

WEDDLE INDUSTRIES VW EXPLODED VIEWS

Thank you for your interest in VW transaxle parts from Weddle Industries. We have a few notes for you to keep in mind about our VW exploded views and part numbers.

First off, this is not a definitive, absolutely complete or exactly precise section of exploded views and part numbers. We did our best to combine what is still available and our aftermarket parts in these drawings.

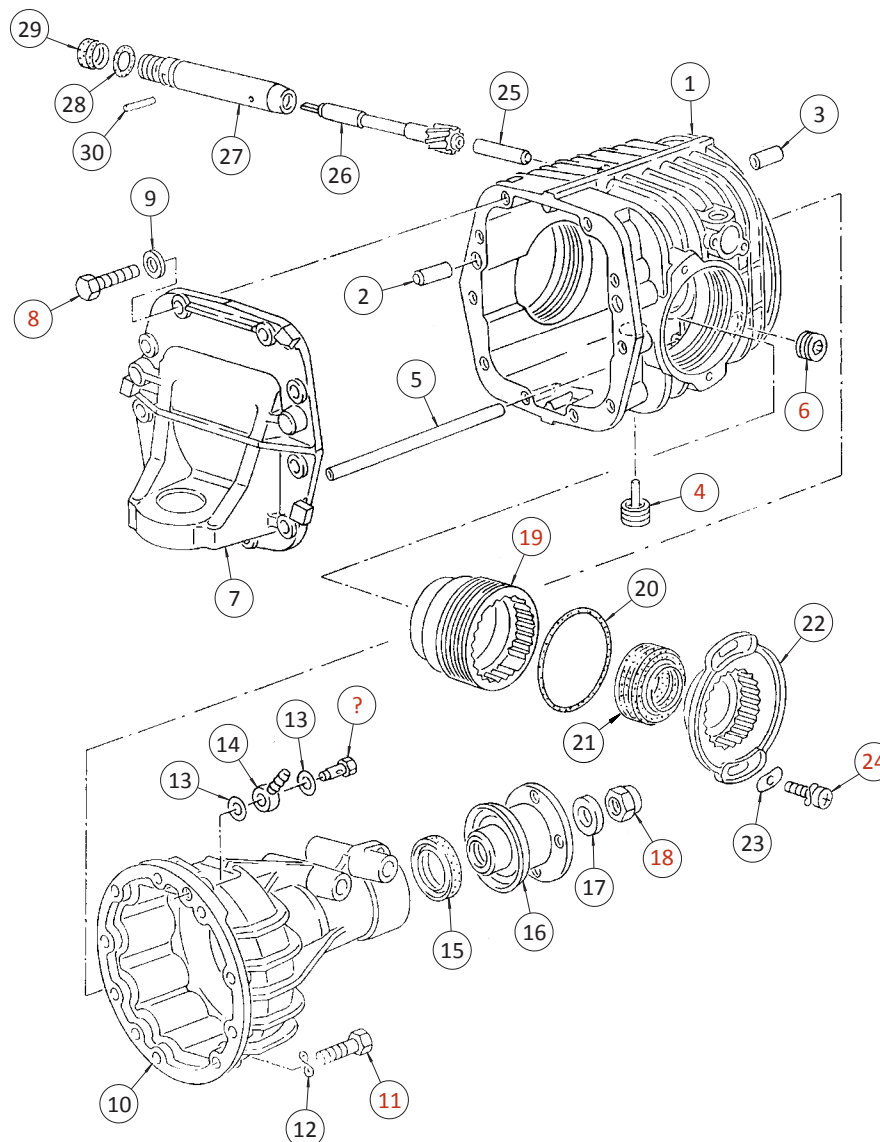
Secondly, VW had many short run combinations that connected larger production changes and updates throughout the lifetime of the VW transaxle. We did NOT attempt to track these down and note the dates and details for these changes.

Third, please use these drawings as a reference only. It is extremely rare to still find a VW transaxle in "as delivered" condition. Almost all of them have been rebuilt at this point in time. There are many different combinations of parts that can be used to rebuild and customize these units using OE parts as well as aftermarket parts or a combination of both. The only sure way to make sure you get the correct parts is to have your unit disassembled so we know the exact items you need.

Lastly, please be open to the idea that you may need to purchase a different combination of parts to repair your transaxle. Due to many items being obsolete it is getting harder and harder to service these transaxles. We are doing our very best to keep a wide selection of quality transaxle parts readily available so your VW can keep getting down the road.

Thank you for your support!

VW SYNCRO FRONT HOUSING



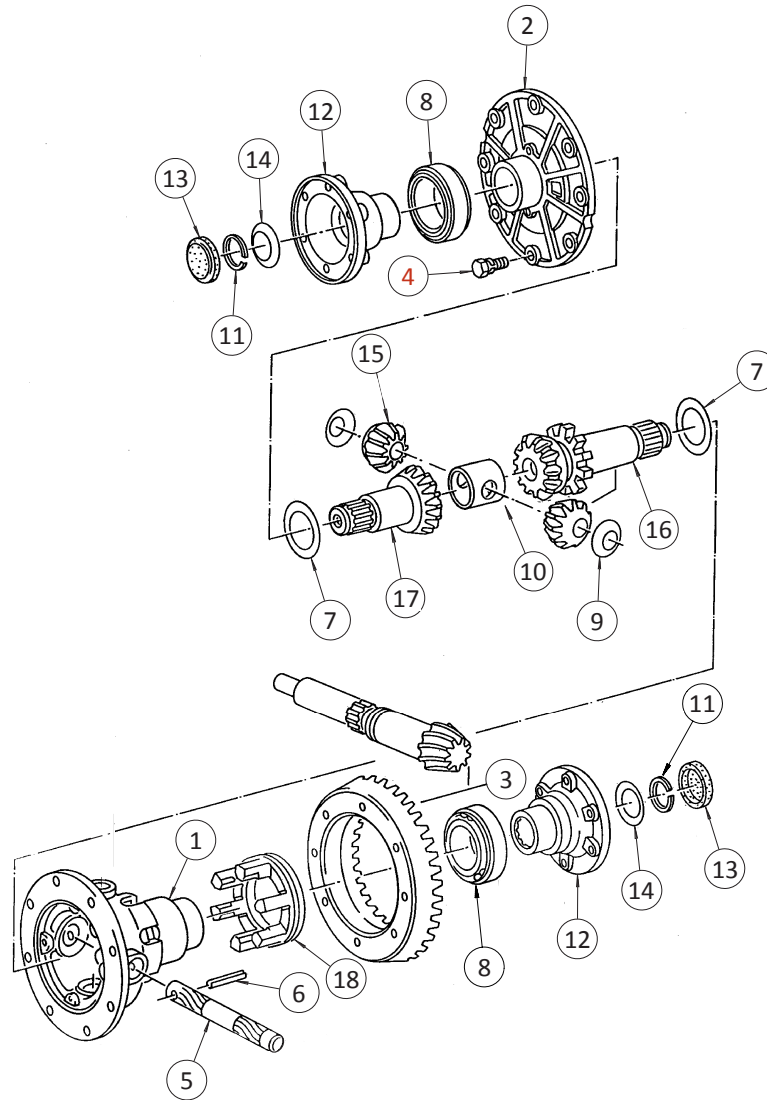
ITEM	PART NO.	DESCRIPTION	QTY
1	094-409-119	Front Diff Maincase w/ Locker	1
(1)	094-409-119-A	Front Diff Maincase w/out locker	1
2	H-DM12X25	12x25mm Dowel for Front Cover to Maincase	2
3	02M-301-153-A	Hollow Dowel Sleeve for Maincase to Tail Cone	2
4	091-301-141-A	Oil Drain Plug w/ Long Magnet Torque to 35 ft. lb. with Loctite 243 (Blue)	1
5	094-409-226	Pipe/Tube	1
6	012-301-127-F	Oil Fill Plug Torque to 35 ft. lb. with Loctite 243 (Blue)	1
7	094-409-410-U	Front Cover/End Plate for Maincase	1
8	H-BM8X25H	M8-1.25x25mm Hex Head Bolt Torque to 18 ft. lb. with Loctite 243 (Blue)	10
9	H-WM8-17	8mm Flat Washer	10
10	094-409-408-U	Front Diff Tail Cone	1
11	H-BM8X32HU	M8-1.25x32mm Hex Head Bolt Torque to 18 ft. lb. with Loctite 243 (Blue)	10
(11)	H-BM8X30H	M8-1.25x30mm Hex Head Bolt for Tail Cone, Alternate, Requires Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	10
12	H-WM8-WAVE	8mm Wave Washer (Use w/ H-BM8X30H Bolt)	10
13	N-013-808-3	Copper Sealing Washer for Banjo Bolt Vent Fitting	2
14	N-902-788-01	Banjo Bolt Vent Fitting	1
15	094-311-189	Input/Output Seal for Syncro Trans & Front Diff	1
16	094-301-223	Syncro Trans & Front Diff Driveshaft Flange	1
17	094-311-378-U	Washer for Driveshaft Flange	1
18	N-022-143-4	Nut for Driveshaft Flange	1
19	091-301-183	Sidescrew Adjuster Lube Threads	2
20	002-301-185-A	O-Ring for Sidescrew Adjuster	2
21	091-301-189	Final Drive Seal, 15mm Wide, Elring	2
(21)	091-301-189-N	Final Drive Seal, 15mm Wide, Nak	2
(21)	091-301-189-X	Final Drive Seal, 10mm Side, SKF	2
22	091-301-197	Plastic Sidescrew Adjuster Lock/Retainer Plate	2
23	113-301-195	Washer Plate for Sidescrew Lock	4
24	N-090-173-3	Phillips Screw for Sidescrew Lock Install with Loctite 243 (Blue)	4
25	N-013-194-1-U	Dowel for Speedo Drive Gear	1
26	094-409-181-B to J	Speedometer Drive Gear and Sleeve, Obsolete	1
27		Sold as Pair with Item 26, Obsolete	1
28	N-902-621-01	O-Ring for Speedo Gear Sleeve & Diff Locker Sleeve	1
29	094-409-186-A	10x15x8mm Seal for Speedo Gear Shaft	1
30	H-RP5X28	Roll Pin for Speedo Gear Sleeve	1



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Drawing No: VW-EXP-SYNC-FRONT-HOUS
Drawing Name: VW Syncro Front Housing
Drawn By: RX
Revised: 1/19/24

VW SYNCRO LOCKING DIFF CARRIER



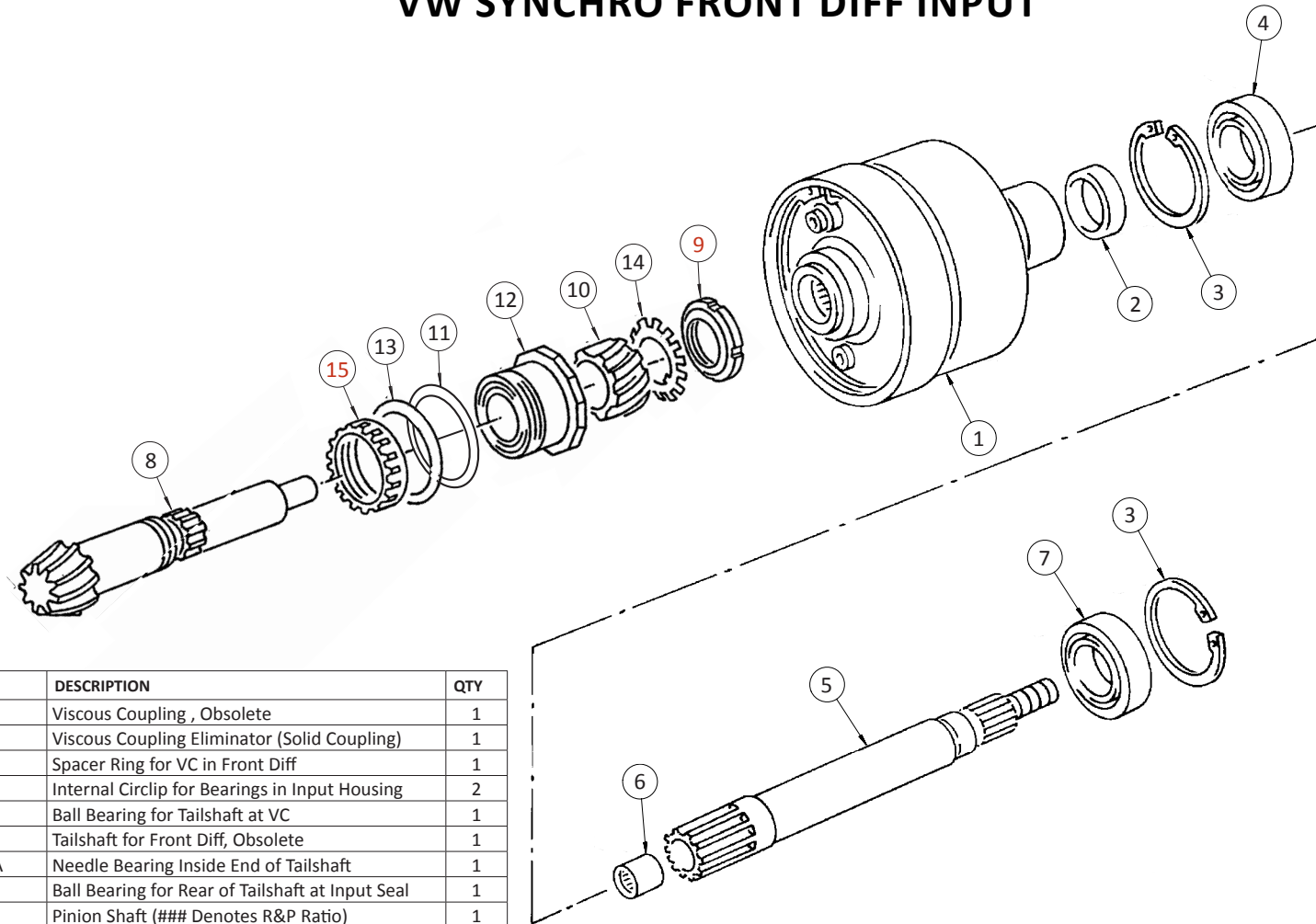
ITEM	PART NO.	DESCRIPTION	QTY
1	091-577-121	094 Locking Diff Carrier, Obsolete	1
2	091-517-135-B	091 Diff Cover, Factory VW	1
(2)	5212HD	HD 091 Diff Cover	1
3	5F-###	Syncro R&P, Front, (### Denotes Ratio)	1
4	H-BM9X26FH-FT	Ring Gear Bolt, Flanged Head Torque to 38 ft. lb. with Loctite 272 (Red)	8
5	091-517-177	Long Cross Shaft for Spider Gears	1
6	H-RP6X36	Roll Pin for Diff Cross Shafts	1
7	091-517-183	Sidegear Thrust Washer	2
8	091-517-185-B	091 Diff Carrier Bearing & Race	2
9	091-517-189	Spider Gear Thrust Washer	2
10	002-517-241	Center Spacer for 2-Spider Diff	1
11	014-311-317	Drive Flange Circlip	2
12	091-517-285	091 Drive Flange, Factory VW, Obsolete	2
(12)	5525	091 To 930 Drive Flange	2
13	002-517-289-A	Drive Flange Sealing Plug	2
14	091-517-295	Spring Washer for Drive Flange Circlip	2
15	091-517-169-HD	HD 9T Spider Gear	2
16	094-517-158	Locking Long Side Gear	1
17	091-517-157	Short Side Gear	1
18	094-517-133	Slider for Locking Side Gear	1



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Drawing No: VW-EXP-SYNC-FRONT-DIFF
Drawing Name: Syncro Locking Diff Carrier
Drawn By: RX
Revised: 10/16/23

VW SYNCHRO FRONT DIFF INPUT



ITEM	PART NO.	DESCRIPTION	QTY
1	094-409-435	Viscous Coupling , Obsolete	1
(1)	5F-VCE	Viscous Coupling Eliminator (Solid Coupling)	1
2	094-409-456	Spacer Ring for VC in Front Diff	1
3	N-012-319-1	Internal Circlip for Bearings in Input Housing	2
4	094-409-123	Ball Bearing for Tailshaft at VC	1
5	094-409-141	Tailshaft for Front Diff, Obsolete	1
6	094-409-139-A	Needle Bearing Inside End of Tailshaft	1
7	094-301-133	Ball Bearing for Rear of Tailshaft at Input Seal	1
8	5F-###	Pinion Shaft (### Denotes R&P Ratio)	1
9	094-409-173	Pinion Bearing Preload Nut, Obsolete Torque to 155 ft. lb. with Loctite 243 (Blue)	1
10	094-409-417-A	8T Speedo Drive Gear	1
(10)	094-409-417-B	9T Speedo Drive Gear	1
(10)	094-409-417-C	7T Speedo Drive Gear, Obsolete	1
11	001-311-391 to 398	Pinion Depth Shim, Various Sizes	1
(11)	001-311-39K	Pinion Depth Shim Kit	1
12	091-311-219	Late Pinion Bearing Assembly	1
13	002-311-221	Washer for Large Round Pinion Nut	1
14	094-409-175	Folding Lock for Pinion Preload Nut	1
15	002-311-223-A	Stock VW Pinion Bearing Retainer Nut Torque to 166 ft. lb. with Loctite 243 (Blue)	1
(15)	9361	Weddle HD Pinion Bearing Retainer Nut Torque to 166 ft. lb. with Loctite 243 (Blue)	1

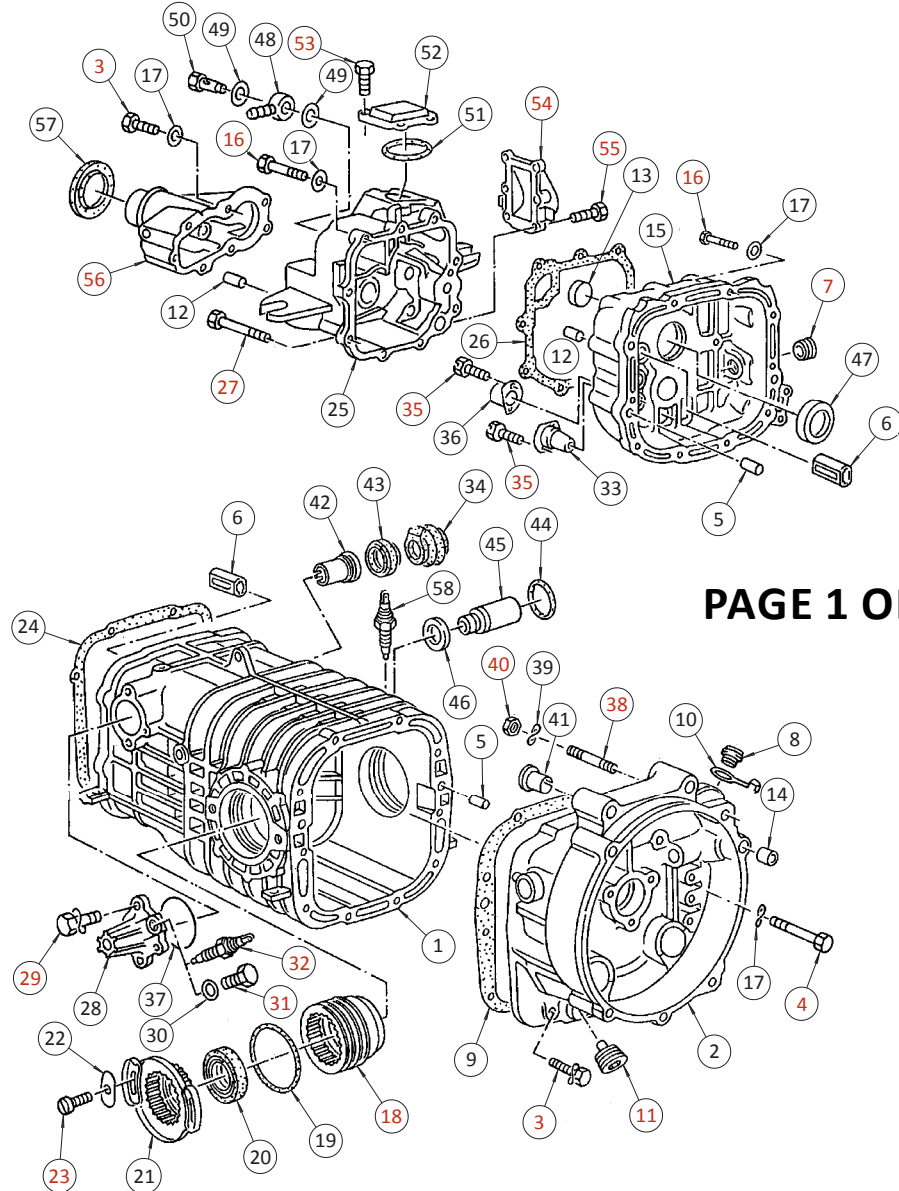


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Drawing No: VW-EXP-SYNC-FRONT-INPUT
Drawing Name: VW Sycro Front Diff Input Assembly
Drawn By: RX
Revised: 1/19/24

VW SYNCRO HOUSING ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
1	6460	Maincase, Non-Locker, Refurbished	1
(1)	094-301-051	Maincase w/ Diff Locker Boss, Obsolete	1
2	091-301-071-HD	HD Aluminum Bell Housing	1
(2)	091-301-071-D-AL	Aluminum Diesel Bell Housing	1
3	H-BM8X28H	M8-1.25x28mm Hex Bolt, Lower BH and Front Output Housing, w/ Integral Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	11
(3)	H-BM8X25H	M8-1.25x25mm Hex Bolt, Requires H-WM8-17 Washer	11
4	H-BM8X45HWU	M8-1.25x45mm Hex Bolt, Upper BH, w/ Integral Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	6
(4)	H-BM8X45H	M8-1.25x45mm Hex Bolt, Requires H-WM8-17 Washer	6
5	H-DM12X25	M12x25mm Dowel	4
6	091-301-120	Ball Sleeve/Shift Rail Guide	6
7	012-301-127-F	Oil Fill Plug Torque to 35 ft. lb. with Loctite 243 (Blue)	1
8	020-301-129-B	Timing Hole Plug (Diesel BH Only)	1
9	091-301-131	Bell Housing Gasket	1
10	020-301-132	Timing Hole Cap (Diesel BH Only)	1
11	091-301-141-A	Drain Plug with Long Magnet Torque to 35 ft. lb. with Loctite 243 (Blue)	1
12	02M-301-153-A	Hollow Dowel Sleeve for Gear Carrier Housing	4
13	N-011-904-1	Plug for Reverse Idler Shaft Hole in G.C.H.	1
14	113-301-155	Starter Bushing	1
15	6387	Gear Carrier Housing	1
(15)	6387-B	Billet Aluminum Gear Carrier Housing	1
16	H-BM8X38HU	M8-1.25x38mm Housing Bolt with Integral Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	15
(16)	H-BM8X35H	M8-1.25x35mm Housing Bolt , Requires Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	15
17	H-WM8-17	8mm Flat Washer for Housing Bolts	32
18	091-301-183	Sidescrew Adjuster Lube Threads	2
19	002-301-185-A	O-Ring for Sidescrew Adjuster	2
20	091-301-189	Drive Flange Seal, German, 15mm Wide	2
(20)	091-301-189-N	Drive Flange Seal, Nak, 15mm Wide	2
(20)	091-301-189-X	Drive Flange Seal, SKF, 10mm Wide	2
21	091-301-197	Sidescrew Retainer, Plastic	2
22	113-301-195	Washer Plate for Sidescrew Retainer	4
23	N-090-173-3	Phillips Screw for Sidescrew Retainer Install with Loctite 243 (Blue)	4
24	091-301-191	Gear Carrier Housing Gasket	1
25	094-301-211-E	Syncro Low Gear Housing	1
26	094-301-215-A	Syncro Low Gear Housing Gasket	1
27	H-BM8X110H	M8-1.25x110mm Housing Bolt with Integral Washer Torque to 18 ft. lb. with Loctite 243 (Blue)	2
28	091-301-232-A	Selector Shaft Cover	1
29	H-BM7X25H	M7x1.0-25mm Bolt for Selector Cover (Requires H-WM7 Washer) Torque to 14 ft. lb. with Loctite 243 (Blue)	3



PAGE 1 OF 2

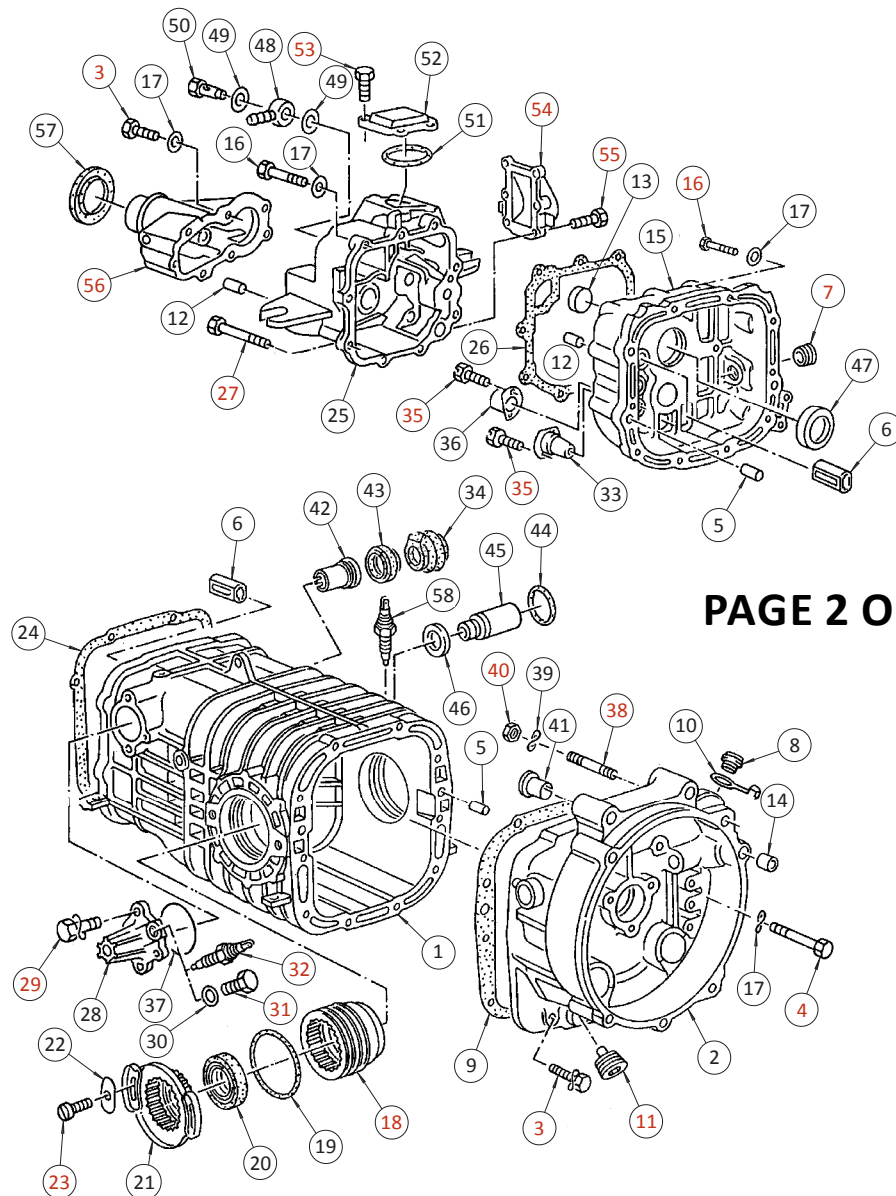


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Drawing No: VW-EXP-SYNC-HOUS
Drawing Name: VW Syncro Housing Assembly
Drawn By: RX
Revised: 4/7/2025

VW SYNCRO HOUSING ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
30	020-301-244	Sealing Washer for Reverse Light Switch	1
31	H-BM12X20H-FT	Plug for Reverse Light Switch Torque to 35 ft. lb.	1
32	020-945-415-A	Reverse Light Switch Torque to 35 ft. lb.	1
33	094-301-176-A	Ball Valve for Gear Carrier Housing	1
34	020-301-261-A	Boot for Selector Shaft	1
35	H-BM4X10H	M4-0.7x10mm Hex Bolt for Ball Valve and Shift Rail Cap Install with Loctite 243 (Blue)	4
36	094-301-186-A	Cap for End of Shift Rail	1
37	094-301-278-A	O-ring for Selector Cover	1
(37)	091-301-278-B	Gasket for Selector Cover	1
38	H-SM10X38	M10-1.5x38mm Starter Stud Install with Loctite 272 (Red)	1
39	H-WM10-WAVE	10mm Wave Washer for Starter Stud	1
40	H-NM10	M10-1.5 Hex Nut for Starter Stud Torque to 40 ft. lb. with Loctite 243 (Blue)	1
41	211-599-435-A	Bushing for Top Mount on Bell Housing, Obsolete	2
42	020-141-711-A	Selector Shaft Bushing	1
43	020-141-733-D	Selector Shaft Seal with External Garter Spring	1
(43)	020-141-733	Selector Shaft Seal without Garter Spring	1
44	N-902-621-01	Outer O-ring for Locker Sleeve	1
45	094-301-213-B	Locker Sleeve, Late Style	1
46	094-301-190-A	Inner "Quad" O-ring for Locker Sleeve, Late Style	1
(46)	094-301-190	Inner "Quad" O-ring for Locker Sleeve, Early Style	1
47	094-301-193	Obsolete - Metal Ring	1
48	N-902-788-01	Banjo Bolt Vent Fitting	1
49	N-013-808-3	Copper Sealing Washer for Banjo Bolt Vent Fitting	2
50	N-021-075-5	Bolt for Banjo Fitting, Trans Vent	1
51	094-311-499	O-ring for Low Gear Housing Cover	1
52	094-311-486	4-Bolt Cover Plate for Low Gear Housing	1
53	H-BM6X16FH	M6-1.0x25mm Flanged Hex Bolt for Cover Plate Torque to 7 ft. lb. with Loctite 243 (Blue)	4
54	094-301-208	6-Bolt Cover Plate for Low Gear Housing Seal W/3-Bond	1
(54)	094-301-208-HD	Billet 6-Bolt Cover Plate for Low Gear Housing (Requires H-BM6X25SH Bolts) Seal W/3-Bond	1
55	H-BM6X30FH	M6-1.0x30mm Flanged Hex Bolt for 6-Bolt Cover Plate Torque to 7 ft. lb. with Loctite 243 (Blue)	6
(55)	H-BM6X25SH	M6-1.0x30mm Socket Head Allen Bolt for Billet 6-Bolt Cover Plate Torque to 7 ft. lb. with Loctite 243 (Blue)	6
56	094-301-217-E	Syncro Front Output Housing (Nosecone), Obsolete	1
57	094-311-189	Front Output Seal	1
58	016-941-521		



PAGE 2 OF 2

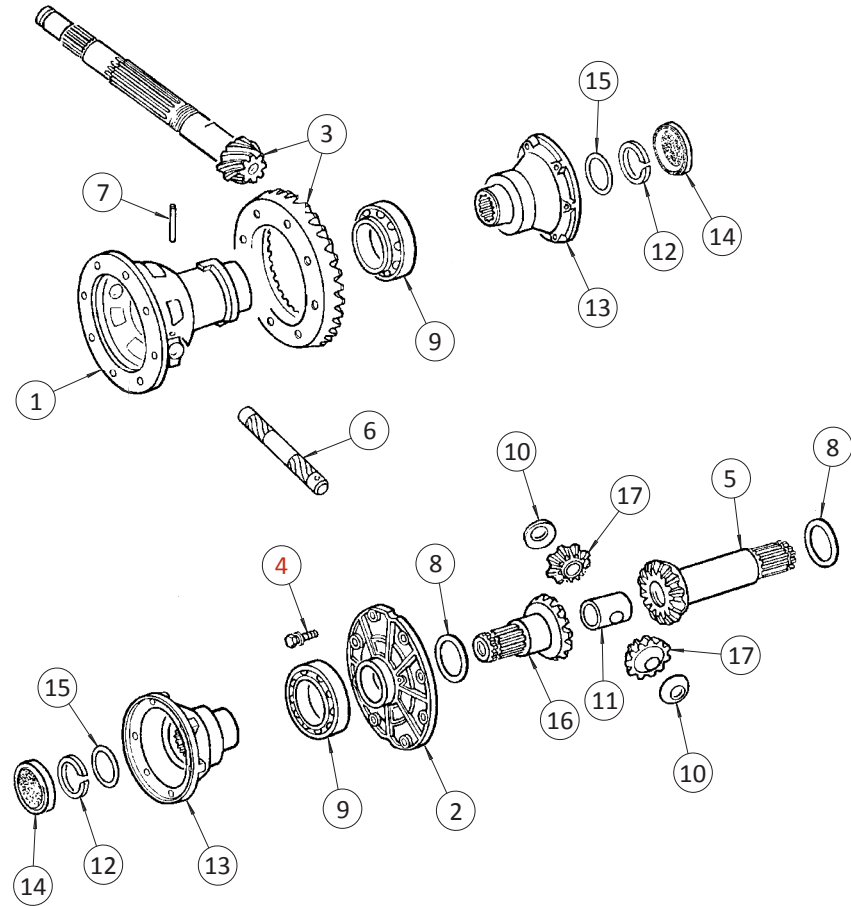


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Drawing No: VW-EXP-SYNC-HOUS
Drawing Name: VW Syncro Housing Assembly
Drawn By: RX
Revised: 10/5/23

VW SYNCRO DIFF CARRIER (2-SPIDER)

Note 1: 091-598-081: 2 Spider and 2 Side Gear Diff Kit (No thrust washers)



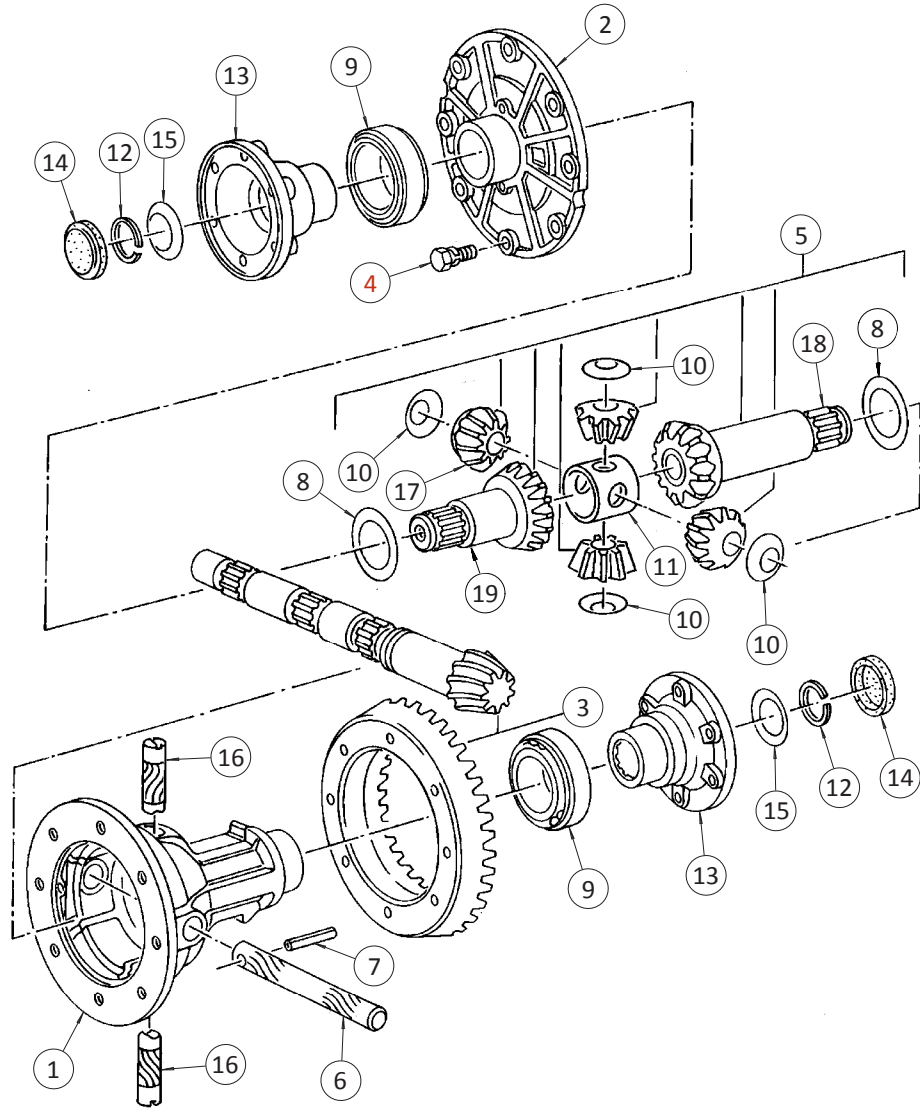
ITEM	PART NO.	DESCRIPTION	QTY
1	091-517-121-A	091 2-Spider Diff Carrier, Factory VW	1
2	091-517-135-B	091 Diff Cover, Factory VW	1
(2)	5212HD	HD 091 Diff Cover	1
3	5E-486HD	4WD Vanagon R&P, Weddle HD (### Denotes Ratio)	1
4	H-BM9X26FH-FT	Ring Gear Bolt, Flanged Head Torque to 38 ft. lb. with Loctite 272 (Red)	8
5	091-517-158	Long Side Gear	1
6	091-517-177	Long Cross Shaft for Spider Gears	1
7	H-RP6X36	Roll Pin for Diff Cross Shafts	1
8	091-517-183	Sidegear Thrust Washer	2
9	091-517-185-B	091 Diff Carrier Bearing & Race	2
10	091-517-189	Spider Gear Thrust Washer	2
11	002-517-241	Center Block for 2-Spider Diff	1
12	014-311-317	Drive Flange Circlip	2
13	091-517-285	091 Drive Flange, Factory VW, Obsolete	2
(13)	5525	091 To 930 Drive Flange	2
14	002-517-089-A	Drive Flange Sealing Plug	2
15	091-517-295	Spring Washer for Drive Flange Circlip	2
16	091-517-157	Short Side Gear	1
17	091-517-169-HD	HD 9T Spider Gear	2



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Drawing No: VW-EXP-SYNC-DIFF-2
Drawing Name: VW Syncro Diff Carrier, 2 Spider
Drawn By: RX
Revised: 10/16/23

VW SYNCRO DIFF CARRIER (4-SPIDER)



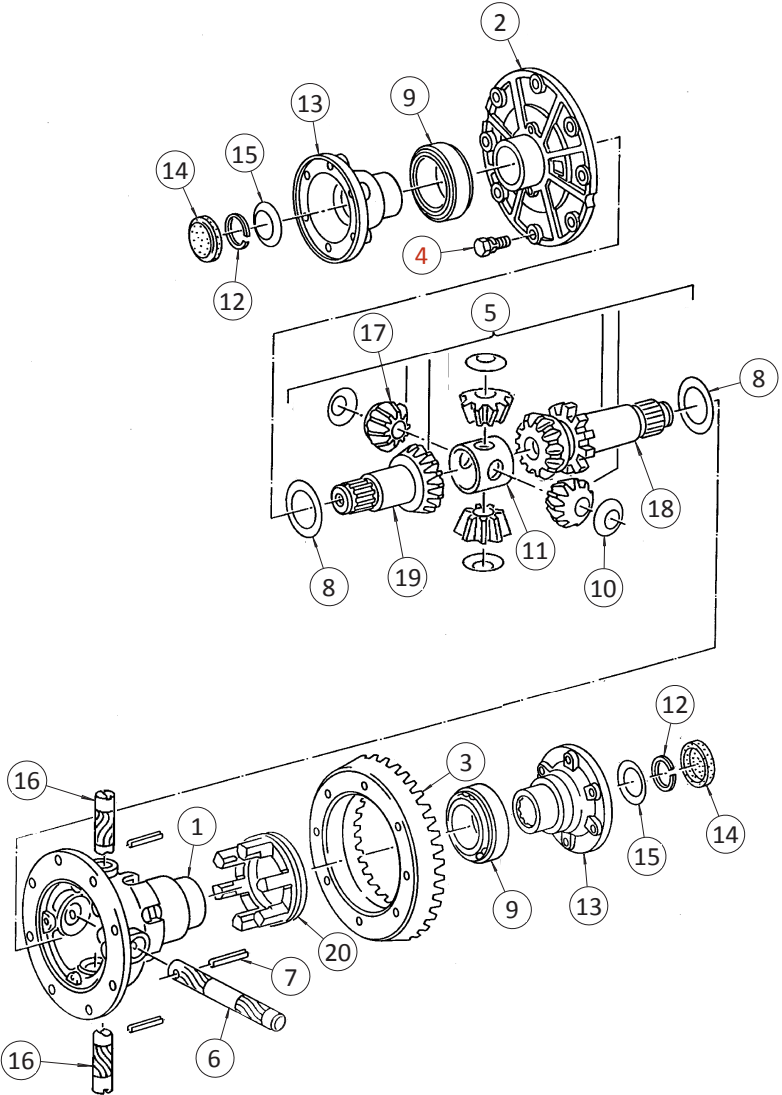
ITEM	PART NO.	DESCRIPTION	QTY
1	091-517-121-B	4-Spider Diff Carrier, Factory VW, Obsolete (See Part #5241HD or #5291HD)	1
(1)	5241HD	Weddle 091 4-Spider Superdiff, Heavy Duty	1
(1)	5291HD	Weddle 4-Spider Superdiff with Guts	1
2	091-517-135-B	091 Diff Cover, Factory VW	1
(2)	5212HD	HD 091 Diff Cover	1
3	5E-###HD	Weddle HD Syncro R&P, Rear (# Denotes R&P Ratio)	1
4	H-BM9X26FH-FT	Ring Gear Bolt, Flanged Head Torque to 38 ft. lb. with Loctite 272 (Red)	8
5	091-598-081-B	4-Spider & Sidegear Kit (Thrust Washers not Included)	1
6	091-517-177	Long Cross Shaft for Spider Gears	1
7	H-RP6X36	Roll Pin for Diff Cross Shafts	1-3
8	091-517-183	Sidegear Thrust Washer	2
9	091-517-185-B	091 Diff Carrier Bearing & Race	2
10	091-517-189	Spider Gear Thrust Washer	4
11	091-517-179	4-Spider Center Block, Factory VW, Obsolete	1
(11)	5247HD	HD 4-Spider Center Block	1
12	014-311-317	Drive Flange Circlip	2
13	091-517-285	091 Drive Flange, Factory VW, Obsolete	2
(13)	5525	091 To 930 Drive Flange	2
14	002-517-089-A	Drive Flange Sealing Plug	2
15	091-517-295	Spring Washer for Drive Flange Circlip	2
16	091-517-178	Short Cross Shaft for 4-Spider Diff, Obsolete	2
(16)	5248HD	HD Short Cross Shaft for Weddle 4-Spider Diff	2
17	091-517-169-HD	HD 9T Spider Gear	4
18	091-517-158	Long Side Gear	1
19	091-517-157	Short Side Gear	1



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Drawing No: VW-EXP-SYNC-DIFF-4
Drawing Name: VW Syncro Diff Carrier, 4 Spider
Drawn By: RX
Revised: 10/16/23

VW SYNCRO LOCKING DIFF CARRIER



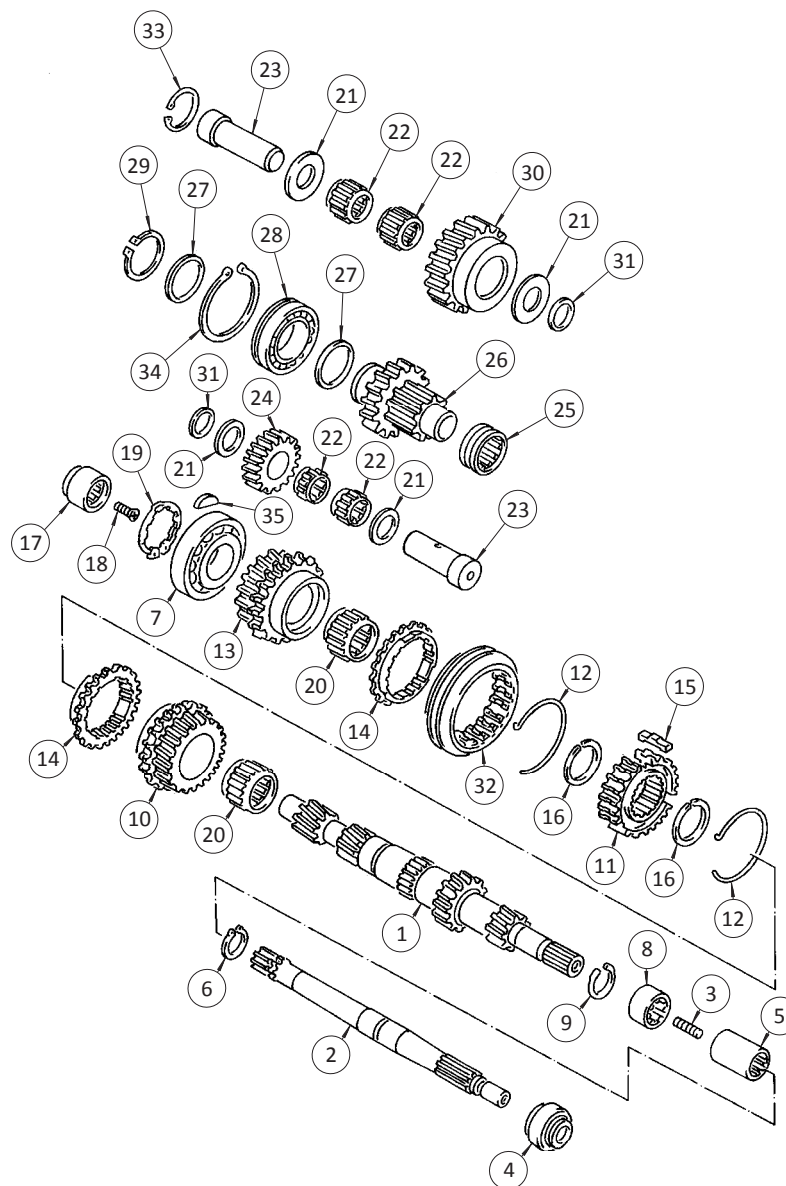
ITEM	PART NO.	DESCRIPTION	QTY
1	094-517-121	094 Locking Diff Carrier, 4-Spider, Obsolete	1
2	091-517-135-B	091 Diff Cover, Factory VW	1
(2)	5212HD	HD 091 Diff Cover	1
3	5E-####HD	Weddle HD Syncro R&P, Rear (# Denotes R&P Ratio)	1
4	H-BM9X26FH-FT	Ring Gear Bolt, Flanged Head Torque to 38 ft. lb. with Loctite 272 (Red)	8
5	094-598-081-B	4-Spider & Locking Sidegear Kit (Thrust Washers not Included)	1
6	091-517-177	Long Cross Shaft	1
7	H-RP6X36	Roll Pin for Diff Cross Shafts	1
8	091-517-183	Sidegear Thrust Washer	2
9	091-517-185-B	091 Diff Carrier Bearing & Race	2
10	091-517-189	Spider Gear Thrust Washer	4
11	091-517-179	4-Spider Center Block, Factory VW, Obsolete	1
12	014-311-317	Drive Flange Circlip	2
13	091-517-285	091 Drive Flange, Factory VW, Obsolete	2
(13)	5525	091 To 930 Drive Flange	2
14	002-517-289-A	Drive Flange Sealing Plug	2
15	091-517-295	Spring Washer for Drive Flange Circlip	2
16	091-517-178	Short Cross Shaft for 4-Spider Diff, Factory VW, Obsolete	2
17	091-517-169-HD	HD 9T Spider Gear	4
18	094-517-158	Locking Long Side Gear	1
19	091-517-157	Short Side Gear	1
20	094-517-133	Slider for Locking Side Gear	1

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Drawing No: VW-EXP-SYNC-DIFF-L
 Drawing Name: Syncro Locking Diff Carrier
 Drawn By: RX
 Revised: 10/16/23

VW SYNCRO MAIN SHAFT ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
1	094-311-101-B	Syncro Mainshaft, 2.06 2nd Gear	1
(1)	094-311-101-D	Syncro Mainshaft, 1.88 2nd Gear	1
2	091-311-105	Input Shaft, Long Snout	1
(2)	091-311-105-HD	Weddle HD Input Shaft, Long Snout	1
3	N-902-210-01	Input Shaft Connecting Stud	1
4	113-311-113-A	Input Shaft Seal, NAK	1
(4)	113-311-113-A-E	Input Shaft Seal, Elring	1
(4)	113-311-113-A-S	Input Shaft Seal, Sabo	1
5	091-311-119	Input Coupler	1
6	N-012-419-1	19mm Circlip for Input Coupler	1
7	091-311-123-C	Front Mainshaft Ball Bearing in Gear Carrier Housing	1
(7)	HV1-425	HD Front Mainshaft Bearing	1
8	002-311-125-A	Rear Mainshaft Needle Bearing in Maincase	1
9	002-311-127-A	Circlip for Rear Mainshaft Needle Bearing	1
10	3D3-126	1.26 3rd Gear Set, Factory VW	1
(10)	WC-####	Weddle HD 3rd Gear Idler on M/S (### Denotes Ratio) (Requires 8D8-CONE)	1
11	091-311-309-A-HD	Weddle HD 3-4 Slider Hub	1
12	113-311-249-A	Single Ended Wire Spring	2
13	WC-####	Weddle HD 4th Gear Idler on M/S (### Denotes Ratio) (Requires 8D8-CONE)	1
14	091-311-295-A	1st-4th Gear Synchronizer, Coated	2
(14)	091-311-295-A-A	1st-4th Gear Synchronizer, Uncoated	2
(14)	091-311-295-A-D	1st-4th Gear Synchronizer, Uncoated, Diehl	2
15	091-311-313	Catch Key, 091 & 094	3
16	091-311-321-A	3-4 Slider Hub Circlip	2
17	094-311-373	Mainshaft Needle Bearing in Low Gear Housing	1
18	No Part #	5x12MM Aluminum Rivet for MS Needle Bearing	1
19	N-100-794-01	Mainshaft Clip at Ball Bearing in G.C.H	1
20	4-354024SP	Needle Bearing for 3rd/4th Gear, Split, Plastic Cage	1
(20)	4-354027SP	Needle Bearing for 3rd/4th Gear, Split, Plastic Cage	1
(20)	4-354027S	Needle Bearing for 3rd Gear, Split, Steel Cage	1
(20)	4-354027	Needle Bearing for 4th Gear, Steel Cage	1
21	091-311-517	Thrust Washer for Low & Reverse Idler Gears	4
22	091-311-523	Needle Bearing for Low & Reverse Idler Gears	4
23	094-311-524	Intermediate Low/Reverse Idler Shaft	2
24	094-311-532	16T Intermediate Reverse Idler Gear	1
25	094-311-375-E	Low/Reverse Cluster Shaft Needle Bearing	1
26	094-311-360-U	31T/16T Low/Reverse Cluster Shaft Assembly	1
27	N-100-755-01	Spacer for Low/Reverse Cluster Shaft	2
28	094-311-123	Large Ball Bearing for Low/Reverse Cluster Shaft	1
29	N-012-380-1	Circlip for Low/Reverse Cluster Shaft	1
30	094-311-497	19T Intermediate Low Reduction Idler Gear	1
31	094-311-364	Small Spacer for Reverse Idler Shaft	2
32	091-311-315-B	3-4 Slider	1
33	N-012-312-1	Circlip for Intermediate Reverse Idler Shaft	1
34	No Part #	Circlip for Low/Rev Cluster Shaft Ball Bearing	1
35	091-311-110-A	Key for Ball Bearing in G.C.H.	1



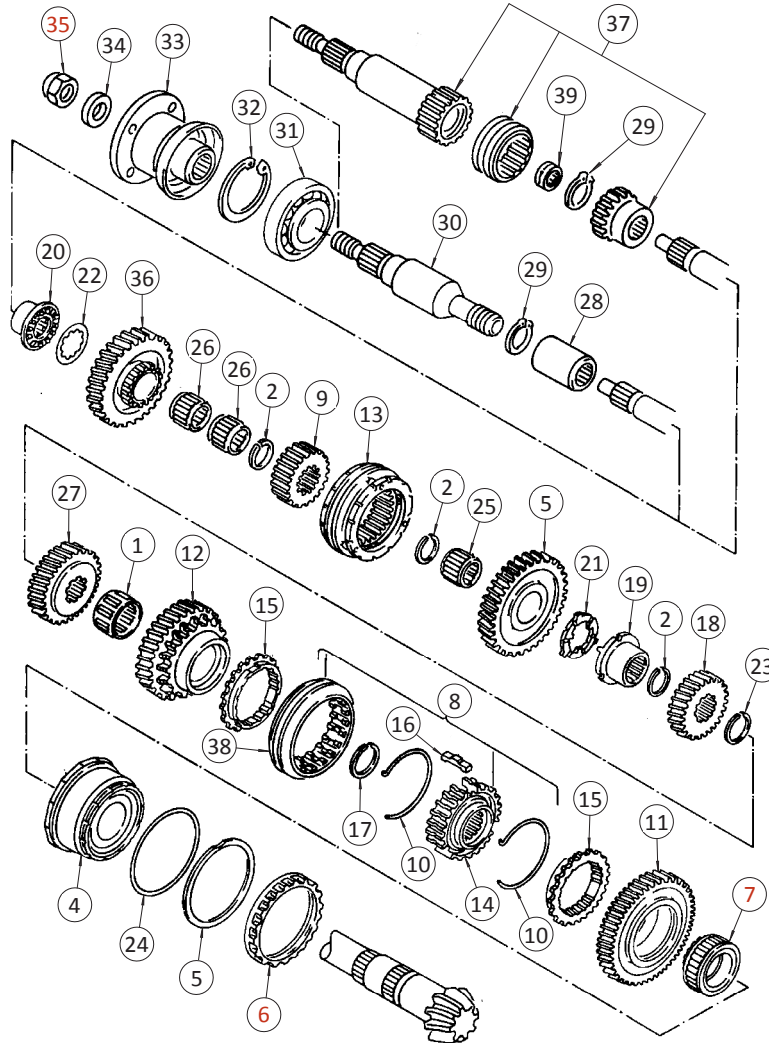
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Drawing No: VW-EXP-SYNC-MS
Drawing Name: VW Syncro Main Shaft Assembly
Drawn By: RX
Revised: 10/9/23

VW SYNCRO PINION SHAFT ASSEMBLY

PAGE 1 OF 2

ITEM	PART NO.	DESCRIPTION	QTY
1	4-323826	32x38x26mm 2nd Gear Needle Bearing	1
2	091-311-187-B	C-Style Circlip for Pinion Shaft	3
3	094-311-217-B	Reverse Idler Gear on Pinion	1
4	091-311-219	Late Pinion Bearing Assembly	1
5	002-311-221	Washer for Large Round Pinion Bearing Nut	1
6	002-311-223-A	Large Round Pinion Bearing Nut, Factory VW Torque to 162 ft. lb. with Loctite 243 (Blue)	1
(6)	9361	Weddle HD Large Round Pinion Bearing Nut Torque to 162 ft. lb. with Loctite 243 (Blue)	1
7	091-311-227-D	1st Gear Bearing Race, Pinion Bearing Preload Nut Torque to 152 ft. lb. with Loctite 272 (Red)	1
(7)	HV1-900	Weddle HD Pinion Bearing Preload Nut (Use with HV1-900 & HV1-843) Torque to 152 ft. lb. with Loctite 272 (Red)	1
(7)	HV1-400	Weddle HD 1st Gear Bearing Race (Use with HV1-900 & HV1-843)	1
(7)	113-311-265-G	1st Gear Needle Bearing, Plastic Cage	1
(7)	113-311-265-S	1st Gear Needle Bearing, Steel Cage	1
8	091-311-241-B	1-2 Slider Hub Assembly	1
9	091-311-244	Reverse Slider Hub	1
10	113-311-249-A	Single Ended Wire Spring	2
11	091-311-251-A	3.78 1st Idler Gear	1
12	091-311-261-A	2.06 2nd Idler Gear	1
(12)	094-311-261-B	1.88 2nd Idler Gear, Obsolete	1
13	094-311-283-B	Low/Reverse Synchro Assembly	1
14	091-311-243-B	1-2 Slider Hub, Factory VW	1
(14)	HV1-843	Weddle HD 1-2 Slider Hub (Use with HV1-400 & HV1-900)	1
15	091-311-247-C	1st Gear Synchronizer, Uncoated, Diehl	1
(15)	091-311-295-A	1st-4th Synchronizer, Coated	1
(15)	091-311-295-A-A	1st-4th Synchronizer, Uncoated	1
(15)	091-311-295-A-D	1st-4th Synchronizer, Uncoated, Diehl	1
16	091-311-313	Catch Key for Slider/Hub Assembly	3
17	091-311-321	Circlip for 1-2 Hub Assembly	1



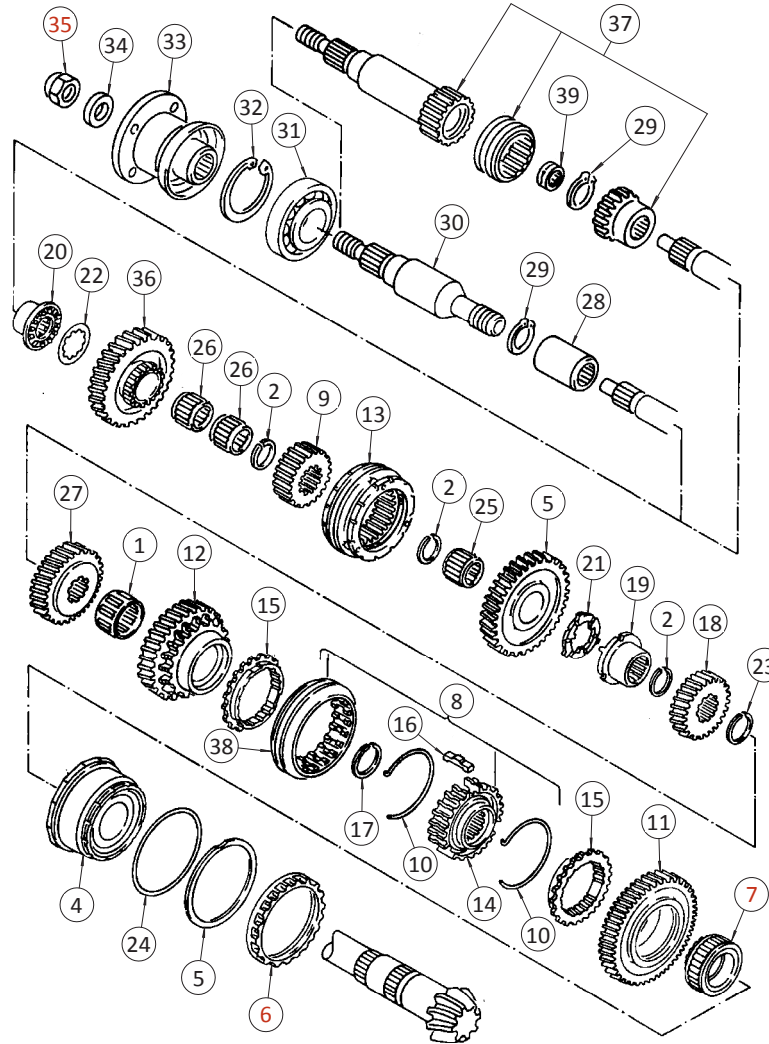
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Drawing No: VW-EXP-SYNC-PS
Drawing Name: VW Syncro Pinion Shaft Assembly
Drawn By: RX
Revised: 10/3/23

VW SYNCRO PINION SHAFT ASSEMBLY

PAGE 2 OF 2

ITEM	PART NO.	DESCRIPTION	QTY
18	WD-###S-4	Weddle HD 4th Splined Gear (### Denotes Ratio, Use with WD-###I)	1
19	091-311-373-C	Needle Bearing and Race in Gear Carrier Housing	1
20	094-311-373	Low Gear Thrust Bearing Assembly in Front Housing	1
21	091-311-379	Reverse Gear Thrust Washer, 3.8mm, White	1
(21)	091-311-379-A	Reverse Gear Thrust Washer, 4.0mm, Black	1
(21)	091-311-379-B	Reverse Gear Thrust Washer, 4.2mm, Green	1
(21)	091-311-379-C	Reverse Gear Thrust Washer, 4.4mm, Red	1
22	094-311-379-K	Low Gear Thrust Washer Kit, 6-Sizes	1
(22)	094-311-379 to 379-E	Low Gear Thrust Washer (Various Sizes)	1
23	113-311-38K	3rd Gear Circlip Kit	1
(23)	113-311-381	3rd Gear Circlip, 1.45mm	1
(23)	113-311-385	3rd Gear Circlip, 2.05mm	1
(23)	113-311-386	3rd Gear Circlip, 2.3mm	1
(23)	113-311-387	3rd Gear Circlip, 2.4mm	1
(23)	113-311-388	3rd Gear Circlip, 2.5mm	1
24	001-311-39K	Pinion Depth Shim Kit	1
(24)	001-311-391 to 398	Pinion Depth Shim (Various Sizes)	1
25	094-311-431	Needle Bearing for Reverse Idler Gear on Pinion	1
26	094-311-370	Needle Bearing for Low Idler Gear on Pinion	2
27	3D3-126	1.26 3rd Gear	1
(27)	WC-###S-3	Weddle HD 3rd Splined Gear on Pinion (### Denotes Ratio, Use with WC-###I)	1
28	094-311-316-A-U	Output Coupler for Pinion Shaft	1
29	N-012-425-1	25mm Circlip for Front Output Shaft	1
30	094-311-106-B-U	Front Output Shaft for Front Housing	1
31	094-301-133	Ball Bearing for Output Shaft in Front Housing	1
32	N-012-319-1	Circlip for Ball Bearing in Front Housing	1
33	094-301-223	Output Flange for Front Driveshaft	1
34	094-311-378	Washer for Output Flange Nut	1
35	N-022-143-4	Nut For Output Flange Torque to 112 ft. lb. with Loctite 243 (Blue)	1
36	094-311-368	Low Idler Gear on Pinion Shaft	1
37	9980	Decoupler Kit	1
38	091-311-255-A	1-2 Slider	1
39	094-409-139-A	Needle Bearing for Decoupler Front Output Shaft	1

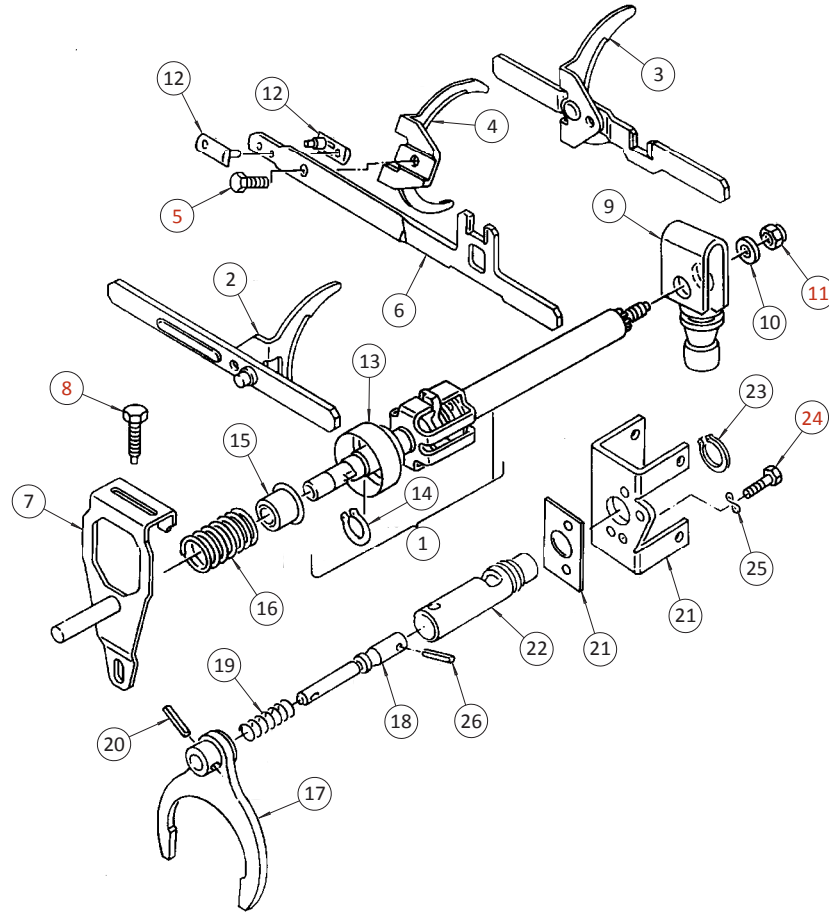


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Drawing No: VW-EXP-SYNC-PS
Drawing Name: VW Syncro Pinion Shaft Assembly
Drawn By: RX
Revised: 10/3/23

VW SYNCRO FORKS AND RAILS

ITEM	PART NO.	DESCRIPTION	QTY
1	091-311-534-B	Selector Shaft Assembly	1
2	091-311-549-A	1-2 Shift Rail/Fork Assembly	1
3	091-311-559-A	3-4 Shift Rail/Fork Assembly	1
4	091-311-571-A	Low-Reverse Shift Fork	1
5	H-BM8X15H	M8-1.25 x 15mm Hex Bolt Torque to 18 ft. lb. with Loctite 243 (Blue)	1
6	094-311-577-C	Low-Reverse Shift Rail	1
7	091-311-581-B	1-2 Relay Lever	1
(7)	HV1-8581	1-2 Relay Lever with Welded Pivot Shaft	1
8	N-901-880-01	Locating Bolt for 1-2 Relay Lever Torque to 14 ft. lb. with Loctite 243 (Blue)	1
9	251-711-221-F	Shift Ball/Lever	1
10	H-WM8-19	Washer for Shift Ball/Lever Retainer Nut	1
11	N-022-146-4	Retainer Nut For Shift Ball/Lever Torque to 18 ft. lb. with Loctite 243 (Blue)	1
12	091-301-146	Plastic Guide for Low-Reverse Shift Rail	2
13	020-301-266	Large Stop Cap for Selector Shaft Assembly	1
14	N-012-415-1	15mm Circlip for Selector Shaft Assembly	3
15	091-301-267	Small Stop Cap for Selector Shaft Assembly	1
16	091-311-548-B	Large Spring for Selector Shaft Assembly	1
17	094-311-559	Diff Locker Fork	1
18	094-311-578-G	Diff Locker Shaft	1
19	094-409-329	Diff Locker Spring	1
20	H-RP4X22	M4x22mm Roll Pin for Diff Locker Fork	1
21	094-301-142-X	Diff Lock Servo Bracket, Universal	1
22	094-301-213-B	Locker Shaft Sleeve	1
23	N-012-417-1	17mm Circlip for Diff Locker Shaft Sleeve	1
24	H-BM6X18H	M6-1.0 x 18mm Hex Bolt for Servo Bracket Torque to 7 ft. lb.	2
25	H-WM6-WAVE	M6 Wave Washer	2
26	H-RP3X10-S	M3 x 10mm Roll Pin for Locker Shaft	1



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Drawing No: VW-EXP-SYNC-SHIFT
Drawing Name: VW Syncro Forks and Rails
Drawn By: RX
Revised: 10/5/23