



ALTO PRODUCTS CORP.



— 2008 - 2009 —

MARINE
FRICTION MATERIAL
& TRANSMISSION PARTS

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ALTO PRODUCTS CORP.

MARINE FRICTION MATERIAL & TRANSMISSION PARTS

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VELVET DRIVE® S5000, S5000 "V" Drive

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
340800	2001-410-001	OVERHAUL KIT S5000 Includes Gaskets, Orings, Metal Clad Seals and Sealing Rings	1	
	2002-410-001	OVERHAUL KIT S5000 V Drive Includes Gaskets, Orings, Metal Clad Seals and Sealing Rings	1	
	NL	MASTER OVERHAUL KIT S5000 Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	MASTER OVERHAUL KIT S5000 V Drive Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 16 Bronze Plates and 18 Steel Plates	1	
CLUTCHES				
340702	2001-666-001	Friction - Drive	16	Bronze .066
340703	2001-166-002	Steel - Drive	14	Flat .077
340705	2001-062-002	Steel	4	Flat .044
MISC. PARTS				
	2001-045-005	Gasket - Front Pump S5000 & V Drive	1	
	2001-045-003	Gasket - Valve Housing S5000 & V Drive	1	
	2001-145-002	Gasket - Adapter - S5000	1	
	2002-045-002	Gasket - Adapter - V Drive	1	
018101	2000-016-050	Sealing Ring - Pinion Carrier	AR	S5000 1Pc,V Drive 4 Pcs
	1000-016-021	Sealing Ring - In Shaft	AR	S5000 1Pc,V Drive 2 Pcs
	1000-044-065	Metal Clad Seal - Adapter S5000 & V Drive	2	
	1000-044-066	Metal Clad Seal - Coupling S5000	1	
	2000-044-003	Metal Clad Seal - Output Shaft Side V Drive	1	
	2000-044-004	Metal Clad Seal - Output Flange Side V Drive	1	
	1000-141-045	Oring - Piston	2	
	1000-141-123	Oring - Control Valve	1	
	1000-141-130	Oring - Clutch Piston	2	
	1000-141-214	Oring - Tube Assembly	1	
	1000-141-241	Oring - Clutch Piston	2	
	1000-016-020	Seal - Piston In	2	
	1000-016-019	Seal - Piston Out	2	
	2000-141-502	Oring - Pump V Drive	1	
	2000-141-500	Oring - Output V Drive	1	
	2000-141-501	Oring - Pump Housing V Drive	1	
	1000-139-069	Snap Ring	2	
	1000-139-071	Snap Ring	1	
	1000-139-068	Snap Ring	5	
099328	1000-640-004	Neutral Safety Switch	1	
023320	1000-149-034	Nut - Output Shaft with Washer	1	
023331	A4740G	Breather Assembly	1	
	2001-031-001	Output Flange	1	
	1000-132-055	Needle Bearing	6	
	2001-238-001	Filter - Oil Screen	1	

VELVET DRIVE® 71 & 72

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS				
	10-17-410-002	GASKET SET (Includes Rubber Parts)	1	
023801B	A4867HA	OVERHAUL KIT (Includes Gasket Set)	1	
	NL	BANNER KIT Includes Overhaul Kit and Bronze Plates	1	
023901	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	

VELVET DRIVE® 71 & 72



ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS (Continued)				
	NL	CLUTCH PLATE MODULE Includes 10 Bronze Plates and 6 Steel Plates	1	
	NL	CLUTCH PLATE MODULE - VD71 Only Includes 7 Bronze Plates and 5 Steel Plates	1	
	NL	FRICTION PLATE MODULE Includes 10 Bronze Plates	1	
023755	A4867AE	10-17 FORWARD CLUTCH PACK Only Includes Forward Clutch Bronze Plates, Steel Plates and Front & Rear Pressure Plates	1	
023755A	A4867AB	10-18 FORWARD CLUTCH PACK Only Includes Forward Clutch Bronze Plates, Steel Plates and Front & Rear Pressure Plates	1	
CLUTCHES				
	W-1597A	Friction Forward Small K2 (Grooved)	5-7	HEG .063
049700BR	5C-A66A	Friction Forward Small	5-7	Bronze .060
023701	3-176	Steel Forward Small	4-6	Flat .068
023701A	10-16-166-001	Steel Forward Small	4-6	Flat .068 3 Teeth Missing
	NL	Steel Forward Small - Hi-Performance	AR	Flat .047
	NL	Steel Forward Small - Hi-Performance	AR	Flat .058
023703	3-65	Steel Forward - MODEL 73 Only		Dish .068
023760	5C-175A	Pressure Plate Forward/ Front	1	
023761	5L-67	Pressure Plate Forward/Rear	1	
	10-17-666-001	Friction Reverse Large	1-3	Fiber .115
023738BR	72-A66B	Friction Reverse Large	1-3	Bronze .115
	72-A66	Friction Reverse Large	2	Bronze .061
023739	72-176	Steel Reverse Large	0-2	Flat .070
023767	3-37	Steel Forward Belleville Spring	1	Dish
MISC. PARTS				
023020	71-144B	Gasket - Forward/Reverse Adapter	1	
023021	L4-145	Gasket - Front Adapter	1	
023022	71-14	Gasket - Valve Cover	1	
023023	L4-146	Gasket - Rear Adapter	1	
023024	L4-147	Gasket - Rear Retainer - Reduction Early	1	
023025	71-147	Gasket - Rear Retainer - MODEL 10-17	1	
023026	72-147	Gasket - Rear Retainer - MODEL 10-18	1	
023002	3-61	Seal - Front Pump	1	
023050A	4805A	Seal - Reverse Clutch Outer	1	
023054A	5L-36	Seal - Forward Clutch Outer	1	
1390734	4804H	Oring - Control Valve	1	
010226A	5M122	Oring - Forward Clutch Inner	1	Old# 1391984
010226A	4804G	Oring - Reverse Inner	1	Old# 1391984
	1000-238-002 72C-98	Filter - Oil	1	
099328	1000-640-004	Neutral Safety Switch	1	
099329	1000-140-004	Switch - Oil Temperature 190°	1	
099329A	87-88031	Switch - Oil Temperature 230°	1	
018101	4806B TAW-408	Sealing Ring - Pinion Carrier	4	2.0 x .0935 HJ
	4806J TAW-1320	Sealing Ring - Drive Gear	2	1.7465 x .0935 HJ
	1000-044-014 UE-0282E	Metal Clad Seal - Front Pump		OD: 53mm/2.08"
023422	1000-044-017 UH-0049E	Metal Clad Seal - Coupling		OD: 83mm/3.271" Late Type Reduction
023421	71C-110 UH-0341E	Metal Clad Seal - Coupling		OD: 68mm/2.69" Early Type Reduction
023320	1000-149-034	Output Shaft Nut - Coupling Nut with Washer		All Late Reduction Units



VELVET DRIVE® 71 & 72

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
MISC. PARTS (Continued)				
023604	NL	Sealing Ring Kit		Contains: 4 Pc. 018101, 2 Pc. 038105
023680	1095-410-002	Snap Ring Service Kit	1	
	4766	Snap Ring - Adapter	1	
023251	4821	Snap Ring - Control Valve	1	
023252	4822	Snap Ring - Reverse Gear	1	
023253	R6A-7-1/2	Snap Ring - Drive Gear Large MODEL 10-17 Only	1	
023254	4766B	Snap Ring - Drive Gear Large MODEL 10-18 Only	1	
023255	4734	Snap Ring - Drive Gear Small MODEL 10-17 Only	2	
023256	4559A	Snap Ring - Drive Gear Small MODEL 10-18 Only	1	
023257	4755	Snap Ring - Ring Gear	1	
023258	1000-139-048	Snap Ring - Ring Gear Yellow MODEL 10-17	1	.033-.037
023258-130	1000-139-049	Snap Ring - Ring Gear Pink MODEL 10-17	1	.050-.054
023258A130	4768	Snap Ring - Ring Gear Green MODEL 10-18	2	.050-.054
023258A160	1000-139-018	Snap Ring - Ring Gear Purple MODEL 10-18	1	.062-.066
023258A190	4768A	Snap Ring - Ring Gear Orange MODEL 10-18	1	.074-.078
023258A250	4768B	Snap Ring - Ring Gear White MODEL 10-18	1	.096-.100
023259	4495	Snap Ring - Drive Gear Assembly	1	
023260	4756D	Snap Ring - Drive Gear Assembly	1	Reduction Only
023261	4756E	Snap Ring - Drive Gear Assembly	1	Reduction Only
023262	4816	Snap Ring - Drive Gear Assembly	1	Reduction Only
023263	4766A	Snap Ring - Drive Gear Assembly	1	Reduction Only
023276	71-97	Spring - Reverse Pressure Plate	11	
	5C-33 1000-139-101	Bearing Ring VD72 Forward Clutch Shuttle		
023337	4920	Tapered Roller Bearing		Timken NA 44163/90048
023337A	4920A	Tapered Roller Bearing		Timken NA 44143/90035
023337B	4920B	Tapered Roller Bearing		Timken NA53178/90062
023350A	71CA60	Oil Pump	1	
	71C-3A16	Drive Gear & Pump Assembly	1	
023322	4840D	Needle Bearing - Forward & Reverse Adapter	1	
	B308AGS 1000-130-018	Roller Bearing	1	
023326	B107A (6007J)	Roller Bearing	1	
023326A	B108A (6008J) 1000-130-016	Roller Bearing	1	
023247	71-28C (4867VVKIT)	Bushing - Case Housing Forward/Reverse	2	
023248	71-9C (4867DDKIT)	Bushing - Carrier Assembly	2	
023323	4547AY	Coupling 5 - MODEL 10-18 Only	1	
023324	4547BA	Coupling 4 - MODEL 10-17 Only	1	
023327	1000-031-001	Coupling - Current Reduction	1	Fine Spline
023328	4912	Coupling - Early Reduction	1	Fine Spline
023196	71-17	Thrust Washer	1	
023187	1016-193-001	Washer	1	
023188	71-15B	Washer	1	
023189	73C-15	Thrust Washer	1	
023329	1016-124-001	Piston - Forward	1	Original OEM
023330	1016-179-001	Hub - Forward	1	Original OEM
023331	A4740G	Breather	1	



VELVET DRIVE® 71 & 72 "V" Drive

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS				
023801CB	1308-410-001	OVERHAUL KIT Includes Gasket Set, Orings, Metal Clad Seals and Nut	1	
MISC. PARTS				
	1308-045-001	Gasket - V DRIVE Housing Up to 1991	1	
	1308-045-004	Gasket - V DRIVE Housing 1992-On	1	
	1308-045-002	Gasket - V DRIVE Trans	1	
	1308-045-003	Gasket	1	
	1000-141-235	Oring - Pre-Load Cap	2	
023421	71C-110	Metal Clad Oil Seal - Output UP to 1989	1	
023422	1000-044-017	Metal Clad Oil Seal - Output 1990-On	1	
023320	1000-149-034	Nut - Output Shaft	1	
023335	1308-410-015	Flange Kit - V DRIVE Conversion Kit	1	
	1308-027-005	Flange - Housing	1	
	942-1652	Bolt - Flange Housing	6	
	NL	Lockwasher - Flange Housing Bolt	6	
023335	1308-410-015 25662	Flange Kit - V DRIVE Conversion Kit HEAVY DUTY	1	

VELVET DRIVE® 71 & 72 Damper Assemblies

DAMPER ASSEMBLIES				
DA-101	1004-650-001		1	
DA-102	1004-650-002 AS4-K1C	6.18" OD, 1.353 Spline	1	26 Teeth
DA-103	1004-650-003	8.0" OD, 1.35 Spline (8 Equally Spaced Holes)	1	26 Teeth
DA-106	1004-650-006 AS4-K2C	6.66" RAD (Triangle), 1.353 Spline	1	26 Teeth
DA-106A	120-8-1446 AS8-K2C	6.66" RAD Same as DA-106 except with Cut Off Rounded Ears	1	26 Teeth
DA-107	1004-650-007 AS7-K2C	13.25" OD Fits Engines up to 430 C.U. 1.353 spline	1	26 Teeth Purple Spring
DA-108	1004-650-008 AS5-K2C	13.25" OD Fits Engines up to 370 C.U.	1	White Spring
	132-008-2246	Lite "Maximum Rating 500 H.P." 13.25" OD	1	26 Teeth
DA-302	2301-650-001	152mm x 123mm 10/23/29 Teeth DIN 5464 with Dowel Pin Holes	1	45 Degree x 8

BORG WARNER T-22

CLUTCHES				
	1008-666-004	Friction	16	Black PL 2.8mm/.110" 44 Teeth
	AT-220-66 1008-666-001	Friction	16	Bronze 2.8mm/.110" 44 Teeth
	22-176	Steel	16	Flat 1.7mm/.068"
	1008-166-001	Steel	8	Flat 3.5mm/.138"



BORG WARNER (CR-2) / VELVET DRIVE 1013/14 DROP CENTER

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS				
023801DB	1013-410-001	OVERHAUL KIT Includes Gaskets, Metal Clad Seals and Sealing Rings	1	
023901B	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	BANNER KIT Includes Overhaul Kit and Bronze Plates	1	
	NL	CLUTCH PLATE MODULE Includes 10 Bronze Plates and 6 Steel Plates	1	
CLUTCHES				
049700BR	5C-A66A	Friction Forward	5-7	Bronze .060
023738BR	72A-66B	Friction Reverse	1-3	Bronze .115
023701	3-176	Steel Forward	4-6	Flat .068
023739	72-176	Steel Reverse	1-2	Flat .070
MISC. PARTS				
023050A	4805A	Seal - Reverse Clutch Outer	1	
023054A	5L-36	Seal - Forward Clutch Outer	1	
023002	3-61	Seal - Front Pump	1	
023020	71-144B	Gasket - Case & Adapter	1	
023022	71-14	Gasket - Valve Cover	1	
	1013-045-002	Gasket - Reduction Housing	1	
	1013-045-001	Gasket - Adapter	1	
1390734	4804H	Oring - Control Valve		
010226A	5M-122	Oring - Forward Clutch Inner		Old# 1391984
010226A	4804G	Oring - Reverse Clutch Inner		Old# 1391984
	1000-044-014	Metal Clad Seal - Front Pump		
	1000-044-003	Metal Clad Seal - Coupling		
	4806S	Sealing Ring - Teflon	2	
	4806L			
	4806J	Sealing Ring	5	

CLUTCHES				
	2301-666-001	Friction	10	Bronze .062
	2301-166-001	Steel	8	Flat .068

VELVET DRIVE ® S500

CLUTCHES				
	1023-666-001	Friction Forward/Reverse	7	Fiber .090
	1023-166-001	Steel Forward/Reverse	7	Flat .071

VELVET DRIVE ® 1500

CLUTCHES				
	1023-666-003	Friction Forward/Reverse	7	Fiber .086
	1023-166-002	Steel Forward	7	Flat .068

VELVET DRIVE ® 7000



ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES				
	1026-666-001	Friction Forward/Reverse	15	Fiber .061
023749	1026-166-001	Steel Forward/Reverse	15	Flat .068

PARAGON MODELS P21, P31, OW1 (SN5M-P)

KITS				
	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
	Z-7601	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals and Sealing Rings	1	Combo Fits SN5M-5P & 6A & Later
023909D	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	Combo Fits SN5M-5P & 6A & Later
	KN-10031X	CLUTCH PLATE MODULE Includes 6 Bronze Plates and 7 Steel Plates	1	
CLUTCHES				
049700BR	11759	Friction	6	Bronze .060
	11758	Steel	7	Flat .060
MISC. PARTS				
	12640	Gasket - Front	1	
	12227	Gasket - Cover	1	SN5M-5P
	11083	Gasket - Rear	1	
	16196	Oring	1	
	10280	Oring - Outer	1	
	11352	Oring - Forward & Rear Coupling	2	
	12221	Oring - Reverse Piston	1	
	12222	Oring - Piston	1	
	11769	Oring - Control Valve	1	
	11779	Oring - Relief Valve	1	
	11683	Oring	2	
	11791	Metal Clad Seal - Front Pump	1	
	2XE-446A	Metal Clad Seal - Rear	1	
	HF-1094	Sealing Ring - Collar	2	
	11573	Washer - Seal	1	
	11240	Clip	2	
	11237	Lock Screw	2	

PARAGON MODELS P32A-P35B, P22-P25, OW2-OW5 (SN5M-5P & 6A & LATER)

KITS				
023809	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
023809B	Z-7988 Z-7603	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals and Sealing Rings	1	Combo Fits SN5M-5P & 6A & Later
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	Combo Fits SN5M-5P & 6A & Later
	KN-10031	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 9 Steel Plates, 2 Clips and 2 Screws	1	



**PARAGON MODELS P32A-P35B, P22-P25, OW2-OW5
(SN5M-5P & 6A & LATER)**

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES (Continued)				
049700BR	11759	Friction	6-8	Bronze .060
	11758	Steel	7-9	Flat .060
MISC. PARTS				
	12640	Gasket - Front	1	
	12227	Gasket - Cover	1	SN5M-5P
	12576	Gasket - Cover	1	SN6A & Later
	11083	Gasket - Rear	1	
	RA20-15A	Gasket - Reduction	1	1.5:1 & 2:1 Only
	RB20-15A	Gasket - Reduction	1	2.5:1 & 3:1 Only
	10280	Oring - Outer	1	
	11352	Oring - Forward & Rear Coupling	2	
	12221	Oring - Reverse Piston	1	
	12222	Oring - Piston	1	
	11769	Oring - Control Valve	1	
	11779	Oring - Relief Valve	1	
	11683	Oring	2	
	11791	Metal Clad Seal - Front Pump	1	
	11518	Metal Clad Seal - Coupling	1	
	HF-1094	Sealing Ring - Collar	2	
	11573	Washer - Seal	1	
	11240	Clip	2	
	11237	Lock Screw	2	

**PARAGON MODELS P34-P35, P42-P45
(SN5M-5P & 6A & LATER)**

KITS				
023809A	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
023809AB	Z-7989 Z-7604	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	Combo Fits SN5M-5P & 6A & Later
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	Combo Fits SN5M-5P & 6A & Later
	KN-10031	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 9 Steel Plates, 2 Clips and 2 Screws	1	
CLUTCHES				
049700BR	11759	Friction	6-8	Bronze .060
	11758	Steel	7-9	Flat .060
MISC. PARTS				
	12640	Gasket - Front	1	
	12227	Gasket - Cover	1	SN5M-5P
	12576	Gasket - Cover	1	SN6A & Later
	11083	Gasket - Rear	1	
	RC20-15A	Gasket - Reduction	1	
	P11397	Gasket - Reverse-Gear Ring	1	
	RB20-15A	Gasket - Reduction	1	2.5:1 & 3:1 Only
	10280	Oring - Outer	1	
	11352	Oring - Forward & Rear Coupling	2	
	12221	Oring - Reverse Piston	1	
	12222	Oring - Piston	1	



**PARAGON MODELS P34-P35, P42-P45
(SN5M-5P & 6A & LATER)**

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
MISC. PARTS (Continued)				
	11769	Oring - Control Valve	1	
	11779	Oring - Relief Valve	1	
	11683	Oring	2	
	11791	Metal Clad Seal - Front Pump	1	
	11518	Metal Clad Seal - Coupling	1	
	12316	Metal Clad Seal - Coupling	1	
	HF-1094	Sealing Ring - Collar	2	
	11573	Washer - Seal	1	
	11240	Clip	2	
	11237	Lock Screw	2	

**PARAGON MODEL P41
(SN5M-5P & 6A & LATER)**

KITS				
023809E	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
023809EB	Z-7802 Z-7987	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	Combo Fits SN5M-5P & 6A & Later
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	SN5M-5P
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	SN6A & Later
	NL	CLUTCH PLATE MODULE Includes 7 Bronze Plates, 8 Steel Plates, 2 Clips and 2 Screws	1	
CLUTCHES				
049700BR	11759	Friction	7-8	Bronze .060
	11758	Steel	8-9	Flat .060
MISC. PARTS				
	12640	Gasket - Front	1	
	12227	Gasket - Cover	1	SN5M-5P
	12576	Gasket - Cover	1	SN6A & Later
	P11397	Gasket - Reverse-Gear Ring	1	
	10280	Oring - Outer	1	
	11352	Oring - Forward & Rear Coupling	2	
	12221	Oring - Reverse Piston	1	
	12222	Oring - Piston	1	
	11769	Oring - Control Valve	1	
	11779	Oring - Relief Valve	1	
	11683	Oring	2	
	11791	Metal Clad Seal - Front Pump	1	
	RB446	Metal Clad Seal - Coupling	1	
	HF-1094	Sealing Ring - Collar	2	
	11573	Washer - Seal	1	
	11240	Clip	2	
	11237	Lock Screw	2	



PARAGON MODEL P200, 300, 400

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES				
	11759-P	Friction Forward	6-8	Fiber .060
049700BR	11759	Friction Forward	6-8	Bronze .060
	11758	Steel Forward	7-9	Flat .060

PARAGON MODEL HF7 (Direct Drive)

KITS				
023811A	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
023809CB	Z-7279	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals and Sealing Rings	1	
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	KN-10031X	CLUTCH PLATE MODULE Includes 6 Bronze Plates, 7 Steel Plates, 2 Clips and 2 Screws	1	
CLUTCHES				
049700BR	11759	Friction	6	Bronze .060
	11758	Steel	7	Flat .060
MISC. PARTS				
	11736	Gasket - Front Housing	1	
	Y-11083	Gasket - Rear Housing	1	
	Y-11767	Gasket - Cover Housing	1	
	X-11683	Oring	1	
	X-11769	Oring - Control Valve	1	
	X-11779	Oring - Relief Valve	1	
	X-11777	Oring	1	
	X-11352	Oring - Coupling	1	
	X-10280	Oring - Outer	1	
	X-16196	Oring	1	
	X-11791	Metal Clad Seal - Front	1	
	2X3-446A	Metal Clad Seal - Rear	1	
	X-11726	Seal - Washer	1	
	X-11353	Seal - Washer	12	
	11573	Washer - Seal	1	
	HF-1094	Sealing Ring - Oil Dist.	2	
	112409	Clip	2	
	11237	Lock Screw	2	

PARAGON MODEL HJ7

KITS				
023811C	NL	GASKET SET Includes Paper and Rubber Parts Only	1	
023809BB	Z-7401	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 7 Bronze Plates, 8 Steel Plates, 2 Clips and 2 Screws	1	



PARAGON MODEL HJ7

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES (Continued)				
049700BR	11759	Friction	7	Bronze .060
MISC. PARTS				
	Z-12640	Gasket - Front Housing	1	
	Y-11767	Gasket - Cover Housing	1	
	Y-11397	Gasket - Rear Housing	1	
	X-11683	Oring	1	
	X-11769	Oring - Control Valve	1	
	X-11779	Oring - Relief Valve	1	
	X-11777	Oring	1	
	X-11352	Oring - Coupling	1	
	X-10280	Oring - Outer	1	
	X-11791	Metal Clad Seal - Front	1	
	RB446	Metal Clad Seal - Rear	1	
	X-11726	Washer - Seal	1	
	11176	Washer - Seal	6	
	11353	Washer - Seal	6	
	11573	Washer - Seal Detent	1	
	HF-1094	Sealing Ring - Oil Dist.	2	
	112409	Clip	2	
	11237	Lock Screw	2	

MERCUISER II-TR, S

CLUTCHES				
	C9AP-7B164A B-62691A1-KIT	Friction Forward	8	Fiber .060
	C9AP-7B164SEL B-62691A1-KIT	Friction Forward	1	Fiber .072
	C9AP-7B164SEL B-62691A1-KIT	Friction Forward	1	Fiber .0876
023701	C8AZ-7B442A B-62691A1-KIT	Steel Forward	4	Flat .068
	E0AZ-7B164A C9AZ-7B164A B6AZ-7B164R B5AZ-7B164B 3193139 3186574	Friction		Tan PL .061
049700BR	5C-A66A B5AZ-7B164A B6AZ-7B164A	Friction		Bronze .061
	NL	Friction		Bronze .093
023738BR	72-A66B	Friction		Bronze .115
023739	72-176	Steel		Flat



CAPITOL HYDRASMOOTH

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES				
	17-80032	Friction Direct Small	9	Fiber .072
	17-80029	Steel Direct Small	AR	Flat .071
	17-80029	Steel Direct Small	AR	Flat .061
	17-80031	Friction Reverse Large	5	Fiber .092

CAPITOL MARINE

HY400, 6900, HY7700, 24000, 25000

CLUTCHES				
	1-00230-4900	Friction	12-14	Bronze .155
	1-00233-1200	Steel	12-14	Flat .091

CAPITOL MARINE

5HD-200, HE 10200, 10700, 11200, 11720

CLUTCHES				
	1-00230-2000	Friction	12-14	Bronze .135
	1-00233-0070	Steel	12-14	Flat .095
	1-00229-1700	Steel	1	Flat .155

CAPITOL MARINE

M105, 125

CLUTCHES				
	1-14186-0000	Friction	12	Bronze .125
	1-14185-0000	Steel	12	Flat .065

YAMAHA 7.4 Liter Hydra-Drive

CLUTCHES				
	6U1-16321-00	Friction	14	Bronze .085
	6U1-16324-00	Steel	14	Flat .048

YANMAR MARINE KBW-10, KBW-20

CLUTCHES				
	177090-03080	Friction - Forward / Reverse	8	Bronze 1.7mm / .067
	177090-03090	Steel - Forward / Reverse	6	Steel 1.4mm / .056



TWIN DISC MG-502

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES				
	B3337	Steel Forward/Reverse	18	52 Teeth Flat .051
	B3336A	Friction Forward/Reverse	16	79 Teeth Bronze .085

TWIN DISC MG-506

CLUTCHES				
	204097	Steel Forward/Reverse	18	42 Teeth Flat .061
	B3060B	Friction Forward/Reverse	16	Bronze .085

TWIN DISC MG-509-512

CLUTCHES				
	A-4939 P-4371	Steel Forward/Reverse - MG-509 Only	14	45 Teeth Flat .062
	A-4480A,B,M P-4251A,B,C	Friction Forward/Reverse - MG-509 & MG-512	14	Bronze .112

TWIN DISC MG-514A, B, C

CLUTCHES				
	A-6567C	Steel MG-514A, MG-514B - Early	14	Flat .091
	A-6567E	Steel MG-514A, MG-514B - Late		Step .091
	A-6567E	Steel MG-514C		Step .091
	A-6566E	Friction - All Models	14	Bronze .122

TWIN DISC (Various)

CLUTCHES				
	206177M	Friction		
	215736	Steel - MG-518		Flat .090
	206106X	Friction - MG-518		Grn WF .125
MISC. PARTS				
	B1432	Bearing Retainer (Pack of 12 Pcs.)	12	
	B3073C	Drive Block, Rubber - Large (Pack of 26 Pcs.)	26	
	A3905E	Drive Block, Rubber - Small (Pack of 26 Pcs.)	26	

HURTH MARINE HBW 5, 50, 100

KITS				
316801B	500427	GASKET SET Includes Paper and Rubber Parts Only	1	
316901	500437	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 6 Steel Plates	1	
CLUTCHES				
	288757	Friction	8	Bronze .063
	288758	Steel	6	Flat .056
MISC. PARTS				
	288739	Gasket	4	
	254716	Gasket - Shift Cover	1	
	106864	Metal Seal - Lever	1	OD: 26mm ID: 20mm
	280135	Metal Seal	1	OD: 37mm ID: 27mm
	105153	Metal Seal	1	OD: 45mm ID: 32mm
	105524	Oring - Shift Shaft HBW-50	1	



HURTH MARINE HBW 5, 50, 100

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
MISC. PARTS (Continued)				
	105679	Oring - Intermediate Shaft HBW-100	1	
	288748	Thrust Washer	2	
	288748	Thrust Washer (OE Design)	2	
		Shim Kit - Bearing (Contains 1 Each Shim)	1	
	288735	Shim Bearing	1	.50mm
	288734	Shim Bearing	1	.30mm
	288733	Shim Bearing	1	.20mm
	288732	Shim Bearing	1	.15mm
	288731	Shim Bearing	1	.10mm
		Shim Kit - Clutch (Contains 1 Each Shim)	1	
	288760	Shim Clutch	1	.40mm
	288761	Shim Clutch	1	.50mm
	288762	Shim Clutch	1	.60mm
	288763	Shim Clutch	1	.70mm

HURTH MARINE HBW 10, 150

KITS				
316803B	500428	GASKET SET Includes Gaskets, Orings and Metal Clad Seals	1	
316903	500438	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	MASTER OVERHAUL KIT - LATE Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 6 Steel Plates	1	
	NL	CLUTCH PLATE MODULE - LATE Includes 8 Bronze Plates, 8 Steel Plates	1	
CLUTCHES				
	288912	Friction	8	Bronze .063
	407231	Friction - Thin	8	Bronze .059
	187872	Steel	6	Flat .056
	NL	Steel - Thin	8	Flat .039
MISC. PARTS				
	254715	Gasket	4	
	254716	Gasket - Shift Cover	1	
	106864	Metal Clad Seal - Lever	1	OD: 26mm ID: 20mm
	215875	Metal Clad Seal - Front	1	OD: 52mm ID: 30mm
	105159	Metal Clad Seal - Rear	1	OD: 52mm ID: 40mm
	105530	Oring - Intermediate Shaft HBW 150	1	
	344787	Thrust Washer	2	
		Shim Kit - Bearing (Contains 1 Each Shim)		
	206474	Shim - Bearing	1	.10mm
	206475	Shim - Bearing	1	.15mm
	206476	Shim - Bearing	1	.20mm
	228540	Shim - Bearing	1	.50mm
	228539	Shim - Bearing	1	1.0mm
		Shim Kit - Clutch (Contains 1 Each Shim)		
	195714	Shim - Clutch	1	.40mm
	195715	Shim - Clutch	1	.50mm
	195716	Shim - Clutch	1	.60mm
	195717	Shim - Clutch	1	.70mm



HURTH MARINE HBW 150V

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS				
316803VB	500429	GASKET SET Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	500439	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	MASTER OVERHAUL KIT - LATE Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 6 Steel Plates	1	
	NL	CLUTCH PLATE MODULE - LATE Includes 8 Bronze Plates, 8 Steel Plates	1	
CLUTCHES				
	288912	Friction	8	Bronze .063
	407231	Friction - Thin	8	Bronze .059
	187872	Steel	6	Flat .056
	NL	Steel - Thin	8	Flat .039
MISC. PARTS				
	254715	Gasket	2	
	254716	Gasket - Shift Cover	1	
	106864	Metal Clad Seal - Lever	1	OD: 26mm ID: 20mm
	215875	Metal Clad Seal - Front	1	OD: 52mm ID: 30mm
	401647	Metal Clad Seal - Rear	2	OD: 90mm ID: 65mm
	105590	Oring	1	
	291618	Oring	2	

HURTH MARINE HBW 20, 220, 250

KITS				
316805B	500430	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
316905	500440	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 10 Bronze Plates, 8 Steel Plates	1	
CLUTCHES				
	288889	Friction	10	Bronze .063
	206026	Steel	8	Flat .056
MISC. PARTS				
	274251	Gasket	4	
	106864	Metal Clad Seal - Lever	1	OD: 26mm ID: 20mm
	105159	Metal Clad Seal	1	OD: 52mm ID: 40mm
	284260	Metal Clad Seal	1	OD: 90mm ID: 65mm
	327395	Oring	1	
	277109	Shim Kit - Bearing (Contains 1 Each Shim)		
	274252	Shim - Bearing		.10mm
	274253	Shim - Bearing	1	.15mm
	274254	Shim - Bearing	1	.20mm
	274255	Shim - Bearing	1	.50mm
	274256	Shim - Bearing	1	1.0mm
		Shim Kit - Clutch (Contains 1 Each Shim)		
	195714	Shim - Clutch	1	.40mm
	195715	Shim - Clutch	1	.50mm
	195716	Shim - Clutch	1	.60mm
	195717	Shim - Clutch	1	.70mm



HURTH MARINE HBW 360, 450, 630

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
CLUTCHES				
	326380	Friction	AR	Paper .063
	408265	Steel	AR	Flat .056

HURTH MARINE Damper Assemblies

DAMPER ASSEMBLIES				
DA-301	947-77-601-02 254750	121.5mm X 100mm 10/23/29 Teeth DIN 5464	1	45 Degree x 8
DA-302	947-44-601-03 254762	152mm x 123mm 10/23/29 Teeth DIN 5464 w/DOWEL PIN HOLES	1	45 Degree x 8
DA-303	288240	157mm X 123mm 10/23/29 Teeth DIN 5464	1	72 Degree x 5

HURTH MARINE HSW 800 SERIES (Reduction) & V DRIVE

KITS				
	NA	OVERHAUL KIT - (800 REDUCTION) Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	NL	OVERHAUL KIT - (V DRIVE) Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	500435	MASTER OVERHAUL KIT - (800 REDUCTION) Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	MASTER OVERHAUL KIT - (V DRIVE) Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE - (800 REDUCTION AND V DRIVE) Includes 10 Bronze Plates and 12 Steel Plates	1	
CLUTCHES				
	97827315013 455-786 813319	Friction	10	Bronze .079
	97827314013 455-787 813320	Steel	12	Wave .067
MISC. PARTS				
	27-813301 408-388	Gasket - Shift Cover	1	
	0634303505	Oring - Output Shaft	1	OD: 61.5mm
	26-813286 413-883	Metal Clad Seal - Input	1	OD: 52mm ID: 35mm
	634319104	Metal Clad Seal - Output - REDUCTION	1	OD: 95mm ID: 73mm
	105-113	Seal - Output V DRIVE	1	105 X 130 X 12
	480-762	Seal - Output V DRIVE	1	80 X 100 X 10
		Metal Clad Seal - Control Valve	1	OD: 43mm ID: 30mm
	438337	Filter	1	
	463772	Filter Kit - Includes Filter & 2 Orings		
	25-813406 105-542	Oring - Inner Filter Cover	1	
	25-813407 442-731	Oring - Outer Filter Cover	1	
	25-813329 105-571	Oring - Output Flange	1	
	NL	Oring - Control Valve	2	
	53-813312 447-038	Sealing Ring - Shaft	3	



HURTH MARINE HSW 630A-1 (Hydraulic) & 630 V DRIVE

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
KITS				
316807B	NL	OVERHAUL KIT - (630A-1 HYDRAULIC) Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
316807AB	500-423	OVERHAUL KIT - (630 V DRIVE) Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
316907	NL	MASTER OVERHAUL KIT - (630A-1 HYDRAULIC) Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	MASTER OVERHAUL KIT - (630 V DRIVE) Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE - (630A-1 HYD & 630 V DRIVE) Includes 8 Bronze Plates and 10 Steel Plates	1	
CLUTCHES				
	97827315013 455-786 813319	Friction	8	Bronze 2.0mm / .079 OD: 134mm / 5.27 36 Teeth
	97827314013 455-787 813320	Steel	10	Wave 1.77mm / .067 ID: 96.5mm / 3.8
MISC. PARTS				
	27-813301 408-388	Gasket - Shift Cover	1	
	26-813286 413883	Metal Clad Seal - Input	1	OD: 52mm ID: 35mm
	26-813292 442-135	Metal Clad Seal - Output	1	OD: 72mm ID: 55mm
	438337	Filter	1	
	463772	Filter Kit - Includes Filter & 2 Orings	1	
	25-813406 105-542	Oring - Inner Filter Cover	1	
	25-813407 442-731	Oring - Outer Filter Cover	1	
	25-813329 105571	Oring - Output Flange	1	
	101-101	Oring - Control Valve	2	
	101-100	Metal Clad Seal - Control Valve	1	OD: 43mm ID: 30mm
	53-813312 447-038	Sealing Ring - Shaft	3	
	444-070	Seal - Output V DRIVE	1	85 x 110 x 12
	444-071	Seal - Output V DRIVE	1	65 x 85 x 12

HURTH MARINE HSW 450A-2

KITS				
315800	NL	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
315900	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 8 Bronze Plates, 10 Steel Plates	1	
CLUTCHES				
	489120	Friction	8	Bronze 1.7mm / .066 OD: 110mm / 4.325 27 Teeth
	489119	Steel	10	Wave 1.5mm / .059 ID: 85mm / 3.335 6 Teeth



HURTH MARINE HSW 450A-2

MISC. PARTS (Continued)				
	408388	Gasket - Control Block	1	
	374056	Metal Clad Seal - Output Shaft	1	45 x 62 x 8
	500065	Metal Clad Seal - Dist. Shaft	1	30 x 43 x 8/9.5
	413883	Metal Clad Seal - Input Shaft	1	52 x 35 x 8
	105559	Oring - Output Shaft	1	
	438742	Seal - Suction Pipe	1	
	437653			
	489122	Retainer Ring	1	
	393124	Snap Ring	2	
	438337	Filter	1	
	463772	Filter Kit - Includes Filter & 2 Orings	1	

HURTH MARINE / ZF IRM 220, 220A

KITS				
	3205199501	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	3205199504	CLUTCH PLATE MODULE Includes 26 Bronze Plates, 24 Steel Plates, 2 Pressure Plates	1	
	3205199504X	CLUTCH PLATE MODULE Includes 26 Bronze Plates, 24 Steel Plates	1	
CLUTCHES				
	3205302057	Friction Forward & Reverse	22	Bronze .087
	3205302056	Friction Forward & Reverse (1 Sided)	4	Bronze .071
	3205302062	Steel Forward & Reverse	24	Waved .055
	3205302059	Steel Forward & Reverse Pressure Plate	2	Step
MISC. PARTS				
	0634402538	Ring, Sealing Lock	4	
	03380100			
	0634319110	Metal Clad Seal - Input	1	
	063400069	Metal Clad Seal - Output	1	

HURTH MARINE / ZF 301, 301A

KITS				
	0741728	OVERHAUL KIT Includes Gaskets, Orings, Metal Clad Seals & Sealing Rings	1	
	NL	MASTER OVERHAUL KIT Includes Overhaul Kit, Bronze Plates and Steel Plates	1	
	NL	CLUTCH PLATE MODULE Includes 9 Bronze Plates, 8 Steel Plates	1	
CLUTCHES				
	044114009	Friction	9	Bronze .079
	3209303035	Steel	8	Flat .059
	043013457254			
MISC. PARTS				
	NL	Gasket	1	
	NL	Seal	1	75-95-10
	NL	Seal	1	42-55-8
	NL	Ring, Sealing Lock	4	

AltoUpdate...

MAKE	TRANSMISSION	APPLICATION	YEAR
Hurth	ZF IRM 220 & 220A	Clutch Plates & Overhaul Kits	

DESCRIPTION & NOTES...

Hurth Marine ZF IRM 220, 220A Clutch Plates and Overhaul Kits...

We are pleased to announce our clutch plates and overhaul kits for Hurth Marine ZF IRM 220 and 220A transmissions.



KITS

ALTO #	REF #	DESCRIPTION	USAGE
	32051995501	Overhaul Kit - Gaskets, Orings, Metal Clad Seals & Sealing Rings	1
	NL	Master Overhaul Kit - Overhaul Kit, Bronze & Steel Plates	1
	3205199504	Clutch Plate Module - Includes 26 Bronze, 24 Steel & 2 Pressure Plates	1
	3205199504X	Clutch Plate Module - Includes 26 Bronze & 24 Steel Plates	1

CLUTCHES

ALTO #	REF #	DESCRIPTION	USAGE
	3205302057	Friction Forward & Reverse, Bronze .087"	22
	3205302056	Friction Forward & Reverse, 1-sided, Bronze .071"	4
	3205302062	Steel Forward & Reverse, Waved .055"	24
	3205302059	Steel Forward & Reverse Pressure Plate with Step	2

SEALING RING

ALTO #	REF #	DESCRIPTION	USAGE
	0634402538, 03380100	Lock Sealing Ring	4

METAL CLAD SEALS

ALTO #	REF #	DESCRIPTION	USAGE
	0634319110	Input	1
	063400069	Output	1

Clutches and Gears for Automatic and Standard Transmissions

0404004





MARINE DAMPER ASSEMBLIES

VELVET DRIVE ®

DAMPER ASSEMBLIES				
DA-101	1004-650-001		1	
DA-102	1004-650-002 AS4-K1C	6.18" OD, 1.353 Spline	1	26 Teeth
DA-103	1004-650-003	8.0" OD, 1.35 Spline (8 Equally Spaced Holes)	1	26 Teeth
DA-106	1004-650-006 AS4-K2C	6.66" RAD (Triangle), 1.353 Spline	1	26 Teeth
DA-106A	120-8-1446	6.66" RAD Same as DA-106 except with Cut Off Rounded Ears	1	26 Teeth
DA-107	1004-650-007 AS7-K2C	13.25" OD Fits Engines up to 430 C.U. 1.353 spline	1	26 Teeth Purple Spring
DA-108	1004-650-008	13.25" OD Fits Engines up to 370 C.U.	1	White Spring
	132-008-2246	Lite "Maximum Rating 500 H.P."	1	
	070-008-1918		1	

Velvet Drive is a registered trademark of Borg Warner Corporation

VOLVO PENTA

DAMPER ASSEMBLIES				
DA-302	2301-650-001	152mm x 123mm 10/23/29 Teeth DIN 5464 with Dowel Pin Holes	1	45 Degree x 8
DA-201	841893-1	B30, D21, D40 ENG. 287mm x 123mm	1	6 Teeth
	841896-4	D20, D32 ENG. 267mm x 123mm	1	10 Teeth
	841894-9	MD21, MD32 ENG. 287mm x 133mm	1	26 Teeth
	841892-3	MD21/RB ENG 267mm x 123mm	1	10 Teeth
DA-205	855617-7	TAM D41 ENG 287mm x 159mm	1	26 Teeth
DA-206	855389-3	B21, B21 ENG	1	

HURTH MARINE

DAMPER ASSEMBLIES				
DA-301	947-77-601-02 254750	121.5mm X 100mm 10/23/29 Teeth DIN 5464	1	45 Degree x 8
DA-302	947-44-601-03 254762	152mm x 123mm 10/23/29 Teeth DIN 5464 w/DOWEL PIN HOLES	1	45 Degree x 8
DA-303	288240	157mm X 123mm 10/23/29 Teeth DIN 5464	1	72 Degree x 5

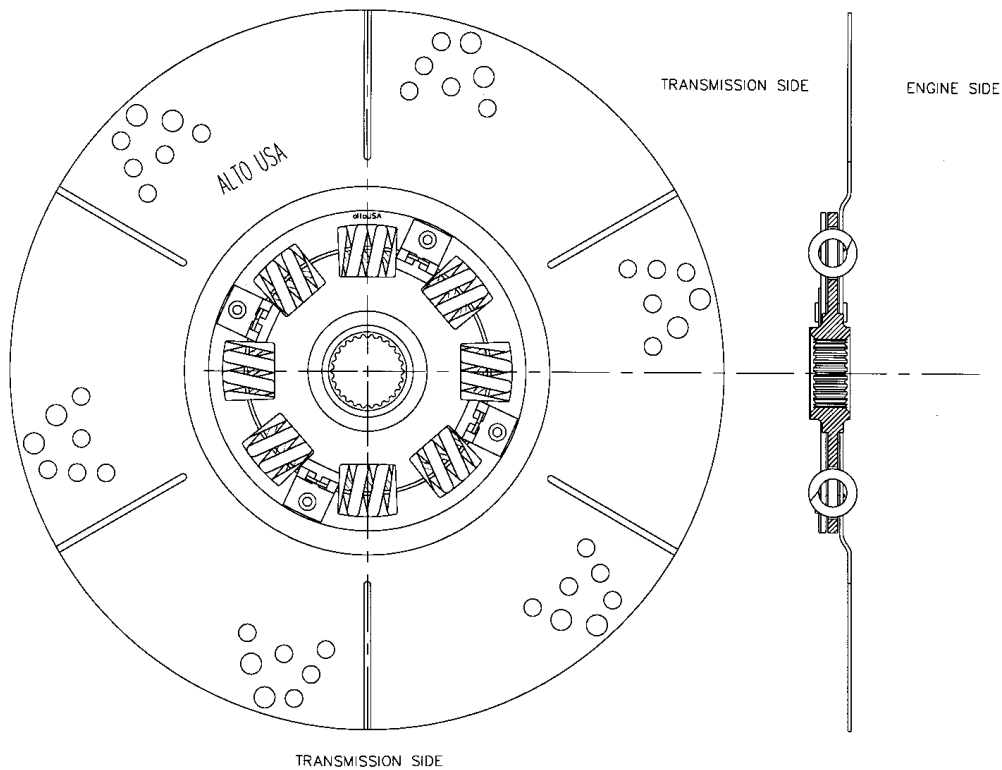
AltoUpdate...

MAKE	TRANSMISSION	APPLICATION	YEAR
Borg Warner	Velvet Drive	454 Engines	Various
DESCRIPTION & NOTES...			

Durability & Performance Benefits of the DA-111

Alto Part #DA-111...

This hi-performance Isolator Assembly is designed to be used with the GM 454 cubic inch engine (350 foot lbs of torque rating) having a maximum of 500 horsepower. To handle the increased horsepower the DA-111 has a thicker mounting plate (.096") and multiple torsional dampener springs (2 springs per pocket). The DA-111 is an upgrade to 132-008-2246, 1004-650-007, 1004-650-008, 1004-650-407, 1004-650-408, AS5-K2C or AS7-K2C.



Clutches and Gears for Automatic and Standard Transmissions

0310003

