINTS

First Design Assembly PN	Second Design Assembly PN	RPO	Approximate Production Breakpoint	Vehicle/Transmission RPO
24256476	24261560	NPO	March 2012	K100 / MYC
24256475	24261517	NQH	January 2012	K200 / MYD
24256474	24261516	NQH	January 2012	K100 / M99
24256473	24261515	NQH	January 2011	K100 / M30
24256472	24261514	NQH	December 2011	K100 / MYC
24257578	24261513	NQF	December 2011	K200 / MYD
24257577	24261512	NQF	January 2012	K200 / 300 / MW7
24257576	24261511	NQF	December 2011	K200 / 300 / MYD
24257581	24261510	NQG	January 2011	K200 / MYD / +Z49
24257580	24261509	NQG	January 2012	K200 / 300 / MW7
24257579	24261508	NQG	December 2011	K200 / 300 / MYD / -Z49
24252685	24261507	NQG	December 2011	K100 / M30
24252684	24261506	NQG	January 2011	K100 / MYC

**2014 NQH/NPO/NQG-LD Model Year Design Change - Addition of a Tuned Vibration Adapter (dampener) for V-6 Engine RPO LV3 Applications**



Beginning in 2014 model year for V-6 engine RPO LV3 applications, a dampener (1) has been added to the exterior of the NQH and NQG-LD transfer cases.



## Magna Transfer Case Bar Code Label



Callout	Component Name
1	Component Identifier
2	GM Broadcast Code
3	Supplier Code
4	Production Year
5	Julian Date of the Year
6	Assembly Line Number
7	Sequential Number
8	GM Assembly Part Number

## Transfer Case Identification (Magna)

**MP 30 2 3 ATC**

**Appendix: i.e. ATC**

### Low Range Skid Torque Rating

<b>0</b>	<b>No low Range</b>
<b>2</b>	<b>800 - 1000 Nm</b>
<b>3</b>	<b>1000 - 1200 Nm</b>
<b>4</b>	<b>1200 - 1400 Nm</b>
<b>5</b>	<b>1400 - 1600 Nm</b>
<b>6</b>	<b>1600 - 1800 Nm</b>

**Number of Speeds**

### Features: Code for Product Technology

<b>12</b>	<b>Part time - manual shift</b>
<b>16</b>	<b>Part time - electric shift</b>
<b>30</b>	<b>Active on demand - wet clutch</b>

**Magna Powertrain**

**2007-14 MP1222**

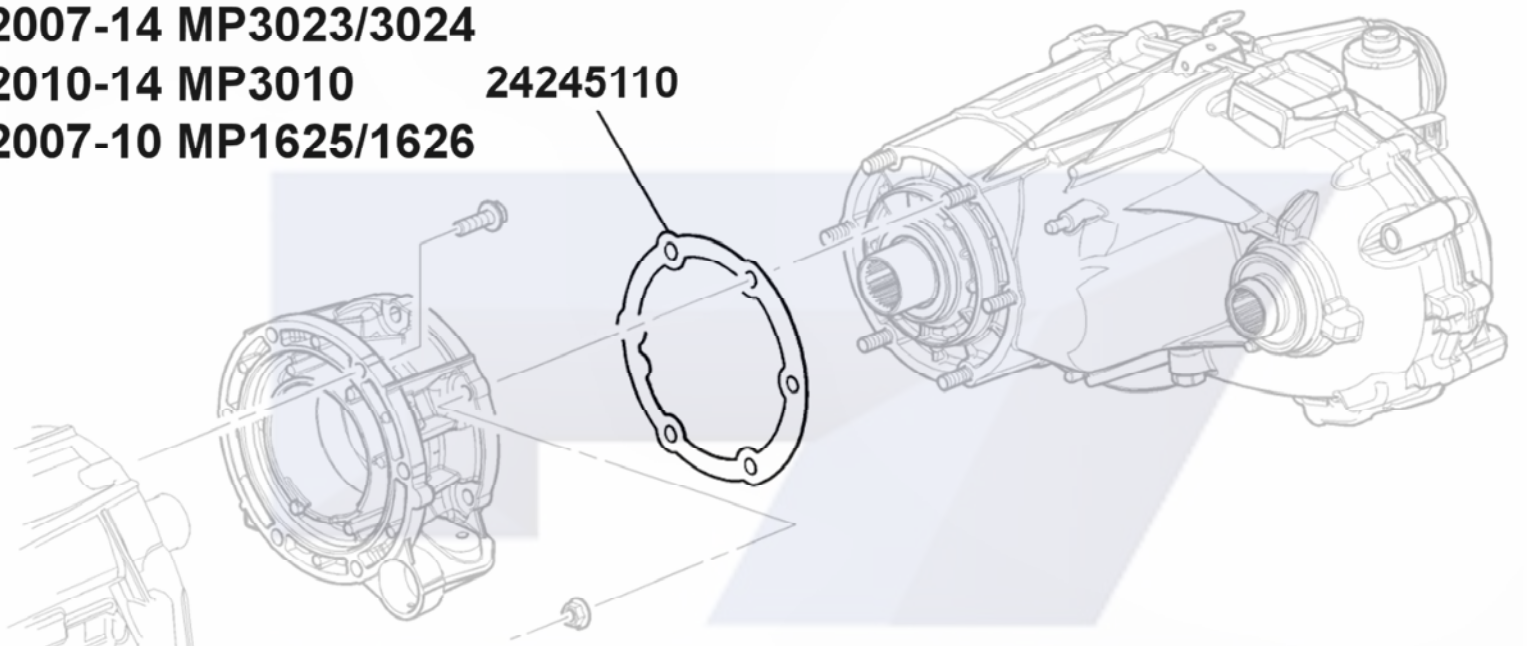
**2007-10 MP1225/1226**

**2007-14 MP3023/3024**

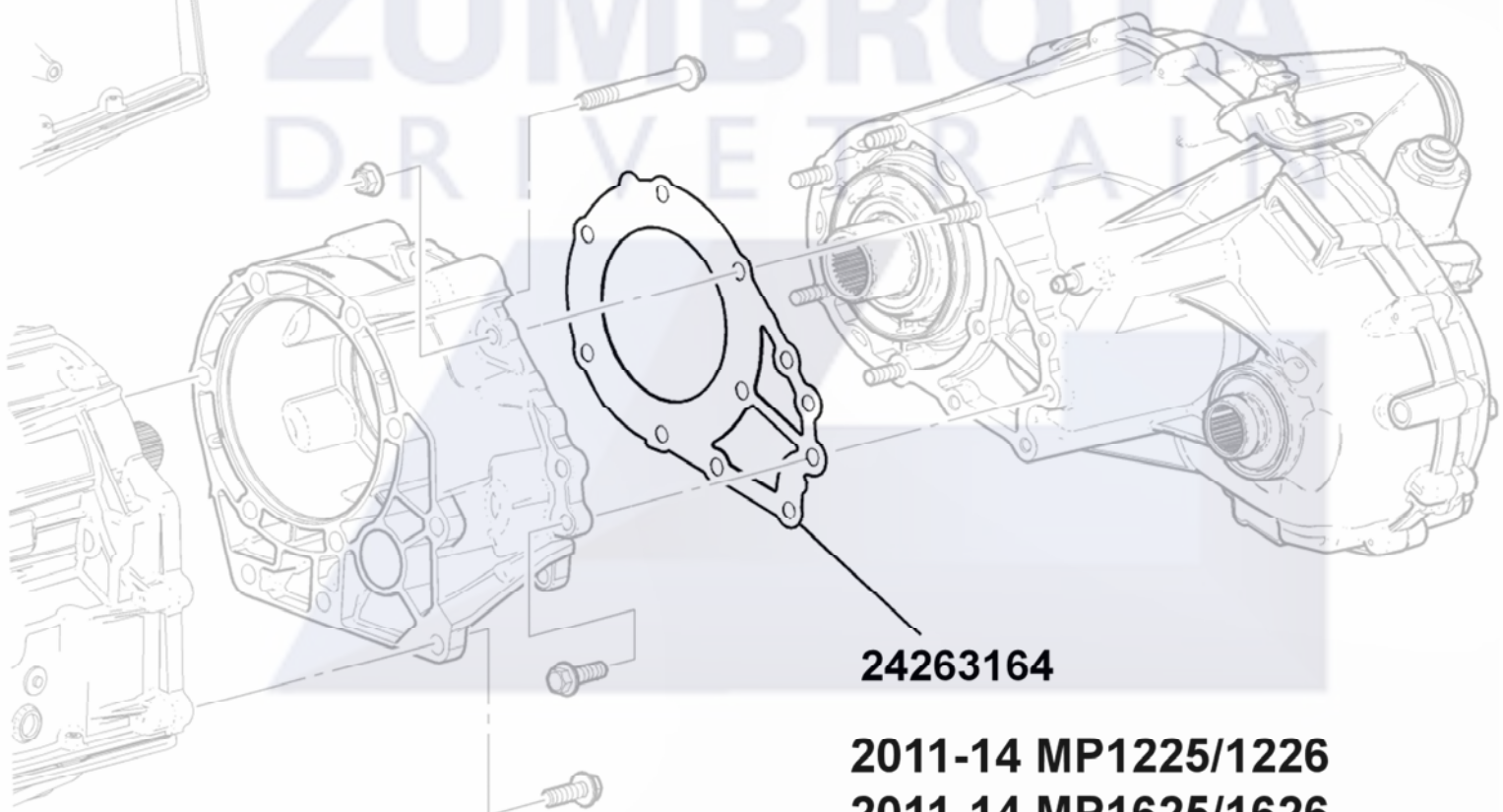
**2010-14 MP3010**

**2007-10 MP1625/1626**

**24245110**



**ZUMBROTA**  
**DRIVE TRAIN**



**24263164**

**2011-14 MP1225/1226**

**2011-14 MP1625/1626**

### MP 1222/1225/1226 Build Variations

The NQG transfer case is available in 7 variations, depending on the year, and transmission configuration. When servicing the transfer case it is important to understand which variation is being serviced because of the different internal components.

#### MP 1222/1225/1226 Variations

Year / Model	Transmission	Input Shaft	Output Shaft	Chain Size	Chain Series	Hi/Low Planetary	Application
2007-14 MP 1222 (LD) Light Duty	M30 - 4L60-E	27 Spline	32 Spline	7/16 X 1.25 in	9600 Series Rocker Pin Chain	3 Pinion	K1
2007-14 MP 1222 (LD) Light Duty	MYC- 6L80-E	32 Spline	32 Spline	7/16 X 1.25 in	9600 Series Rocker Pin Chain	3 Pinion	K1
2007-14 MP 1225 (HD) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	9600 Series Rocker Pin Chain	5 Pinion	K2
2007-10 MP 1225 (HD-Canadian) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2 - Canadian
2007-10 MP 1226 Super Heavy Duty (SHD)	MYD- 6L90-E MW7- Allison	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2-W/MW7 K3 - All
2011 -14 MP 1225 (HD) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2-Canadian K3 - All
2011 -14 MP 1226 Super Heavy Duty (SHD)	MW7- Allison	33 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2, K3

#### Internal Components

##### MP1222 LD with 27T Input Spline

- The high/low clutch has bias pointing engagement teeth. The leading edges of the teeth are not symmetric.

##### MP1222 LD with 32T Input Spline

- The high/low clutch has neutral pointing engagement teeth. The leading edges of the teeth are symmetric.

##### MP1222 LD Common with either 27T or 32T Input Spline

- The rear output shaft seal is smaller, the inner lip diameter measures 46.2 mm (1.819 in).
- The rear output shaft bushing is smaller, the inner diameter measures 48 mm (1.890 in).
- The rear case half has smaller bores to accommodate the rear output shaft seal and the rear output shaft bushing.
- The input shaft pilot bearing assembly is smaller than the MP 1225/1226 to accommodate the smaller rear output shaft. The outer diameter measures 38.1 mm (1.5 in).
- The rear output shaft is smaller.
- The front output shaft drive sprocket is 31.75 mm (1.25 in) wide.
- The front output shaft driven sprocket is 31.75 mm (1.25 in) wide.
- The rear output shaft rear bearing retaining rings are smaller, the outer diameter of the ring groove at the rear output shaft measures 37.5 mm (1.476 in)
- The rear output shaft rear bearing assembly is smaller. The inner diameter measures 40 mm (1.575 in).
- The HI/LO planetary is a 3 pinion design.

## **MP 1225**

The input shaft seal is a single lip seal used only with dry cavity adapters.

## **MP 1226**

The input shaft seal is a dual lip seal used specifically for the MW7 which has a wet cavity adapter, these seals are also used for the MYD in order to retain a common part number for this model.

## **MP 1225/1226 HD/SHD Common**

- The input shaft pilot bearing assembly is larger to accommodate the larger rear output shaft, the outer diameter measures 41.275 mm (1.625 in)
- An input shaft pilot bearing retaining ring is used.
- The high/low planetary is a 5 pinion design.
- The high/low clutch has neutral pointing engagement teeth. The leading edges of the teeth are symmetric.
- The front output shaft drive sprocket is 38.1 mm (1.5 in) wide.
- The front output shaft driven sprocket is 38.1 mm (1.5 in) wide.
- The thrust washer with internal notched area and anti-rotational pin are a new design for 2011-up 1225HD and 1226SHD applications only.
- The rear output shaft is larger diameter.
- The rear output shaft rear bearing retaining rings are larger, the outer diameter of the ring groove at the rear output shaft measures 38.5 mm (1.516 in).
- The rear output shaft rear bearing assembly is larger, the inner diameter measures 41 mm (1.614 in).
- The rear output shaft seal is larger, the inner lip diameter measures 54.2 mm (2.134 in).
- The rear output shaft bushing is larger, the inner diameter measures 56.08 mm (2.208 in).
- The rear case half has larger bores to accommodate the larger rear output shaft seal and the rear output shaft bushing.

## **All Applications**

- Double lip input shaft oil seals are used on applications with a WET adapter cavity and with 4 speed transmission RPOs M30/M70/MW7/ML9 only.
- Single lip input shaft oil seals are used on applications with a DRY adapter cavity and with 6 speed transmission RPOs MYC/MYD only.

## **Front Output Shaft Slinger**

Interim 2011 model year, a new design front output shaft slinger was implemented into production for second design NQF and NQG applications. First design 2011 model year NQF and NQG applications can be identified as not having the slinger on the front output shaft.

For service, the new design front output shaft slinger may be installed on current and prior model year NQF, NQG, NQH, and NP0 providing the new design front output shaft is also installed.

The front output shaft slinger is to be installed using front output shaft seal installer.

Second design front output shafts can be identified by the machined area on the OD of the shaft.



### MP 1625/1626 Variations

Year / Model	Transmission	Input Shaft	Output Shaft	Chain Size	Chain Series	Hi/Low Planetary	Application
2007-14 MP 1625 (HD) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	9600 Series Rocker Pin Chain	5 Pinion	K2
2007-10 MP 1625 (HD-Canadian) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2 - Canadian
2007-10 MP 1626 Super Heavy Duty (SHD)	MYD- 6L90-E MW7-Allison	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2-W/MW7 K3 - All
2011 -14 MP 1625 (HD) Heavy Duty	MYD- 6L90-E	29 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2-Canadian K3 - All
2011 -14 MP 1626 Super Heavy Duty (SHD)	MW7-Allison	33 Spline	31 Spline	7/16 X 1.5 in	2300 Series Round Pin Chain	5 Pinion	K2, K3

Additional differences in these models are listed below:

#### All Applications

- Double lip input shaft oil seals are used on applications with a WET adapter cavity and with 4 speed transmission RPOs M30/M70/MW7/M99/ML9 only.
- Single lip input shaft oil seals are used on applications with a DRY adapter cavity and with 6 speed transmission RPOs MYC/MYD only.

### MP 3023/3024 Build Variations

The NQH transfer case is available in 4 variations, depending on the engine and transmission configurations. The variations allow the transfer case to handle different torque loads. When servicing the transfer case, it is important to understand which variation is being serviced because of the different internal components.

### MP 3023/3024 ATC Variations

Model	Transmission	Input Shaft	Output Shaft	Chain Size	Chain Series	Hi/Low Planetary	Rear mainshaft bearing	Application
MP 3023 ATC Light Duty (LD)	M30 - 4L60-E	27T Spline	32T Spline	7/16 x 1.25 in	9600 Series Rocker Pin Chain	3 Pinion	1.575" I.D.	K1
MP 3023 ATC Light Duty (LD)	MYC-6L80-E	32T Spline	32T Spline	7/16 x 1.25 in	9600 Series Rocker Pin Chain	3 Pinion	1.575" I.D.	K1
MP 3023 ATC Light Duty (LD)	M99 - Hybrid	32T Spline	32T Spline	7/16 x 1.25 in	9600 Series Rocker Pin Chain	3 Pinion	1.378" I.D.	K1
MP 3024 ATC Heavy Duty (HD)	MYD - 6L90	29T Spline	31T Spline	7/16 x 1.5 in	9600 Series Rocker Pin Chain	5 Pinion	1.614" I.D.	K2

#### MP3023 LD ATC with M30-4L60E/M70-4L70E (27 spline input)

- The high/low clutch has bias pointing engagement teeth. The leading edges of the teeth are not symmetrical.
- The rear output shaft rear bearing retaining rings are larger ID than the MP 3023 ATC/M99 - Hybrid with 32T input splines but smaller than the MP 3024. The inner diameter of the ring groove at the rear output shaft measures 37.5 mm (1.476 in).
- The rear output shaft bearing assembly inner diameter measures 40 mm (1.575 in). The width measures 18 mm (0.709 in).
- The rear output shaft bearing assembly surface on the rear output shaft measures 40 mm (1.575 in).

#### MP3023 LD ATC with MYC-6L80E (32 spline input)

- The high/low clutch has neutral pointing engagement teeth. The leading edges of the teeth are symmetrical.
- The rear output shaft rear bearing retaining rings are larger ID than the MP 3023 ATC/M99 - Hybrid with 32T input splines but smaller than the MP 3024. The inner diameter of the ring groove at the rear output shaft measures 37.5 mm (1.476 in).
- The rear output shaft bearing assembly inner diameter measures 40 mm (1.575 in). The width measures 18 mm (0.709 in).
- The rear output shaft bearing assembly surface on the rear output shaft measures 40 mm (1.575 in).

#### MP3023 LD ATC with M99-Hybrid (32 spline input)

- The high/low clutch has neutral pointing engagement teeth. The leading edges of the teeth are symmetrical.
- The speed reluctor wheel profile thickness is thinner than the MP 3023 ATC with 27T input spline and the MP 3024, measuring 25.8 mm (1.016 in) thick.
- There is no snap ring between the speed reluctor wheel and the rear output shaft rear bearing assembly.
- The rear output shaft rear bearing retaining ring is smaller than the MP 3023 ATC with 27T input spline and the MP 3024. The inner diameter of the ring groove at the rear output shaft measures 33 mm (1.299 in).
- The rear output shaft bearing assembly inner diameter measures 35 mm (1.378 in). The width measures 23 mm (0.906 in).
- The rear output shaft bearing assembly surface on the rear output shaft measures 35 mm (1.378 in).

#### **MP3023 LD ATC (with either 27T and 32T input shaft splines)**

- The rear output shaft seal is smaller than the MP 3024 ATC. The inner lip diameter measures 46.1 mm (1.815 in).
- The rear output shaft bushing is smaller than the MP 3024 ATC. The inner diameter measures 48 mm (1.890 in).
- The rear case half has smaller bores than the MP 3024 ATC in order to accommodate the smaller rear output shaft seal and the rear output shaft bushing.
- There is an additional external wire harness bracket for the 32T application.
- The input shaft pilot bearing assembly is smaller than the MP 3024 ATC in order to accommodate the smaller rear output shaft. The bearing outer diameter measures 38.1 mm (1.5 in).
- The rear output shaft is smaller than the MP 3024 ATC.
- The front output shaft drive sprocket is 27.2 mm (1.071 in) wide.
- The front output shaft driven sprocket is 29.4 mm (1.157 in) wide.
- The control lever is thinner than the MP 3024 ATC, measuring 9.5 mm (0.374 in) between the bearing surfaces.
- The control actuator lever is thinner than the MP 3024 ATC, measuring 9.5 mm (0.374 in) between the bearing surfaces.
- The control actuator lever balls are larger than the MP 3024 ATC, measuring 13 mm (0.512 in) in diameter.
- The control actuator lever washer is thinner than the MP 3024 ATC, measuring 1 mm (0.039 in).

#### **MP3024 HD ATC with MYD-6L90E (29 spline input)**

- The rear output shaft seal is larger than the MP 3023 ATC. The inner lip diameter measures 53.8 mm (2.118 in).
- The rear output shaft bushing is larger than the MP 3023 ATC. The inner diameter measures 56.08 mm (2.208 in).
- The rear case half has larger bores than the MP 3023 ATC in order to accommodate the larger rear output shaft seal and the rear output shaft bushing.
- The input shaft pilot bearing assembly is larger than the MP 3023 ATC in order to accommodate the larger rear output shaft. The bearing outer diameter measures 41.275 mm (1.625 in).
- An input shaft pilot bearing retaining ring is used.
- The high/low clutch has neutral pointing engagement teeth. The leading edges of the teeth are symmetric.
- The rear output shaft is larger than the MP 3023 ATC.
- The front output shaft drive sprocket is 33.5 mm (1.319 in) wide.
- The front output shaft driven sprocket is 35.5 mm (1.398 in) wide.
- The rear output shaft rear bearing retaining rings are larger than the MP 3023 ATC. The inner diameter of the ring groove at the rear output shaft measures 38.5 mm (1.516 in).
- The rear output shaft rear bearing assembly inner diameter measures 41 mm (1.614 in). The width measures 18 mm (0.709 in).
- The rear output shaft bearing assembly surface on the rear output shaft measures 41 mm (1.614 in).
- The control lever is thicker than the MP 3023 ATC, measuring 10.5 mm (0.413 in) between the bearing surfaces.
- The control actuator lever is thicker than the MP 3023 ATC, measuring 10.5 mm (0.413 in) between the bearing surfaces.
- The control actuator lever balls are smaller than the MP 3023 ATC, measuring 10 mm (0.394 in) in diameter.
- The control actuator lever washer is thicker than the MP 3023 ATC, measuring 2.5 mm (0.098 in).

#### **ALL**

- Double lip input shaft oil seals are used on applications with a WET adapter cavity and with 4 speed transmission RPOs M30/M70/MW7/M99/ML9.
- Single lip input shaft oil seals are used on applications with a DRY adapter cavity and with 6 speed transmission RPOs MYC/MYD.

### MP 3010 ATC Variations

Model	Transmission	Input Shaft	Output Shaft	Chain Size	Chain Series	Hi/Low Planetary	Application
MP 3010 ATC	MYC - 6L80	32T Spline	32T Spline	7/16 x 1.25 in	9600 Series Rocker Pin Chain	N/A	K1

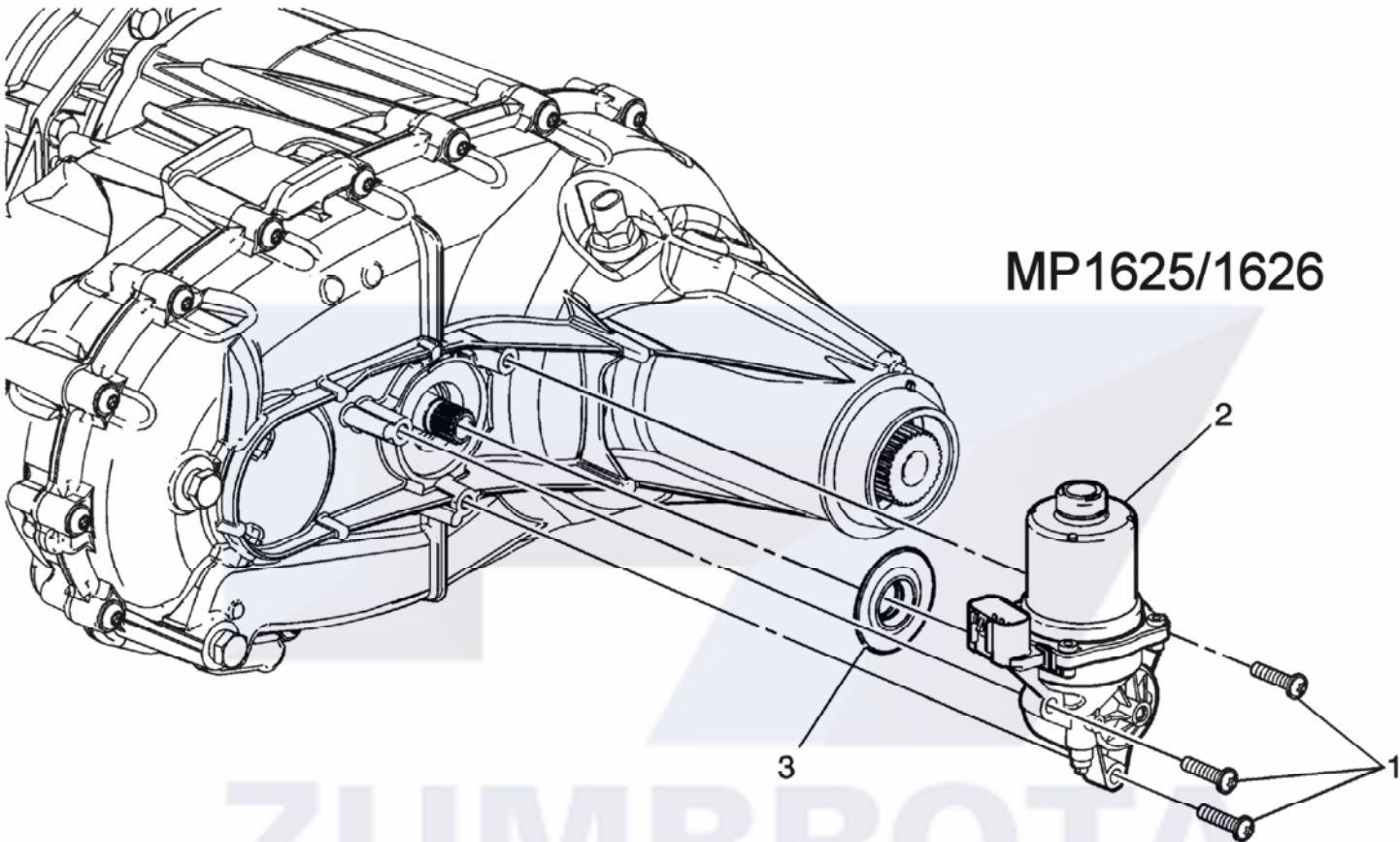
### All Applications

- Double lip input shaft oil seals are used on applications with a WET adapter cavity and with 4 speed transmission RPOs M30/M70/MW7/M99/ML9 only.
- Single lip input shaft oil seals are used on applications with a DRY adapter cavity and with 6 speed transmission RPOs MYC/MYD only.

ZUMBROTA  
DRIVETRAIN



MP1625/1626



ZUMBROTA  
DRIVETRAIN

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