

## Velvet Drive Marine Transmissions

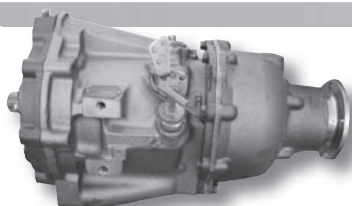
**Velvet Drive 72 Series Marine Transmissions** are available in a direct drive, in-line reduction and V-drive configuration. They include a wide selection of gear ratios, proven reliability and a heavy duty cast iron case. The 72 Series transmissions is rated for use with in pleasure craft, light duty commercial and heavy duty commercial applications. **Pleasure craft rating** is defined as full throttle operation is used 5% or less and cruising speed at 80% or less. Total running time is 400 hours a year or less. **Light duty commercial** is defined as full throttle operation is used 5% or less with 75% of full throttle operation being used for longer durations. Total running time is 1500 hours a year or less. **Heavy duty commercial** is much the same as light duty but extends running time to 2500 hours or less.



Velvet Drive 72 Series Direct Drive marine transmission. The 72 Series Direct Drives can be used with either standard or reverse rotation engines by simply rotating the hydraulic pump mounted on the front of the transmission.

### Direct Drive Power Ratings

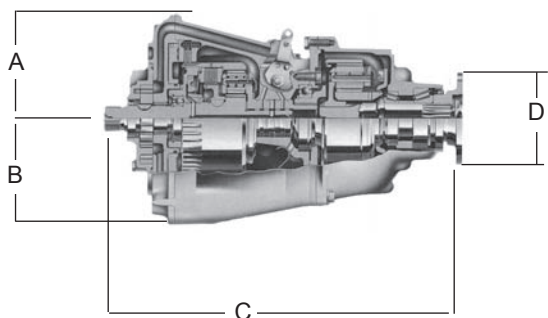
Transmission Model	Gas engine torque	Diesel engine torque
72C Pleasure	595 lb. ft.	450 lb. ft.
72C Commercial	425 lb. ft.	350 lb. ft.



Velvet Drive 72 Series In-Line reduction gear marine transmission. The 72 Series reduction gears can be used with either standard or reverse rotation engines by simply rotating the hydraulic pump mounted on the front of the transmission. Reduction ratios include 1.52, 1.88, 2.10, 2.57 & 2.91:1

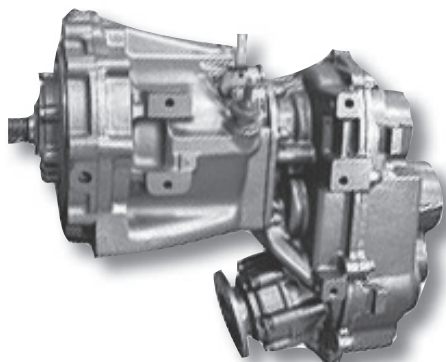
### Reduction Gear Power Ratings

Transmission Model	Ratio	Gas engine torque	Diesel engine torque
72C Pleasure	1.52, 1.88, 2.10	495 lb. ft.	375 lb. ft.
72C Commercial	1.52, 1.88, 2.10	400 lb. ft.	325 lb. ft.
72C Pleasure	2.57, 2.91	595 lb. ft.	450 lb. ft.
72C Commercial	2.57, 2.91	425 lb. ft.	350 lb. ft.



### Weight and Dimensions

Transmission Model	A	B	C	D	Weight
72C Direct Drive	5.63"	5.69"	11.44"	5"	109 lbs.
72C Reduction Gear	5.63"	5.69"	17.79"	5"	153 lbs.



Velvet Drive 72 Series V-Drives. The 72 Series V-Drives can be used with either standard or reverse rotation engines by simply rotating the hydraulic pump mounted on the front of the transmission. Opposite rotating propellers can be provided using twin, like rotation engines. Reduction ratios include 1.20, 1.51, 1.99 & 2.49:1

### V-Drive Power Ratings

Transmission Model	Ratio	Gas engine torque	Diesel engine torque
72C Pleasure	1.51, 1.21	495 lb. ft.	375 lb. ft.
72C Commercial	1.51, 1.21	400 lb. ft.	325 lb. ft.
72C Pleasure	1.99, 2.49	435 lb. ft.	330 lb. ft.
72C Commercial	1.99, 2.49	375 lb. ft.	305 lb. ft.

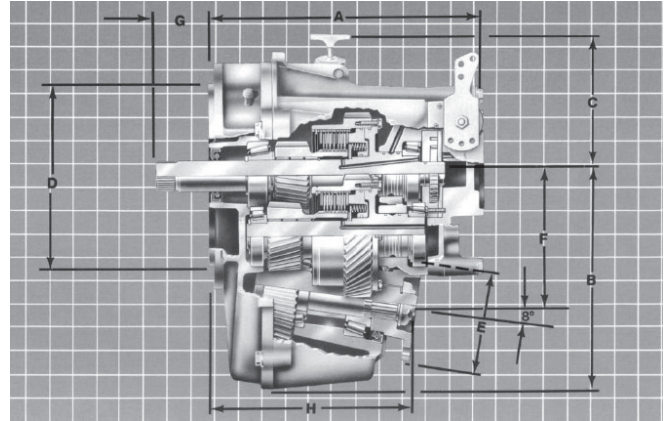
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## Liberty Series

The Libert Series Down Angle transmission is specifically designed for twin engine applications that require nearly horizontal engine installation. Its full reversing feature eliminates the need for opposite rotating engines, while the 8° "down angle" eliminates the problems that result from extremely steep engine installation angle. An improved hydraulic system provides more engine torque to the propeller. New design features such as an hydraulic pump and control valve make service easier. The control lever and dipstick are centrally located. Like all Velvet Drive® marine transmission, the Libert Series accepts flywheel housing adapters and propeller shaft couplings from the complete line of Velvet Drive® accessories.



### Dimension inches (millimeters)

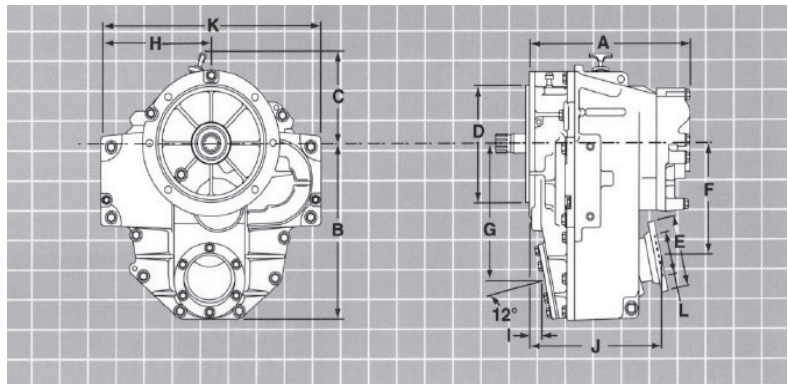
A	B	C	D	E	F	G	H
12.09 (307.0)	9.78 (248.5)	6.38 (162.0)	8.25 (209.5)	5.00 (127.0)	5.95 (151.2)	2.56 (65.0)	8.98 (228.1)

### General Information (subject to change without notice)

<b>Available Ratios</b> .....	1.0, 1.25, 1.5, 2.0, 2.45, 2.8:1
Both directions of output rotation	
<b>Input Shaft Spline Teeth</b> .....	26
<b>Input Shaft Rotation</b> .....	automotive
<b>Output Shaft Rotation</b> .....	either direction
<b>Approximate Dry Weight</b> .....	114 lbs. (51.7 kg)

## Model 5000V

The Series 5000V is designed specifically for V-drive applications. Its fully reversing feature allows for a twin-engine layout using "automotive" rotating engines, while the 12 degree down angle between the input and output shafts allows the desired system installation. The coupling flange, located on the opposite side to the engine and hollow output shaft, provides position and ease of propeller shaft alignment. The compact design and aluminum case provide a lighter and considerably shorter package than the 72 Series V-drive. The improved hydraulic system, with reduced parasitic losses, offers more power to the propeller. The Series 5000V has the same engine adaptation features as the 72 Series and Libert Series down angle.



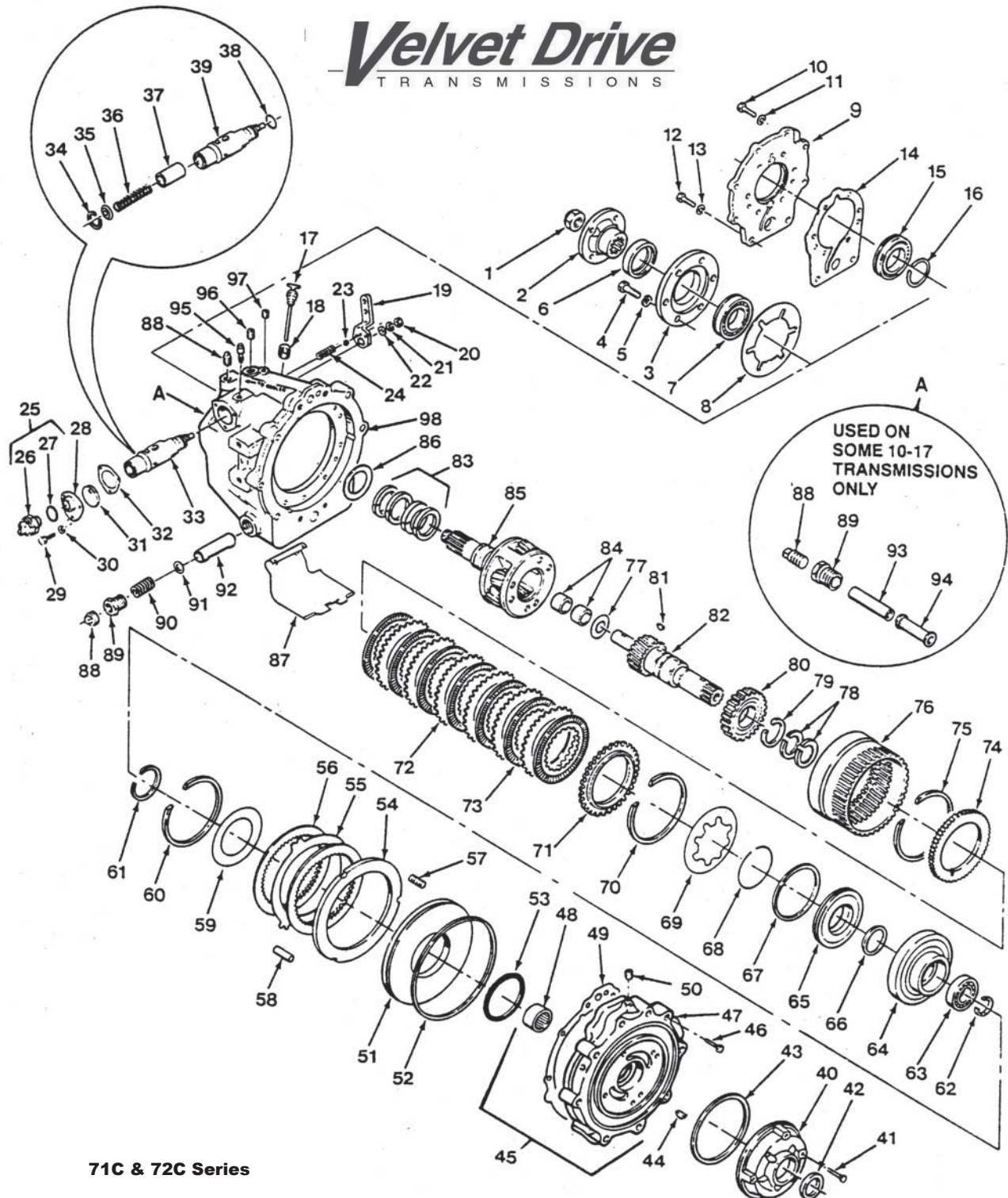
### Dimensions Inches (millimeters)

A	B	C	D	E	F	G	H	I	J	K	L
12.10 (307)	12.40 (316)	6.37 (161.8)	8.25 (209.55)	5.00 (127)	7.90 (200)	9.80 (248)	8.23 (209)	1.10 (28)	10.0 (254)	16.46 (418)	2.50 (63.50)

### General Information (subject to change without notice)

<b>Available Ratios</b> .....	1.25, 1.5, 2.00, 2.50:1
<b>Input Shaft Spline Teeth</b> .....	26
<b>Input Shaft Rotation</b> .....	automotive
<b>Output Shaft Rotation</b> .....	either direction
<b>Approximate Dry Weight</b> .....	133 lbs. (60.4 kg)

## 71c &amp; 72c Transmission Assembly - Current Production





# Velvet Drive

## 71c & 72c Transmission Assembly

Index No.	Part No.	Description
	10-17-000-	TRANS. ASSY. (MODEL 71C)
	10-18-000-	TRANS. ASSY. (MODEL 72C)
1	4775L	OUTPUT SHAFT NUT
2	4547BA	COUPLING (10-17 ONLY)
2A	4547AY	COUPLING (10-18 ONLY)
3	71-7	BEARING RETAINER (10-17 ONLY)
3A	72-7	BEARING RETAINER (10-18 ONLY)
4	0000179859	HEX HEAD BOLT (7/16-14 x 1-1/4) (10-17 ONLY)
4A	1000-183-043	HEX HEAD BOLT (7/16-14 x 1-1/4) (10-18 ONLY)
5	0000103322	LOCK WASHER (7/16) (10-17 ONLY)
6	71C-110	OIL SEAL
7	1000-130-017	BEARING (1 PKG.)
7A	1000-130-018	BEARING (10-17)
7B	B309AGS	BEARING (10-18)
8	71-147	BEARING RETAINER GSKT. (10-17 ONLY)
8A	72-147	BEARING RETAINER GSKT. (10-18 ONLY)
9	**	ADAPTER
9A	**	ADAPTER
9B	**	ADAPTER
10	**	LOCK BOLT (7/16-14 x 7/8)
11	**	LOCK WASHER (7/16) (10-18 ONLY)
11A	**	LOCK WASHER (7/16) (10-17 ONLY)
12	**	HEX HEAD BOLT (7/16-14 x 1-3/4)
13	**	LOCK WASHER (7/16)
14	**	ADAPTER GSKT.
15	**	BEARING
16	**	RETAINER RING
17	1017-559-001	DIPSTICK (ALL DIRECT DRIVE EXCEPT -015 & -016)
17A	1013-559-001	DIPSTICK (FOR -015 & -016)
18	1004-034-002	DIPSTICK TUBE
19	71-79B	SHIFT LEVER
20	9418892	HEX NUT (5/16-24)
21	0000108579	LOCK WASHER (5/16)
22	0000103340	FLAT WASHER (5/16)
23	0000453632	STEEL BALL (5/16)
24	71-42	POPPET SPRING
25	1004-420-052	NEUTRAL SWITCH ASSY.
26	1000-640-004	NEUTRAL SWITCH (NSS)
27	1000-141-046	O-RING
28	1016-039-001	VALVE COVER
29	179796	HEX HEAD BOLT (1/4-20 x 1/2)
30	103319	LOCK WASHER (1/4)
31	1016-099-001	SWITCH CAM
32	71-14	VALVE COVER GSKT.
33	71-A244A	CONTROL VALVE ASSY.
34	4821	SNAP RING
35	71-246	SPRING RETAINER
36	71-242	VALVE SPRING
37	71-243	REGULATOR VALVE
38	4804H	O-RING
39	71-A244A	CONTROL VALVE
40	71C-A60	PUMP ASSY.
41	1000-183-021	HEX HEAD BOLT (5/16-18 x 1-3/8)
42	1000-044-014	OIL SEAL
43	3-61	PUMP GSKT.
44	4873	WOODRUFF KEY
45	71C-A8	FORWARD & REVERSE ADAPTER ASSY.
46	4911	CAPSCREW (3/8-16 x 1-1/4)
47	NO NUMBER	FORWARD & REVERSE ADAPTER (NSS)
48	4840D	NEEDLE BEARING
49	71-144B	GASKET
50	0000444858	PIPE PLUG (1/4)
51	71-35	REVERSE CLUTCH PISTON
52	4805A	CLUTCH SEALING RING
53	4804G	O-RING
54	71-71	REVERSE CLUTCH PRESSURE PLATE
55	72-176	STEEL CLUTCH PLATE
56	72-A66B	FRICTION CLUTCH PLATE
57	71-97	PRESSURE PLATE SPRING
58	71-87A	DOWEL PIN (.312 DIA. x .438 LONG)
58A	R6-177	DOWEL PIN (.312 DIA x .621 LONG)
58B	4622E	DOWEL PIN (.312 DIA x .875 LONG)
59	71-15B	THRUST WASHER STANDARD
59A	1016-193-001	THRUST WASHER THICK
60	4822	SNAP RING
61	R6A-7-1/2	SNAP RING (10-17 ONLY)
61A	4766B	SNAP RING (10-18 ONLY)
62	4734	SNAP RING (10-17 ONLY)
62A	4559A	SNAP RING (10-18 ONLY)
63	B107A	BEARING (10-17 ONLY)
63A	1000-130-016	BEARING (10-18 ONLY)
64	71-70	FORWARD CLUTCH CYLINDER (10-17 ONLY)
64A	72-70	FORWARD CLUTCH CYLINDER (10-18 ONLY)
65	1016-124-001	FORWARD CLUTCH PISTON W/ORIFICE
65A	71-45	FORWARD CLUTCH PISTON
66	5M-122	O-RING
67	5L-36	PISTON SEAL RING
68	5C-33	CLUTCH SPRING BEARING RING
69	3-37	CLUTCH BELLEVILLE SPRING
70	4755	SNAP RING
71	5C-175A	CLUTCH PRESSURE PLATE

Index No.	Part No.	Description
72	3-176	STEEL CLUTCH PLATE (10-17 ONLY)
72A	3-176	STEEL CLUTCH PLATE (10-18 ONLY)
73	5C-A66A	FRICTION CLUTCH PLATE (10-17 ONLY)
73A	5C-A66A	FRICTION CLUTCH PLATE (10-18 ONLY)
74	5L-67	CLUTCH PRESSURE PLATE
75	1000-139-048	SNAP RING (.033-.037 THICK) (10-17 ONLY) YELLOW
75A	1000-139-049	SNAP RING (.050-.054 THICK) (10-17 ONLY) PINK
75B	4768	SNAP RING (.050-.054 THICK) (10-18 ONLY) GREEN
75C	4768A	SNAP RING (.074-.078 THICK) (10-18 ONLY) ORANGE
75D	4768B	SNAP RING (.096-.100 THICK) (10-18 ONLY) WHITE
75E	1000-139-018	SNAP RING (.062-.066 THICK) (10-18 ONLY) PURPLE
76	71-6	RING GEAR (10-17 ONLY)
76A	72-6	RING GEAR (10-18 ONLY)
77	71-17	THRUST WASHER
78	4806J	SEALING RING
79	4495	SNAP RING
80	71-40	FORWARD CLUTCH HUB (10-17 ONLY)
80A	1016-179-001	FORWARD CLUTCH HUB (10-18 ONLY)
81	0000218211	WOODRUFF KEY (10-17 ONLY)
81A	0000124553	WOODRUFF KEY (10-18 ONLY)
82	71C-3A16	DRIVE GEAR ASSY. (10-17 ONLY)
82A	72C-2A16	DRIVE GEAR ASSY. (10-18 ONLY)
83	4806B	SEALING RING
84	A4867DD (KIT)	BUSHING
85	1017-659-***	PINION CARRIER ASSY. (10-17 ONLY)
85A	1018-659-***	PINION CARRIER ASSY. (10-18 ONLY)
86	71-159	THRUST WASHER (USE W/BUSHING STYLE CASE)
86A	1017-193-001	THRUST WASHER (USE W/SEALING RING STYLE CASE)
87	1017-036-002	OIL BAFFLE (10-17 ONLY)
87A	1018-036-002	OIL BAFFLE (10-18 ONLY)
88	1000-191-002	PLUG (3/8-18)
89	4885B	DRY SEAL BUSHING (3/4-14)
90	5L-222	SPRING
91	35-143	FLAT WASHER
93	71C-84	OIL RETURN TUBE
94	71C-A98	OIL STRAINER ASSY.
95	A4740G	BREATHER
96	0000444866	PIPE PLUG (3/8-18)
97	0000444687	PIPE PLUG (1/8-27)
98	10-17-565-***	CASE (10-17 ONLY)
98A	10-18-565-***	CASE (10-18 ONLY)

The following kits are available for the Model 71C & 72C transmissions. Index numbers shown match the index numbers on the exploded view.

Index No.	Part No.	Description
	A4867AB	FORWARD CLUTCH PACK KIT (10-18 ONLY)
71	5C-175A	CLUTCH PRESSURE PLATE
72A	3-176	STEEL CLUTCH PLATE
73A	5C-A66A	FRICTION CLUTCH PLATE
74	5L-67	CLUTCH PRESSURE PLATE

Index No.	Part No.	Description
	A4867AE	FORWARD CLUTCH PACK KIT (10-17 ONLY)
71	5C-175A	CLUTCH PRESSURE PLATE
72	3-176	STEEL CLUTCH PLATE
73	5C-A66A	FRICTION CLUTCH PLATE
74	5L-67	CLUTCH PRESSURE PLATE

Index No.	Part No.	Description
	A4867HA	OIL SEAL & SEALING RING KIT
6	71C-110	OIL SEAL
38	4804H	O-RING
42	1000-044-014	OIL SEAL
43	3-61	PUMP GSKT.
52	4805A	CLUTCH SEALING RING
53	4804G	O-RING
66	5M-122	O-RING
67	5L-36	CLUTCH SEALING RING
78	4806J	SEALING RING
83	4806B	SEALING RING
	1000-044-017	OIL SEAL (REDUCTION UNITS ONLY)
	1017-410-002	SERVICE GSKT. KIT (FOR CONTENTS SEE NEXT KIT LIST)

Index No.	Part No.	Description
	1017-410-002	SERVICE GASKET KIT
8	71-147	BEARING RETAINER GSKT. (10-17 ONLY)
8A	72-147	BEARING RETAINER GSKT. (10-18 ONLY)
14	L4-146	ADAPTER GSKT.
32	71-14	VALVE COVER GSKT.
49	71-144B	GASKET
	L4-145	GASKET (REDUCTION UNITS ONLY)
	L4-147	GASKET (REDUCTION UNITS ONLY)

<b>JMS No.</b> FED99138	<b>SPEEDY SLEEVE</b>
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\*\* REFER TO REDUCTION SECTION IN THE VELVET DRIVE TRANSMISSION SERVICE MANUAL JMS PART NO. BOR 1289  
 \*\*\* CHECK MODEL CHART TO DETERMINE CORRECT PART NUMBER. NSS - NOT SERVICED SEPARATELY, BUY NEXT HIGHER ASSEMBLY

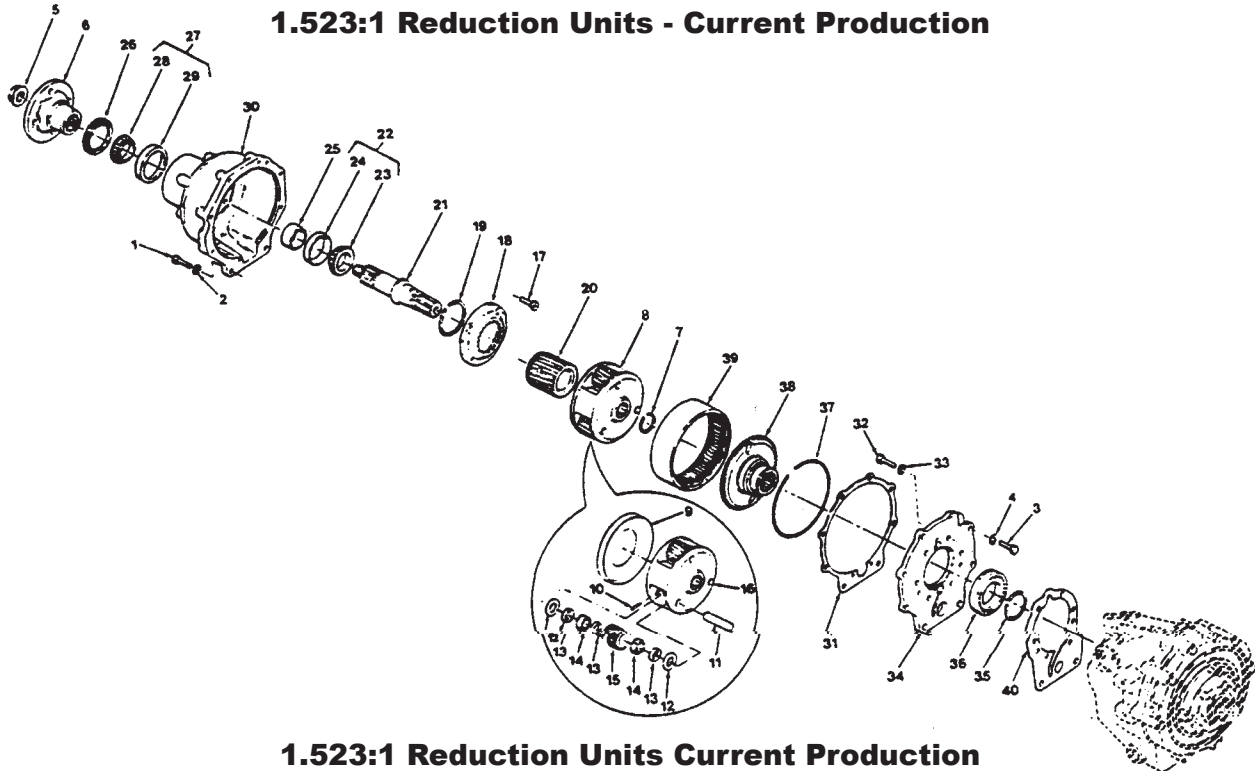
## Parts Listing for 71c &amp; 72c Transmission Assembly (cont.)



The following kits are available for the Model 71C & 72C transmissions. Index numbers shown match the index numbers on the exploded view.

Index No.	Part No.	Description	Qty.
	1004-420-052	NEUTRAL SWITCH KIT	
	1004-539-001	SWITCH & BODY ASSY.	1
25	1000-640-004	NEUTRAL SWITCH ASSY.	1
28	1016-039-001	VALVE COVER	1
29	0000179796	HEX HEAD BOLT (1/4-20 x 1/2)	3
30	0000103319	LOCK WASHER (1/4)	3
31	1016-099-001	SWITCH CAM	1
32	71-14	VALVE COVER GSKT.	1
	1340	INSTRUCTION SHEET	1

Index No.	Part No.	Description	Qty.
	1095-410-002	SNAP RING SERVICE KIT	
15	4766	RETAINING RING	1
34	4821	SNAP RING	1
60	4822	SNAP RING	1
61	R6A-7-1/2	SNAP RING (10-17 ONLY)	1
61A	4766B	SNAP RING (10-18 ONLY)	1
62	4734	SNAP RING (10-17 ONLY)	2
62A	4559A	SNAP RING (10-18 ONLY)	1
70	4755	SNAP RING	1
75	1000-139-048	SNAP RING (.033-.037 THICK) (10-17 ONLY) YELLOW	1
75A	1000-139-049	SNAP RING (.050-.054 THICK) (10-17 ONLY) PINK	1
75B	4768	SNAP RING (.050-.054 THICK) (10-18 ONLY) GREEN	2
75C	4768A	SNAP RING (.074-.078 THICK) (10-18 ONLY) ORANGE	1
75D	4768B	SNAP RING (.096-.100 THICK) (10-18 ONLY) WHITE	1
75E	1000-139-018	SNAP RING (.062-.066 THICK) (10-18 ONLY) PURPLE	1
79	4495	SNAP RING	1
	4756D	SNAP RING (REDUCTION UNITS ONLY)	1
	4756E	SNAP RING (REDUCTION UNITS ONLY)	1
	4816	SNAP RING (REDUCTION UNITS ONLY)	1
	4766A	SNAP RING (REDUCTION UNITS ONLY)	1



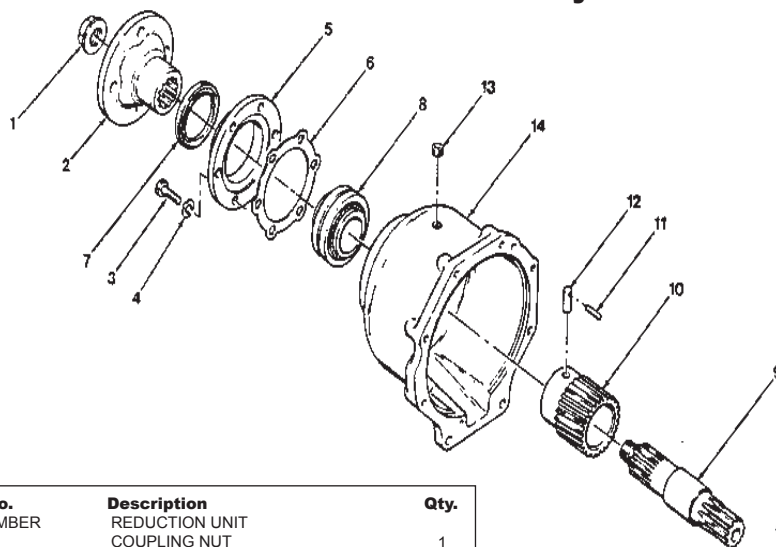
1.523:1 Reduction Units Current Production

Index No.	Part No.	Description	Qty.
	NO NUMBER	REDUCTION UNIT ASSY. (1.523:1)	
1	0000179864	HEX HEAD BOLT (7/16-14 x 1-3/4)	2
2	0000103322	LOCK WASHER (7/16)	2
3	0000179840	HEX HEAD BOLT (3/8-18 x 1-1/8)	6
4	0000103321	LOCK WASHER (3/8)	6
5	1000-149-034	COUPLING NUT	1
6	1000-031-001	COUPLING	1
7	4734	SNAP RING	1
8	L4-A150	PINION CARRIER ASSY.	1
9	L4-135	OIL COLLECTOR RING	1
10	4717L	PINION SHAFT PIN	3
11	L5-39	PINION SHAFT	3
12	L3-43	PINION THRUST WASHER	6
13	L3-41	PINION BEARING SPACER	9
14	4741A	ROLLER BEARING	144
15	L4-5	PINION GEAR	3
16	L4-150	PINION CAGE	1
17	4776BB	LOCK BOLT (7/16-14 x 7/8)	4
18	1017-179-001	SUN GEAR HUB	1
19	1000-139-013	SNAP RING	1
20	1017-165-001	SUN GEAR	1
21	1017-171-001	MAIN SHAFT	1
22	NO NUMBER	BEARING ASSY.	1
23	1000-133-010	BEARING CONE*	1
24	1000-133-009	BEARING CUP*	1
25	1017-053-002	SOLID SPACER (.820-.821 INCH LONG)**	1

Index No.	Part No.	Description	Qty.
25A	1017-053-003	SOLID SPACER (.829-.830 INCH LONG)**	1
25B	1017-053-004	SOLID SPACER (.832-.833 INCH LONG)**	1
25C	1017-053-005	SOLID SPACER (.835-.836 INCH LONG)**	1
25D	1017-053-006	SOLID SPACER (.838-.839 INCH LONG)**	1
25E	1017-053-007	SOLID SPACER (.841-.842 INCH LONG)**	1
25F	1017-053-008	SOLID SPACER (.844-.845 INCH LONG)**	1
25G	1017-053-009	SOLID SPACER (.847-.848 INCH LONG)**	1
25H	1017-053-010	SOLID SPACER (.850-.851 INCH LONG)**	1
25I	1017-053-011	SOLID SPACER (.853-.854 INCH LONG)**	1
25J	1017-053-012	SOLID SPACER (.856-.857 INCH LONG)**	1
26	1000-044-017	OIL SEAL	1
27	NO NUMBER	BEARING ASSY.	1
28	1000-133-002	BEARING CONE*	1
29	1000-133-001	BEARING CUP*	1
30	1017-065-001	REDUCTION HOUSING	1
31	L4-146	REAR ADAPTER GSKT.	1
32	10-00-183-073	LOCK BOLT (7/16-14 x 7/8)	6
33	0000103322	LOCK WASHER (7/16)	6
34	L4-8B	REDUCTION UNIT ADAPTER	1
35	4766	SNAP RING	1
36	1000-130-017	BEARING	1
37	4756D	SNAP RING	1
38	L4-16	INPUT GEAR	1
39	L3-6	RING GEAR	
40	L4-145	FRONT ADAPTER GSKT.	

\*REPLACE BOTH PARTS IF ONE IS DAMAGED

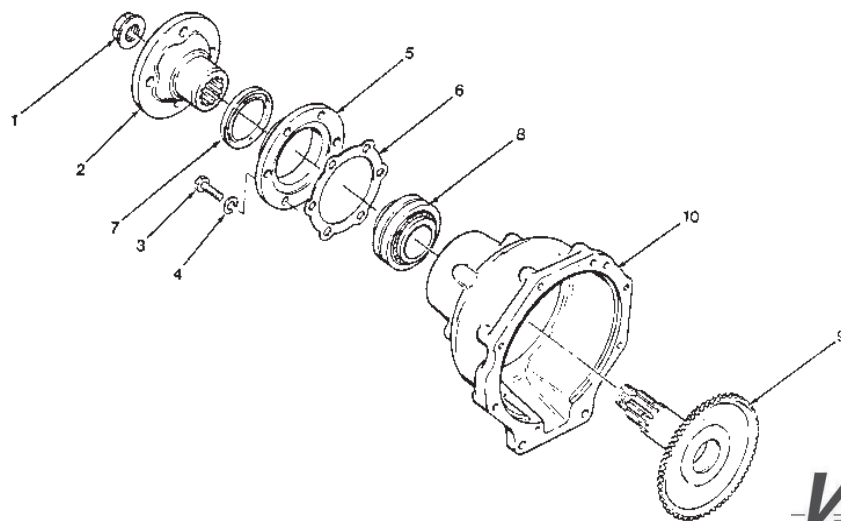
\*\*SELECT CORRECT SIZE SPACER AT ASSEMBLY. ONLY ONE REQUIRED

**1.523:1 Reduction Units - Early Production**

Index No.	Part No.	Description	Qty.
1	NO NUMBER	REDUCTION UNIT	1
2	4775L	COUPLING NUT	1
3	4547AY	COUPLING (72C ONLY) 5"	1
2B	4547BA	COUPLING (71C ONLY) 4"	1
4	0000179860	HEX HEAD BOLTS (7/16-14 x 1-1/4)	6
6	0000103322	LOCK WASHER (7/16)	6
5	L4-7	BEARING RETAINER	1
6	L4-147	BEARING RETAINER GSKT.	1
7	71C-110	OIL SEAL	1
8	4920A	BEARING	1
9	L9-2	MAIN SHAFT	1
10	L4-4	SUN GEAR	1
11	4808	SPRING PIN	1
12	L4-151	PINION CAGE DRIVE PIN	1
13	103891	EXPANSION PLUG	1
14	L4-1A	REDUCTION HOUSING	1

**Velvet Drive**  
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**These early production parts are not interchangeable with current production parts**

**1.91:1 Reduction Units - Early Production**

Index No.	Part No.	Description	Qty.
1	NO NUMBER	REDUCTION UNIT (1.91:1 ONLY)	1
2	4775L	COUPLING NUT	1
3	4547AY	COUPLING (72C ONLY)	1
2B	4547BA	COUPLING (71C ONLY)	1
4	0000179860	HEX HEAD BOLT (7/16-14 x 1-1/4)	6
6	0000103322	LOCK WASHER (7/16)	6
5	L4-7	BEARING RETAINER	1
6	L4-147	BEARING RETAINER GSKT.	1
7	71C-110	OIL SEAL	1
8	4920A	BEARING	1
9	L5-A2	MAIN SHAFT	1
10	L5-1A	REDUCTION HOUSING	1

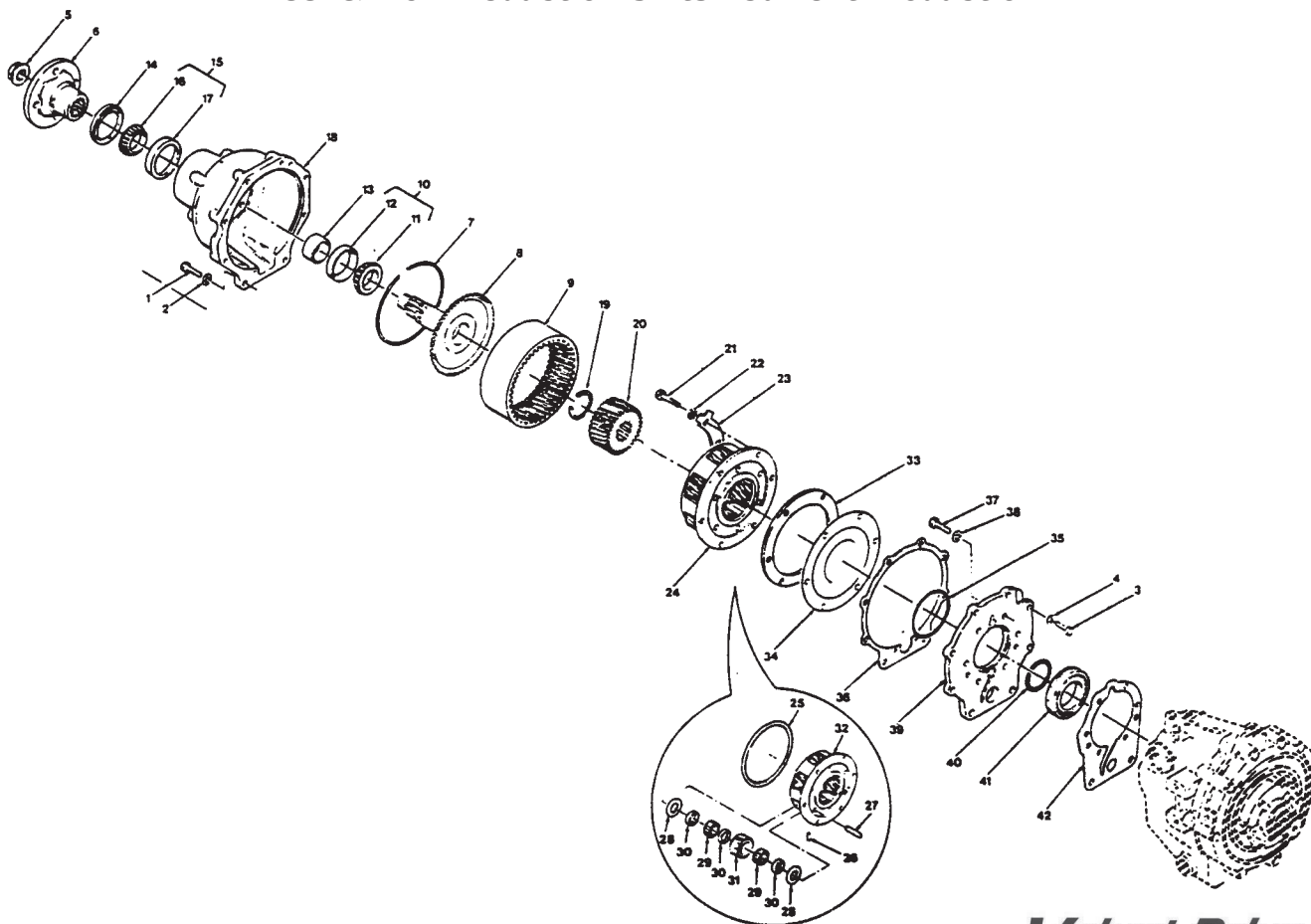
**Velvet Drive**  
TRANSMISSIONS

1.88 & 1.91:1 REDUCTION UNITS - CURRENT PRODUCTION SEE NEXT PAGE

**These early production parts are not interchangeable with current production parts**

# Velvet Drive

## 1.88: & 1.91: Reduction Units - Current Production



**Velvet Drive**  
TRANSMISSIONS

Index No.	Part No.	Description	Index No.	Part No.	Description
	NO NUMBER	REDUCTION UNIT ASSY. (1.91:1)	19	4734	SNAP RING
	NO NUMBER	REDUCTION UNIT ASSY. (1.88:1)	20	L7-104	SUN GEAR (1.91:1 ONLY)
1	0000179864	HEX HEAD BOLT (7/16 -14 x 1-3/4)	20A	1017-165-004	SUN GEAR (1.88:1 ONLY)
2	0000103322	LOCK WASHER (7/16)	21	4853B	LOCK BOLT (5/16-18 x 3/4)
3	0000179840	HEX HEAD BOLT (3/8-18 x 1-1/8)	22	0000114605	LOCK WASHER (5/16) (1.88:1 ONLY)
4	0000103321	LOCK WASHER (3/8)	23	1000-014-002	LOCK PLATE (1.91:1 ONLY)
5	1000-149-034	COUPLING NUT	24	L9-A150	PINION CARRIER ASSY. (1.91:1 ONLY)
6	1000-031-001	COUPLING	24A	1017-659-021	PINION CARRIER ASSY. (1.88:1 ONLY)
7	4756D	SNAP RING	25	4827	RETAINING RING
8	1017-171-002	MAIN SHAFT (1.91:1 ONLY)	26	4717L	PINION SHAFT PIN
8A	1017-171-004	MAIN SHAFT (1.88:1 ONLY)	27	L5-39	PINION SHAFT
9	L3-6	RING GEAR (1.91:1 ONLY)	28	L3-43	PINION THRUST WASHER
9A	1017-162-001	RING GEAR (1.88:1 ONLY)	29	4741A	ROLLER BEARING (1.91:1 ONLY)
10	NO NUMBER	BEARING ASSY.	29A	1000-131-011	ROLLER BEARING (1.88:1 ONLY)
11	1000-133-010	BEARING CONE*	30	L3-41	PINION BEARING SPACER (1.91:1 ONLY)
12	1000-133-009	BEARING CUP*	30A	1000-053-024	PINION BEARING SPACER (1.88:1 ONLY)
13	1017-053-002	SOLID SPACER (.820-.821 INCH LONG)**	31	L4-5	PINION GEAR (1.91:1 ONLY)
13A	1017-053-003	SOLID SPACER (.829-.830 INCH LONG)**	31A	1017-163-002	PINION GEAR (1.88:1 ONLY)
13B	1017-053-004	SOLID SPACER (.832-.833 INCH LONG)**	32	L9-150	PLANETARY CAGE (1.91:1 ONLY)
13C	1017-053-005	SOLID SPACER (.835-.836 INCH LONG)**	32A	1017-159-011	PLANETARY CAGE (1.88:1 ONLY)
13D	1017-053-006	SOLID SPACER (.838-.839 INCH LONG)**	36	L4-146	REAR ADAPTER GSKT.
13E	1017-053-007	SOLID SPACER (.841-.842 INCH LONG)**	37	1000-183-073	LOCK BOLT (7/16-14 x 7/8)
13F	1017-053-008	SOLID SPACER (.844-.845 INCH LONG)**	38	0000103322	LOCK WASHER (7/16)
13G	1017-053-009	SOLID SPACER (.847-.848 INCH LONG)**	39A	1017-172-001	REDUCTION UNIT ADAPTER****
13H	1017-053-010	SOLID SPACER (.850-.851 INCH LONG)**	40	4816	SNAP RING
13I	1017-053-011	SOLID SPACER (.853-.854 INCH LONG)**	41	1000-130-018	BEARING
13J	1017-053-012	SOLID SPACER (.856-.857 INCH LONG)**	42	L4-145	FRONT ADAPTER GSKT.
14	1000-044-017	OIL SEAL			
15	NO NUMBER	BEARING ASSY.			
16	1000-133-002	BEARING CONE*			
17	1000-133-001	BEARING CUP*			
18	1017-065-003	REDUCTION HOUSING			

\*REPLACE BOTH PARTS IF ONE IS DAMAGED.

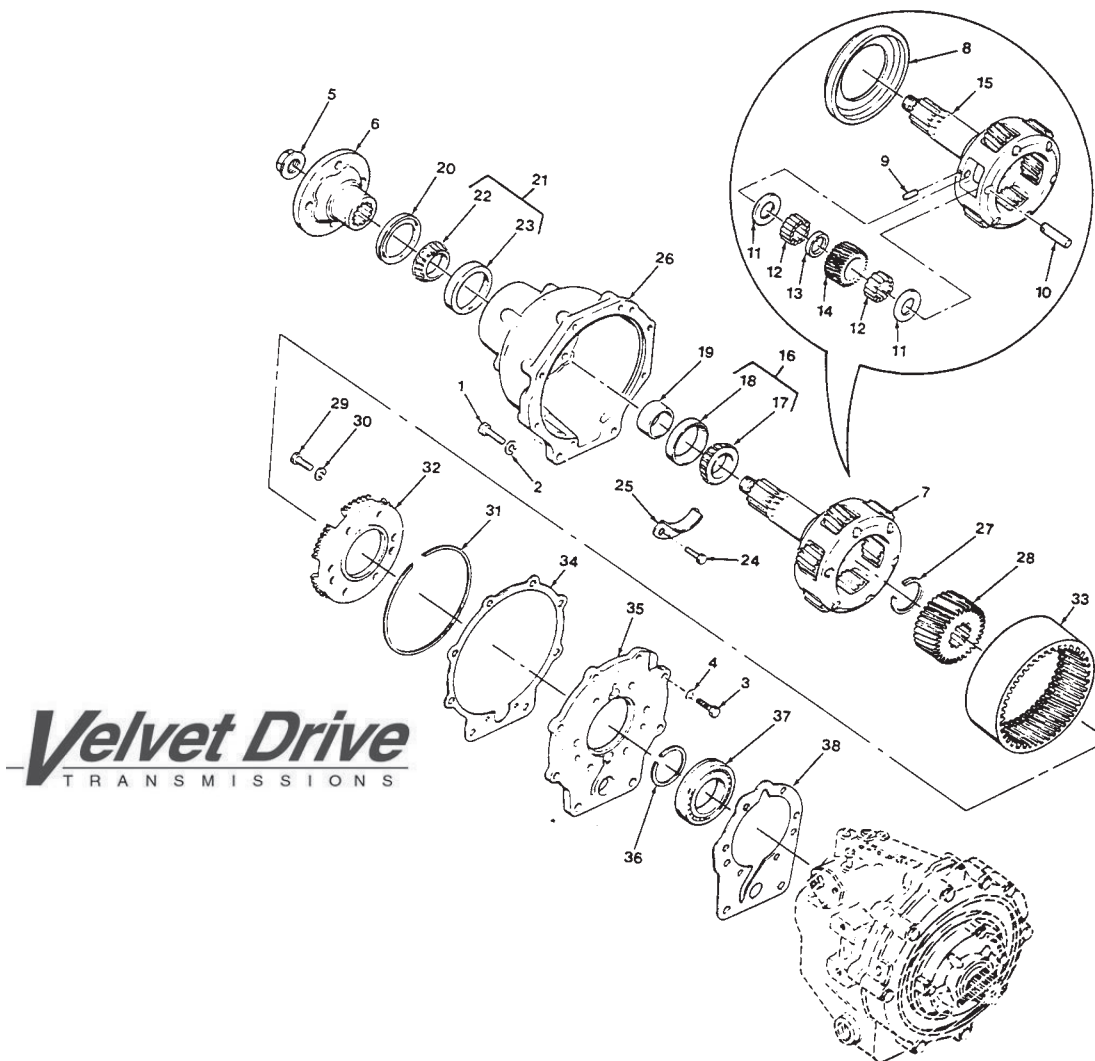
\*\*SELECT CORRECT SIZE SPACER AT ASSEMBLY. ONLY ONE REQUIRED.

\*\*\*FOR USE WITH 1.91:1 NOISE REDUCTION PARTS. THESE INCLUDE LOCK PLATES (23), PINION CARRIER GSKT. (33), AND O-RING (35).

\*\*\*\*FOR USE WITH 1.88:1 OR 1.91:1 WITHOUT NOISE REDUCTION PARTS.

# Velvet Drive

## 2.57:1 & 2.91:1 Reduction Units - Current Production



## 14. 2.57:1 & 2.91:1 Reduction Units - Current Production

Index No.	Part No.	Description	Index No.	Part No.	Description
Fig. 14	NO NUMBER	REDUCTION UNIT ASSY. (2.57:1)	19C	1017-053-005	SOLID SPACER (.835-.836 INCH LONG)**
14A	NO NUMBER	REDUCTION UNIT ASSY. (2.91:1)	19D	1017-053-006	SOLID SPACER (.838-.839 INCH LONG)**
1	0000179864	HEX HEAD BOLT (7/16-14 x 1-3/4)	19E	1017-053-007	SOLID SPACER (.841-.842 INCH LONG)**
2	0000103322	LOCK WASHER (7/16)	19F	1017-053-008	SOLID SPACER (.844-.845 INCH LONG)**
3	0000179840	HEX HEAD BOLT (3/8-18 x 1-1/8)	19G	1017-053-009	SOLID SPACER (.847-.848 INCH LONG)**
4	0000103321	LOCK WASHER (3/8)	19H	1017-053-010	SOLID SPACER (.850-.851 INCH LONG)**
5	1000-149-034	COUPLING NUT	19I	1017-053-011	SOLID SPACER (.853-.854 INCH LONG)**
6	1000-031-001	COUPLING	19J	1017-053-012	SOLID SPACER (.856-.857 INCH LONG)**
7	1017-659-007	PINION CAGE & OUTPUT SHAFT ASSY. (2.57:1 ONLY)	20	1000-044-017	OIL SEAL
7A	1017-659-008	PINION CAGE & OUTPUT SHAFT ASSY. (2.91:1 ONLY)	21	NO NUMBER	BEARING ASSY.
8	L6-135	OIL COLLECTOR RING (2.57:1 ONLY)	22	1000-133-002	BEARING CONE*
8A	L4-135	OIL COLLECTOR RING (2.91:1 ONLY)	23	1000-133-001	BEARING CUP*
9	R10B-40	PINION SHAFT PIN (2.57:1 ONLY)	24	4776BB	LOCK BOLT (7/16-14 x 7/8)
9A	4717B	PINION SHAFT PIN (2.91:1 ONLY)	25	1017-036-001	OIL BAFFLE
10	L5-39	PINION SHAFT	26	1017-065-001	REDUCTION HOUSING
11	L6-43	THRUST WASHER (2.57:1 ONLY)	27	4734	SNAP RING
11A	L3-43	THRUST WASHER (2.91:1 ONLY)	28	L6-104	SUN GEAR (2.57:1 ONLY)
12	4741A	ROLLER BEARING	28A	L7-104	SUN GEAR (2.91:1 ONLY)
13	L3-41	PINION BEARING SPACER	29	4853E	LOCK BOLT (7/16-14 x 1-1/4)
14	L6-5	PINION GEAR (2.57:1 ONLY)	30	0000115550	LOCK WASHER (7/16)
14A	L4-5	PINION GEAR (2.91:1 ONLY)	31	4756E	SNAP RING (2.57:1 ONLY)
15	1017-159-003	PINION CAGE & OUTPUT SHAFT (2.57:1 ONLY)	31A	4756D	SNAP RING (2.91:1 ONLY)
15A	1017-159-004	PINION CAGE & OUTPUT SHAFT (2.91:1 ONLY)	32	L6-31	STATIONARY GEAR PLATE (2.57:1 ONLY)
16	NO NUMBER	BEARING ASSY.	32A	L7-31	STATIONARY GEAR PLATE (2.91:1 ONLY)
17	1000-133-010	BEARING CONE*	33	L6-6	RING GEAR (2.57:1 ONLY)
18	1000-133-009	BEARING CUP*	33A	L3-6	RING GEAR (2.91:1 ONLY)
19	1017-053-002	SOLID SPACER (.820-.821 INCH LONG)**	34	L4-146	REAR ADAPTER GSKT.
19A	1017-053-003	SOLID SPACER (.829-.830 INCH LONG)**	35	L7-8A	REDUCTION UNIT ADAPTER
19B	1017-053-004	SOLID SPACER (.832-.833 INCH LONG)**	36	4816	SNAP RING
			37	1000-130-018	BEARING
			38	L4-145	FRONT ADAPTER GSKT.

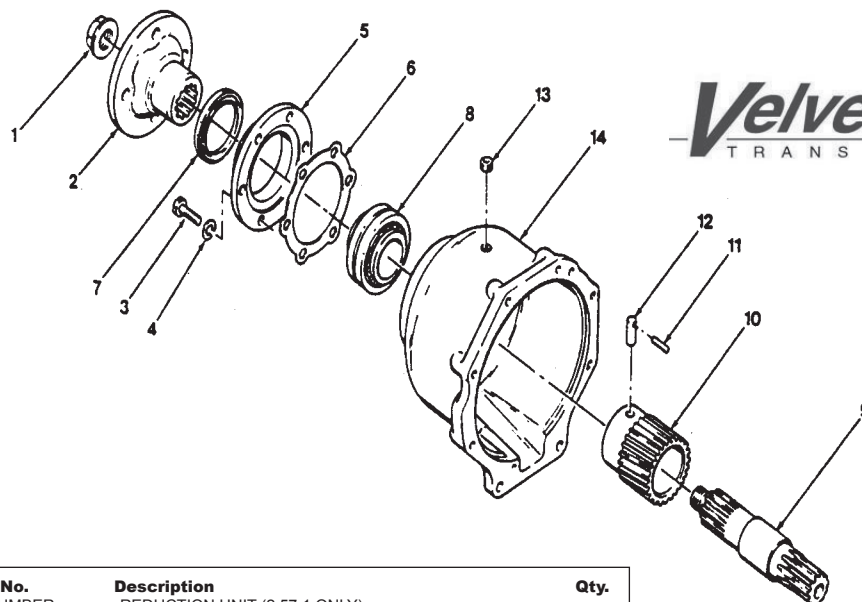
\*REPLACE BOTH PARTS IF ONE IS DAMAGED

\*\*SELECT CORRECT SIZE SPACER AT ASSY. ONLY ONE REQUIRED



## Velvet Drive

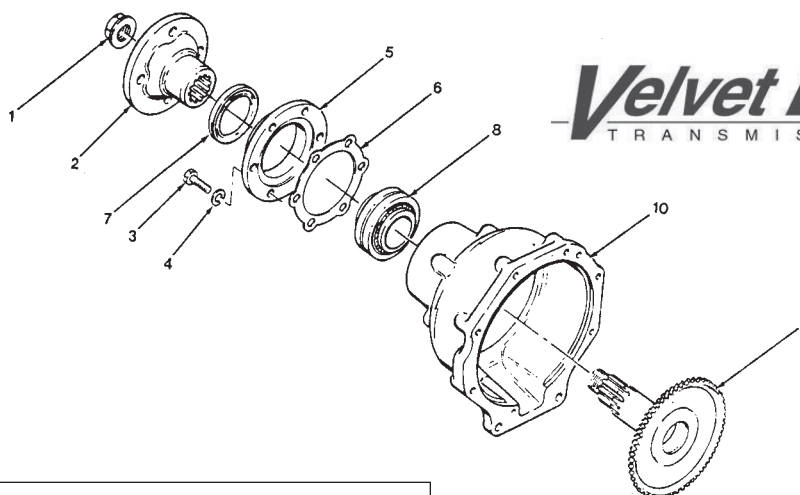
### 2.57:1 & 2.91:1 Reduction Units - Early Production



Index No.	Part No.	Description	Qty.
	NO NUMBER	REDUCTION UNIT (2.57:1 ONLY)	
	NO NUMBER	REDUCTION UNIT (2.91:1 ONLY)	
1	1000-149-034	COUPLING NUT	1
2	4912	COUPLING	1
3	0000179860	HEX HEAD BOLT (7/16-14 x 1-1/4)	6
4	0000103322	LOCK WASHER (7/16)	6
5	L4-7	BEARING RETAINER	1
6	L4-147	BEARING RETAINER GSKT.	1
7	71C-110	OIL SEAL	1
8A	4920A	DOUBLE RACE & TAPERED ROLLER BEARING LATE	1
9	L6-A2D	PINION CAGE & OUTPUT SHAFT ASSY. (2.57:1 ONLY)	1
			1
9A	L7-A2D	PINION CAGE & OUTPUT SHAFT ASSY. (2.91:1 ONLY)	1
10	L7-1A	REDUCTION HOUSING	1

**These early production parts are not interchangeable with current production parts**

### 2.10:1 Reduction Units - Early Production

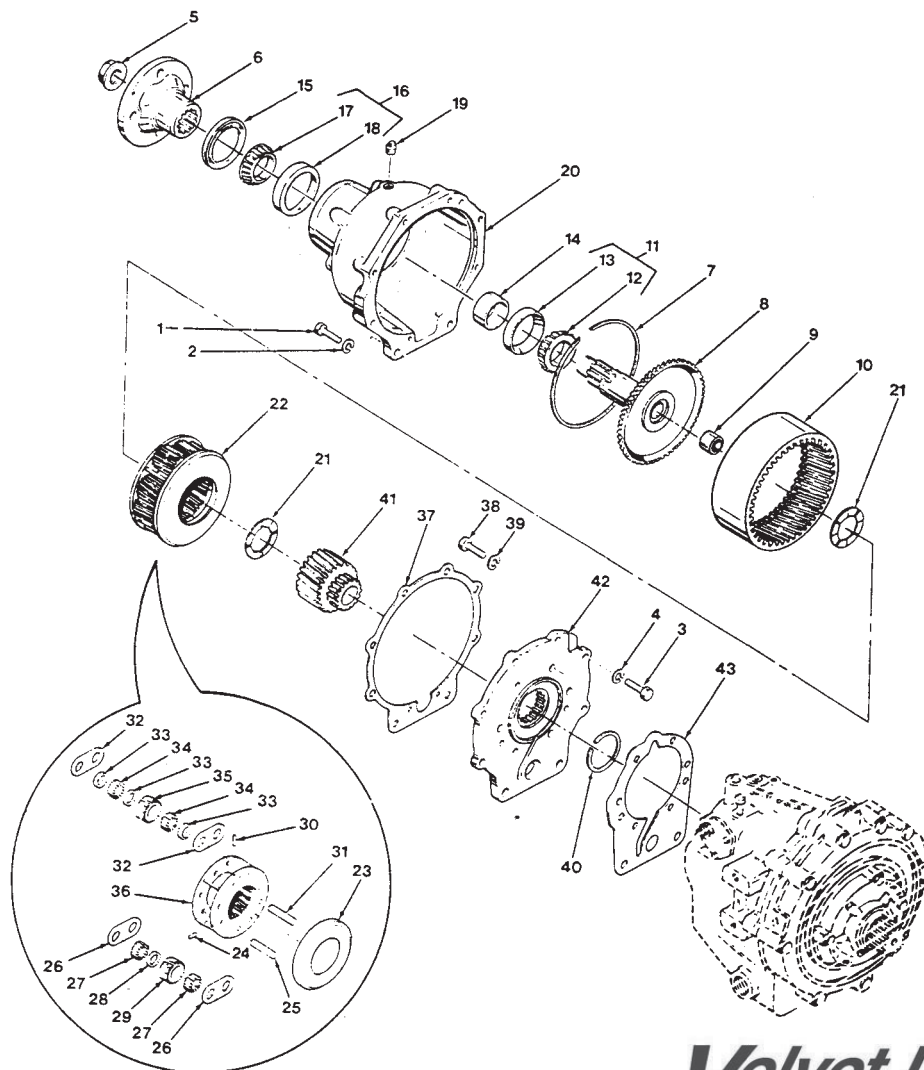


Index No.	Part No.	Description	Qty.
	NO NUMBER	REDUCTION UNIT (2.10:1)	1
1	4775L	COUPLING NUT	1
2	4547AY	COUPLING (72C ONLY) 4"	1
2B	4547BA	COUPLING (71C ONLY) 5"	6
3	0000179860	HEX HEAD BOLT (7/16-14 x 1-1/4)	6
4	0000103322	LOCK WASHER (7/16)	1
5	L4-7	BEARING RETAINER	1
6	L4-147	BEARING RETAINER GSKT.	1
7	71C-110	OIL SEAL	1
8	4920A	BEARING	1
9	L5-A2	OUTPUT SHAFT & BUSHING ASSY.	1
10	L5-4	SUN GEAR	1
11	L5-1B	REDUCTION HOUSING	1

**These early production parts are not interchangeable with current production parts**

# Velvet Drive

## 2.10:1 Reduction Units - Current Production



**Velvet Drive**  
TRANSMISSIONS

Index No.	Part No.	Description	Index No.	Part No.	Description
	NO NUMBER	REDUCTION UNIT ASSY. (2.10:1)	18	1000-133-001	BEARING CUP*
1	0000179864	HEX HEAD BOLT (7/16-14 x 1-3/4)	19	1000-191-002	PLASTIC PLUG
2	0000103322	LOCK WASHER (7/16)	20	1017-065-002	REDUCTION HOUSING
3	0000179840	HEX HEAD BOLT (3/8-18 x 1-1/8)	21	L3-24	THRUST WASHER
4	0000103321	LOCK WASHER (3/8)	22	1017-659-006	PINION CAGE ASSY.***
5	1000-149-034	COUPLING NUT	22A	1017-659-010	PINION CAGE ASSY.***
6	1000-031-001	COUPLING	23	L4-135	OIL COLLECTOR RING
7	4756D	SNAP RING	24	4717L	PINION SHAFT PIN
8	1017-671-001	OUTPUT SHAFT & BUSHING ASSY.	25	L5-39A	PINION SHAFT
9	A4867DD	BUSHING KIT	26	72-43	PINION THRUST PLATE
10	L3-6	RING GEAR	27	4741A	ROLLER BEARING
11	NO NUMBER	BEARING ASSY.	28	L3-41	PINION BEARING SPACER
12	1000-133-010	BEARING CONE*	29	L3-105	RH PINION GEAR
13	1000-133-009	BEARING CUP*	30	R4-40	PINION SHAFT PIN
14	1017-053-002	SOLID SPACER (.820-.821 INCH LONG)**	31	L5-39	PINION SHAFT
14A	1017-053-003	SOLID SPACER (.829-.830 INCH LONG)**	32	72-43	PINION THRUST PLATE
14B	1017-053-004	SOLID SPACER (.832-.833 INCH LONG)**	33	L3-41	PINION BEARING SPACER
14C	1017-053-005	SOLID SPACER (.835-.836 INCH LONG)**	34	4741A	ROLLER BEARING
14D	1017-053-006	SOLID SPACER (.838-.839 INCH LONG)**	35	L3-5	LH PINION GEAR
14E	1017-053-007	SOLID SPACER (.841-.842 INCH LONG)**	36	1017-159-005	PLANETARY CAGE ASSY.
14F	1017-053-008	SOLID SPACER (.844-.845 INCH LONG)**	36A	1017-159-009	PLANETARY CAGE ASSY.
14G	1017-053-009	SOLID SPACER (.847-.848 INCH LONG)**	37	L4-146	REAR ADAPTER GSKT.
14H	1017-053-010	SOLID SPACER (.850-.851 INCH LONG)**	38	1000-183-073	LOCK BOLT (7/16-14 x 7/8)
14I	1017-053-011	SOLID SPACER (.853-.854 INCH LONG)**	39	115550	LOCK WASHER (7/16)
14J	1017-053-012	SOLID SPACER (.856-.857 INCH LONG)**	40	4766A	SNAP RING
15	1000-044-017	OIL SEAL	41	1017-165-002	SUN GEAR
16	NO NUMBER	BEARING ASSY.	42	L5-8A	REDUCTION UNIT ADAPTER
17	1000-133-002	BEARING CONE*	43	L4-145	FRONT ADAPTER GSKT.

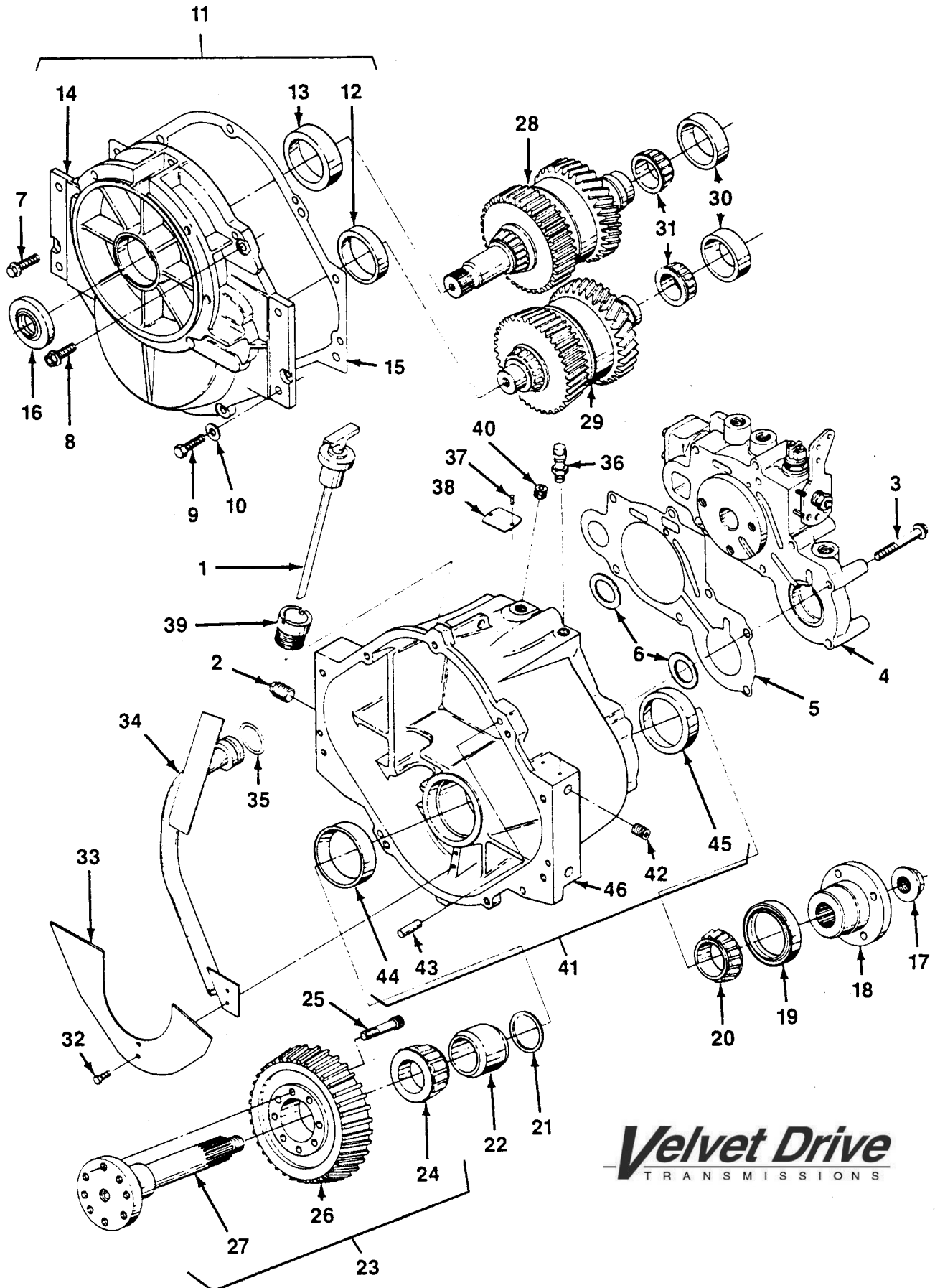
\*REPLACE BOTH PARTS IF ONE IS DAMAGED

\*\*SELECT CORRECT SIZE SPACER AT ASSY. ONLY ONE REQUIRED

\*\*\*USED WITH TRANSMISSION 10-17-00-009 & 10-18-00-007. HAS DRILL SPOTS ON PLANETARY CAGE FOR IDENTIFICATION.

\*\*\*\*USED WITH TRANSMISSIONS 10-17-000-010 & 10-18-000-008

## Transmission Assembly



**Velvet Drive**  
TRANSMISSIONS

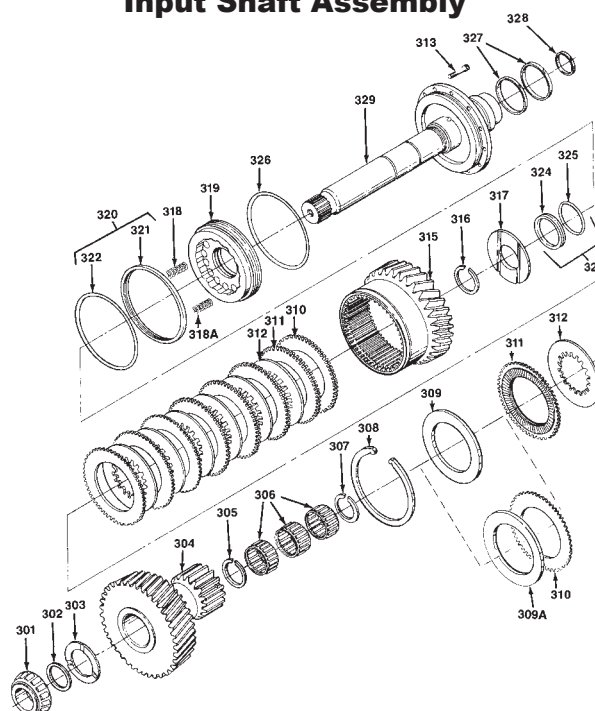
# Velvet Drive 5000 Series Transmission

## Transmission Assembly

Index No.	Part No.	Description	Qty.	Index No.	Part No.	Description	Qty.	
	2001-000-001	Transmission Assy, S5000 Marine 1.00:1 Ratio	1		2001-070-010	Gear, Output (Transmission 2001-000-004)	1	
	2001-000-002	Transmission Assy, S5000 Marine 1.25:1 Ratio	1		2001-070-011	Gear, Output (Transmission 2001-000-005)	1	
	2001-000-003	Transmission Assy, S5000 Marine 1.50:1 Ratio	1		2001-070-012	Gear, Output (Transmission 2001-000-006)	1	
	2001-000-004	Transmission Assy, S5000 Marine 2.00:1 Ratio	1	27	2001-171-001	Shaft, Output	1	
	2001-000-005	Transmission Assy, S5000 Marine 2.45:1 Ratio	1	28	2001-689-001	Shaft Assy, Input (Transmission 2001-000-001)	NP	
	2001-000-006	Transmission Assy, S5000 Marine 2.80:1 Ratio	1		2001-689-002	Shaft Assy, Input (Transmission 2001-000-002)	NP	
1	2001-559-003	Dipstick	1		2001-689-003	Shaft Assy, Input (Transmission 2001-000-003)	NP	
2	444583	Plug, Drain	1		2001-689-004	Shaft Assy, Input (Transmission 2001-000-004)	NP	
3	1000-183-088	Bolt, Hex Head, M10 x 1.5 x 65	7		2001-689-005	Shaft Assy, Input (Transmission 2001-000-005)	NP	
4	2001-736-005	Valve & Pump Assy, (Transmission 2001-000-001 thru-006)	NP		2001-689-006	Shaft Assy, Input (Transmission 2001-000-006)	NP	
5	2001-045-002	Gasket	1		2001-567-001	Shaft Assy, Intermediate (Transmission 2001-000-001)	NP	
6	1000-037-058	Shim, 0.076 mm (0.0030 in.) thick	AR	29	2001-567-002	Shaft Assy, Intermediate (Transmission 2001-000-002)	NP	
	1000-037-059	Shim, 0.127 mm (0.0050 in.) thick	AR		2001-567-003	Shaft Assy, Intermediate (Transmission 2001-000-003)	NP	
	1000-037-060	Shim, 0.178 mm (0.0070 in.) thick	AR		2001-567-004	Shaft Assy, Intermediate (Transmission 2001-000-004)	NP	
	1000-037-061	Shim, 0.229 mm (0.0090 in.) thick	AR		2001-567-005	Shaft Assy, Intermediate (Transmission 2001-000-005)	NP	
	1000-037-062	Shim, 0.508 mm (0.0200 in.) thick	AR		2001-567-006	Shaft Assy, Intermediate (Transmission 2001-000-006)	NP	
	1000-037-063	Shim, 0.760 mm (0.0300 in.) thick	AR		30	1000-133-009	Cup, Bearing	2
	1000-037-064	Shim, 1.106 mm (0.0400 in.) thick	AR	31	1000-133-010	Cone, Bearing	2	
	1000-037-065	Shim, 1.270 mm (0.0500 in.) thick	AR	32	11503875	Bolt, Hex Head, M6 x 1.0 x 10	2	
	1000-037-066	Shim, 1.524 mm (0.0600 in.) thick	AR	33	2001-036-001	Baf,e, Oil (Transmission 2001-000-005)	1	
	1000-037-067	Shim, 1.778 mm (0.0700 in.) thick	AR		2001-036-002	Baf,e, Oil (Transmission 2001-000-004)	1	
7	11502693	Bolt, Hex Head, M8 x 1.25 x 20	2		2001-036-003	Baf,e, Oil (Transmission 2001-000-006)	1	
8	1300-183-018	Bolt, Hex Head, M10 x 1.5 x 30	5		2001-036-004	Baf,e, Oil (Transmission 2001-000-003)	1	
9	1000-183-092	Bolt, Hex Head, M12 x 1.75 x 35	4		2001-036-005	Baf,e, Oil (Transmission 2001-000-002)	1	
10	120395	Washer	4		2001-036-006	Baf,e, Oil (Transmission 2001-000-001)	1	
11	2001-672-002	Adapter & Bearing Cup Assy	1	34	2001-534-001	Tube Assy, Suction	1	
12	1000-133-051	Cup, Bearing	1	35	1000-141-214	O-Ring	1	
13	1000-133-053	Cup, Bearing	1	36	A4740G	Breather	1	
14	2001-672-001	Adapter & Magnet Assy	1	37	1000-183-077	Screw, Drive	2	
15	2001-145-001	Gasket	1	38	2001-199-001	TAG, Identification (Transmission 2001-000-001)	1	
16	1000-044-065	Seal, Oil	1		2001-199-002	TAG, Identification (Transmission 2001-000-002)	1	
17	1000-149-034	Nut, Lock	1		2001-199-003	TAG, Identification (Transmission 2001-000-003)	1	
18	2001-031-001	Flange, Output	1		2001-199-004	TAG, Identification (Transmission 2001-000-004)	1	
19	1000-044-066	Seal, Oil	1		2001-199-005	TAG, Identification (Transmission 2001-000-005)	1	
20	1000-133-004	Cone, Bearing	1		2001-199-006	TAG, Identification (Transmission 2001-000-006)	1	
21	1013-037-001	Shim, 0.076 mm (0.0030 in.) thick	AR	39	2001-031-003	Tube, Dipstick	1	
	1013-037-002	Shim, 0.127 mm (0.0050 in.) thick	AR	40	444688	Plug, Pipe	2	
	1013-037-003	Shim, 0.178 mm (0.0070 in.) thick	AR	41	2001-565-002	Case & Bearing Cup Assy	1	
	1013-037-004	Shim, 0.229 mm (0.0090 in.) thick	AR	42	2001-241-001	Insert, Thread	8	
	1308-037-009	Shim, 0.508 mm (0.0200 in.) thick	AR	43	1000-043-030	Pin	2	
22	2001-103-001	Sleeve	1	44	1000-133-003	Cup, Bearing	1	
23	2001-671-001	Shaft Assy, Output (Transmission 2001-000-001)	1	45	1001-133-049	Cup, Bearing	1	
	2001-671-002	Shaft Assy, Output (Transmission 2001-000-002)	1	46	2001-065-001	Case, Transmission	1	
	2001-671-003	Shaft Assy, Output (Transmission 2001-000-003)	1					
	2001-671-004	Shaft Assy, Output (Transmission 2001-000-004)	1					
	2001-671-005	Shaft Assy, Output (Transmission 2001-000-005)	1					
	2001-671-006	Shaft Assy, Output (Transmission 2001-000-006)	1					
24	1000-133-048	Cone, Bearing	1					
25	1000-183-086	Bolt, Socket Head, M* x 1.25 x 30	8					
26	2001-070-007	Gear, Output (Transmission 2001-000-001)	1					
	2001-070-008	Gear, Output (Transmission 2001-000-002)	1					
	2001-070-009	Gear, Output (Transmission 2001-000-003)	1					

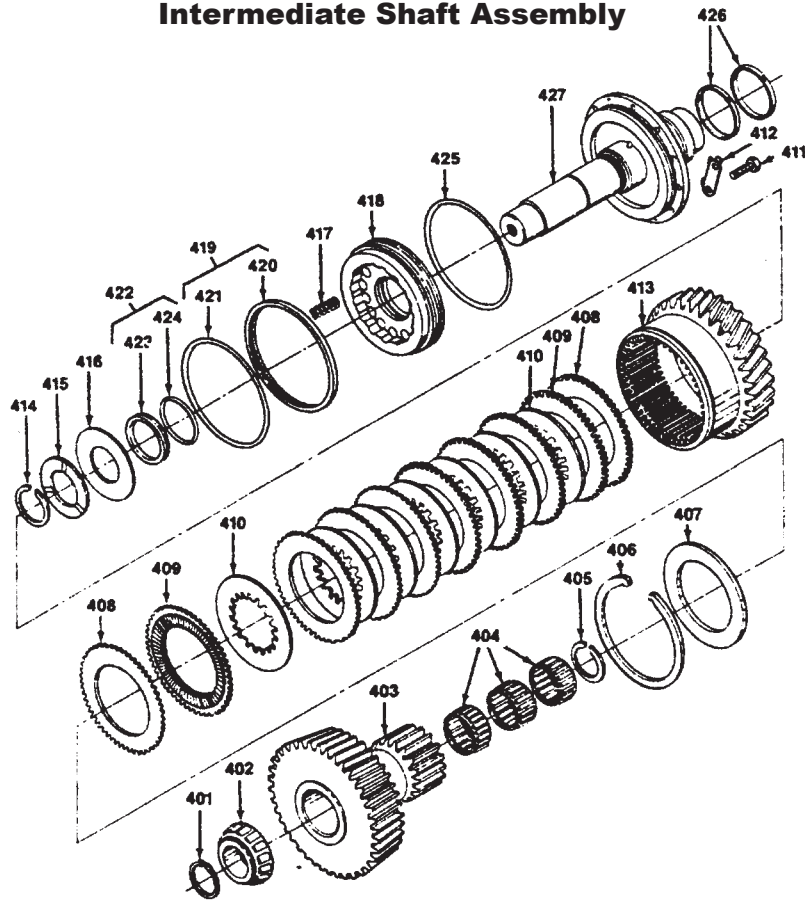


## Input Shaft Assembly



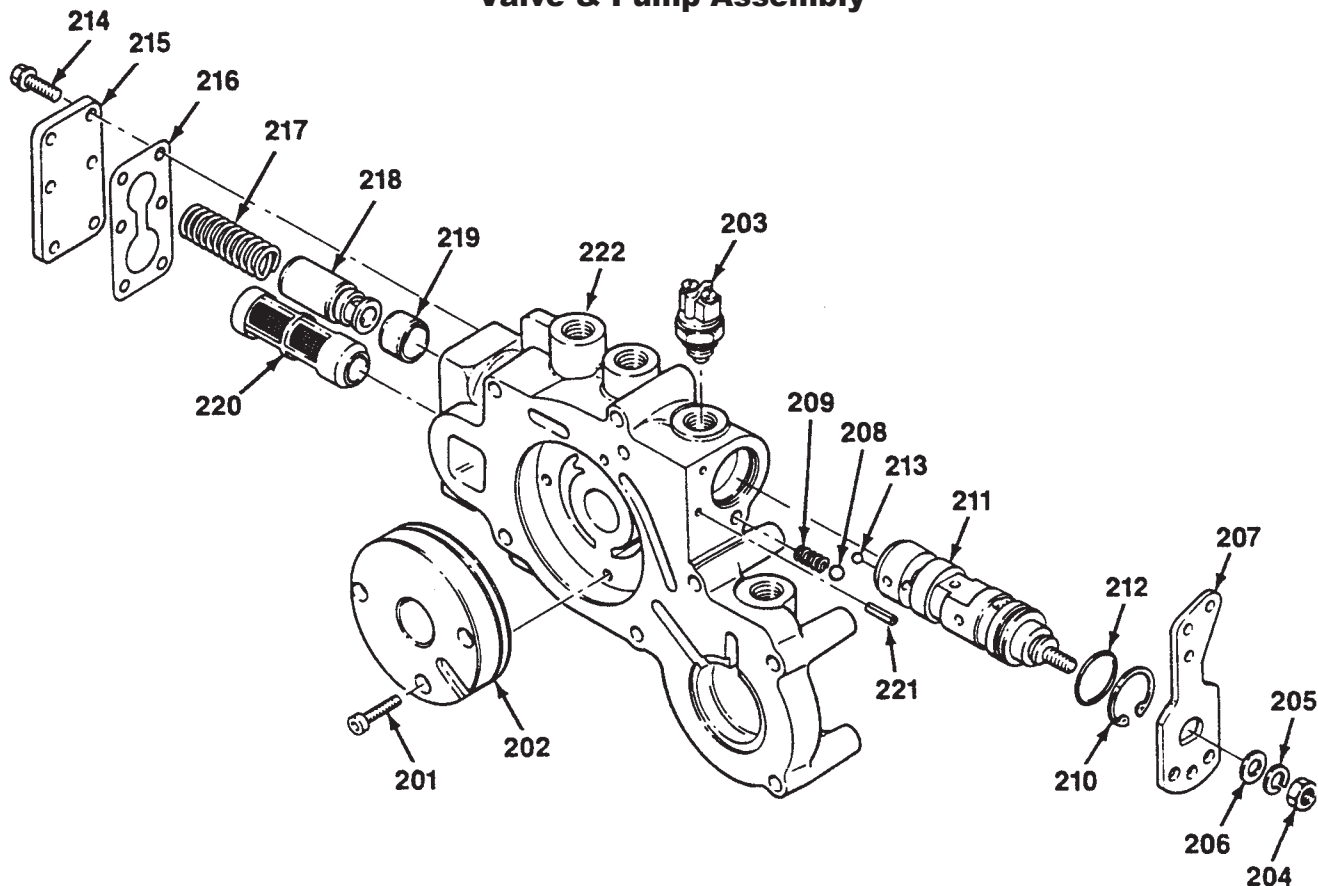
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	2001-689-001	Shaft Assy, Input (Transmission 2001-000-001-001,-R01)	Ref
	2001-689-002	Shaft Assy, Input (Transmission 2001-000-002,-R02)	Ref
	2001-689-003	Shaft Assy, Input (Transmission 2001-000-003,-R03)	Ref
	2001-689-004	Shaft Assy, Input (Transmission 2001-000-004,-R04)	Ref
	2001-689-005	Shaft Assy, Input (Transmission 2001-000-005,-R05)	Ref
	2001-689-006	Shaft Assy, Input (Transmission 2001-000-006,-R06)	Ref
	2001-689-011	Shaft Assy, Input (Transmission 2001-000-011)	Ref
	2001-689-012	Shaft Assy, Input (Transmission 2001-000-012)	Ref
	2001-689-013	Shaft Assy, Input (Transmission 2001-000-013)	Ref
	2001-689-014	Shaft Assy, Input (Transmission 2001-000-014)	Ref
	2001-689-015	Shaft Assy, Input (Transmission 2001-000-015)	Ref
	2001-689-016	Shaft Assy, Input (Transmission 2001-000-016)	Ref
301	1000-133-052	Cone, Bearing	1
302	2001-053-001	Spacer	1
303	1000-193-022	Washer, Thrust	1
301	2001-080-024	Gear, Clutch, 20 tooth (Transmission 2001-000-006, -R06 &-016)	1
	2001-080-022	Gear, Clutch, 22 tooth (Transmission 2001-000-005, -R05 &-015)	1
	2001-080-020	Gear, Clutch, 25 tooth (Transmission 2001-000-004, -R04 &-014)	1
	2001-080-018	Gear, Clutch, 29 tooth (Transmission 2001-000-003, -R03 &-013)	1
	2001-080-016	Gear, Clutch, 33 tooth (Transmission 2001-000-002, -R02 &-012)	1
	2001-080-014	Gear, Clutch, 37 tooth (Transmission 2001-000-001, -R01 &-011)	1
305	1000-139-068	Ring, Snap	1
306	1000-132-055	Bearing, Needle	3
307	1000-139-068	Ring, Snap	1
308	1000-139-069	Ring, Snap	1
309	2001-062-003	Plate, Backing, 5.00mm (0.200") thick (Supersedes 2001-062-001)	1
309A	2001-062-001	Plate, Backing, 3.00mm (0.112") thick (Superseded by 2001-062-003)	1
310	2001-062-002	Plate, Clutch (2 used when 2001-062-001 is used)	1
311	2001-666-001	Disc Assy, Clutch (drive)	8
312	2001-166-002	Disc, Clutch (driven)	7
313	2000-183-002	Bolt, M6 x 1.0 x 20	12
315	2001-125-001	Cylinder, Clutch Gear (RH)	1
316	1000-139-068	Ring, Snap	1
317	2001-040-001	Retainer, Spring	1
318	2001-156-001	Spring (Transmission 2001-000-001 thru-006)	4
	2001-156-001	Spring (Transmission 2001-000-011 thru-016)	16
318A	2001-156-003	Spring (Transmission 2001-000-001 thru-006)	12
319	2001-624-001	Piston Assy, Clutch (Supersedes Piston 2001-124-001)	1
320	1000-516-019	Ring Assy, Sealing	1
321	1000-016-019	Ring, Sealing	1
322	1000-141-241	O-Ring	1
323	1000-516-020	Ring Assy, Sealing	1
324	1000-016-020	Ring, Sealing	1
325	1000-149-130	O-Ring	1
326	1000-141-045	O-Ring	1
327	2000-016-050	Ring, Oil Seal (Superseded 4806B)	2
328	1000-189-001	Ring, Seal (Steel)	1
329	2001-189-001	Shaft, Input (Transmission 2001-000-001 thru-016)	1

## Intermediate Shaft Assembly



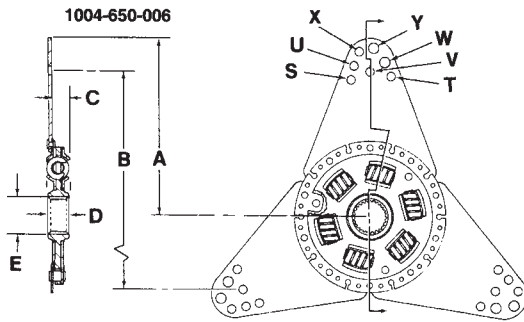
Index No.	Part No.	Description	Qty.
	2001-567-001	Shaft Assy, Intermediate (Transmission 2001-000-001)	NP
	2001-567-002	Shaft Assy, Intermediate (Transmission 2001-000-002)	NP
	2001-567-003	Shaft Assy, Intermediate (Transmission 2001-000-003)	NP
	2001-567-004	Shaft Assy, Intermediate (Transmission 2001-000-004)	NP
	2001-567-005	Shaft Assy, Intermediate (Transmission 2001-000-005)	NP
	2001-567-006	Shaft Assy, Intermediate (Transmission 2001-000-006)	NP
401	1000-139-072	Ring, Snap	1
402	1000-133-050	Cone, Bearing	1
403	2001-080-013	Gear, Clutch (Transmission 2001-000-001)	1
	2001-080-015	Gear, Clutch (Transmission 2001-000-002)	1
	2001-080-017	Gear, Clutch (Transmission 2001-000-003)	1
	2001-080-019	Gear, Clutch (Transmission 2001-000-004)	1
	2001-080-021	Gear, Clutch (Transmission 2001-000-005)	1
	2001-080-023	Gear, Clutch (Transmission 2001-000-006)	1
404	1000-132-055	Bearing, Needle	3
405	1000-139-068	Ring, Snap	1
406	1000-139-069	Ring, Snap	1
407	2001-062-001	Plate, Clutch Backing (outer)	1
408	2001-062-002	Plate, Clutch	2
409	2001-666-001	Disc Assy, Clutch (drive)	8
410	2001-166-001	Disc, Clutch (drive)	7
411	11503867	Bolt, Hex Head, M6 x 1.0 x 20	12
412	2001-014-001	Plate, Lock	6
413	2001-125-002	Cylinder, Clutch Gear	1
414	1000-139-068	Ring, Snap	1
415	1000-193-019	Washer, Thrust	1
416	2001-040-001	Retainer, Spring	1
417	2001-156-001	Spring	16
418	2001-124-001	Piston, Clutch	1
419	1000-516-019	Ring Assy, Sealing	1
420	1000-016-019	Ring, Sealing	1
421	1000-141-241	O-ring	1
422	1000-516-020	Ring Assy, Sealing	1
423	1000-016-020	Ring, Sealing	1
424	1000-141-130	O-ring	1
425	1000-141-045	O-ring	1
426	4806B	Ring, Seal (steel)	1
427	2001-067-001	Shaft, Intermediate	1

## Valve &amp; Pump Assembly



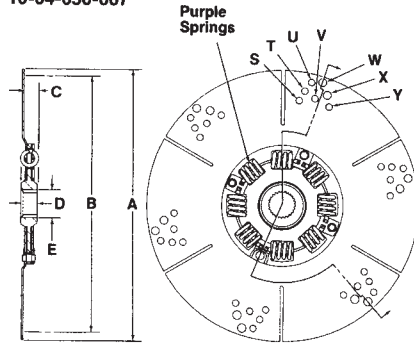
Index No.	Part No.	Description	Qty.
	2001-736-002	Valve & Pump Assy (4, □g P-1) (Transmission 2001-000-001 thru -006)	Ref
201	1000-183-087	Bolt, Socket Head, M6 x 1.0 x 25	3
202	2001-508-001	Pump Assy	1
203	1000-640-004	Switch Assy	1
204	11505919	Nut, Hex, M8 x 1.25	1
205	120214	Washer, Lock	1
206	120393	Washer, Flat	1
207	2001-098-001	Lever, Control	1
208	453632	Ball, Steel	1
209	71-42	Spring	1
210	1000-139-071	Ring, Snap	1
211	2001-239-001	Valve, Control	1
212	1000-141-123	O-Ring	1
213	1000-109-001	Ball, Steel	1
214	1000-183-090	Bolt, hex Head, M6 x 1.0 x 16	6
215	2001-039-001	Plate, Cover	1
216	2001-045-003	Gasket	1
217	71-242	Spring	1
218	2001-124-002	Piston, Valve	1
219	2001-103-002	Sleeve	1
220	2001-238-001	Filter & Screen Assy	1
221	9422127	Pin, Spring	2
222	2001-236-002	Housing, Valve	1

## Damper Assemblies

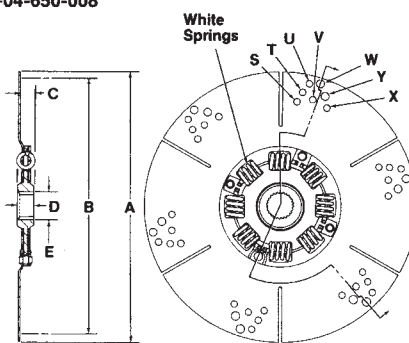
**Bolt Circle Chart**

Hole	S	T	U	V	W	X	Y
<b>Dia. B</b>	10.38 (263.65)	10.63 (270.00)	10.88 (276.35)	11.38 (289.05)	11.63 (295.40)	12.38 (314.45)	12.63 (320.80)
<b>Hole Dia.</b>	0.324 (8.25)	0.324 (8.25)	0.324 (8.25)	0.324 (8.25)	0.387 (9.86)	0.324 (8.25)	0.387 (9.86)

10-04-650-007



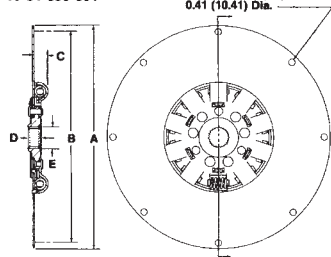
10-04-650-008

**Damper Assembly Information** Continued

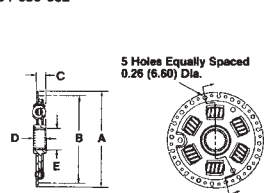
Part No.	Engines Up To	Dia. A	Dia. B	Dim. C	Dim. D	Dia. E	Spline Teeth
1004-650-006	350 CID	6.66R (169.16)	See Chart	0.84 (21.34)	0.80 (20.32)	1.35 (34.29)	26
1004-650-007	430 CID (336.55)	13.25 Chart	See (20.32)	0.80 (20.32)	0.80 (34.29)	1.35	26
1004-650-008	370 CID (336.55)	13.25 (336.55)	See Chart	0.80 (20.32)	0.80 (20.32)	1.35 (34.29)	26

All specification and descriptive data shown are nominal and subject to change without notice

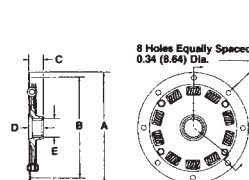
10-04-650-001



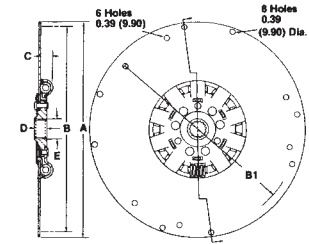
10-04-650-002



10-04-650-003



10-04-650-005

**Damper Assembly Information** Inches (millimeters)

Part No.	Application	Dia. A	Dia. B	Dim. B1	Dim. C	Dia. D	Dia. E	Spline Teeth
1004-650-001		13.87 (352.30)	13.13 (333.50)		0.99 (25.15)	0.80 (20.32)	1.35 (34.29)	26
1004-650-002	Flywheel Forward	6.18 (157.97)	5.59 (141.99)		0.54 (13.72)	0.80 (20.32)	1.35 (34.29)	26
1004-650-003		7.98 (202.69)	7.13 (181.10)		1.05 (26.67)	1.10 (27.94)	1.35 (34.29)	26
1004-650-005	15" or Larger	15.00 (406.72)	14.50 (368.30)	13.25 (366.55)	0.51 (12.95)	0.80 (20.32)	1.35 (34.29)	26