



MARINE

FRICTION MATERIAL & TRANSMISSION PARTS



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ALTO MARINE CATALOG

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

Item#	Reference	Description	Usage	Notes
305702	1-00230-2000	Friction	14	.135
305703	1-00233-0070	Steel	14	.095
305703-390	1-00229-1700	Steel	1	.155

Capitol HY400, 6900, HY7700, 24000, 25000

Item#	Reference	Description	Usage	Notes
305700	1-00230-4900	Friction	14	.155
305701	1-00233-1200	Steel	14	.091

Capitol Hydrasmooth

Item#	Reference	Description	Usage	Notes
087700	14081192	Direct Small Friction	9	0.072/1.83
087702	14082705	Reverse Large Friction	5	0.092/2.34
087701	14081193	Direct Small Steel	1	0.071/1.8
087711	14105931	Direct Small Steel	1	0.061/1.55

Capitol M105, 125

Item#	Reference	Description	Usage	Notes
305704	1-14186-0000	Friction	12	.125
305705	1-14185-0000	Steel	12	.065

Hurth Marine Damper Assemblies

Item#	Reference	Description	Usage	Notes
DA-301	254750	121.5mm X 100mm 10/23/29 Teeth DIN 5464, 10 Teeth 45 Degree x 8	1	
DA-302	2301-650-001	152mm x 123mm 10/23/29 Teeth DIN 5464	1	
DA-303	288240	157mm X 123mm 10/23/29 Teeth DIN 5464, 10 Teeth 72 Degree x 5	1	
DA-305	1866-052-002	5.962/151.44 Diameter, 1-1/4" Diameter (spline)	1	

Hurth Marine HBW 10, 150

Item#	Reference	Description	Usage	Notes
316702	288912	Friction	8	.063
3001400	105530	Oring - Intermediate Shaft HBW 150	1	
010012B		O-Ring ARP-012 Poly	1	
316002	254715	Gasket	4	
316005	254716	Gasket - Shift Cover	1	
316403	215875	Metal Clad Seal - Front	1	
316410	106864	Metal Clad Seal - Lever	1	
316750A	#N/A	Friction-Steel	1	
316750E	#N/A	Friction-Steel Late	1	
316803B	500428	Gasket Set	1	
316903	500438	Master	1	
316903A	#N/A	Master-Late	1	
316703	187872	Steel	6	87.96 x 60.15 x 1.4
316703-100	3306304031	Steel - Thin	8	.039
316188	344787	Thrust Washer	2	

Hurth Marine HBW 150V

Item#	Reference	Description	Usage	Notes
316702	288912	Friction	8	.063
316002	254715	Gasket	2	
316005	254716	Gasket - Shift Cover	1	
A10029A	291618	Oring	2	
A10030B	105590	Oring	1	
316403	215875	Metal Clad Seal - Front	1	
316406	401647	Metal Clad Seal - Rear	2	
316410	106864	Metal Clad Seal - Lever	1	

Item#	Reference	Description	Usage	Notes
316750A	#N/A	Friction-Steel	1	
316750E	#N/A	Friction-Steel - Late	1	
316803VB	500429	Gasket Set	1	
316903V	500439	Master	1	
316903VA	#N/A	Master - Late	1	
316703	187872	Steel	6	87.96 x 60.15 x 1.4
316703-100	3306304031	Steel - Thin	8	.039

Hurth Marine HBW 20, 220, 250

Item#	Reference	Description	Usage	Notes
316704	288889	Friction	10	.063
316001	274251	Gasket	4	
316189	277109	Oring	1	
316405	26-813286	Metal Clad Seal	1	
316410	106864	Metal Clad Seal - Lever	1	
316750B		Friction-Steel	1	
316805B	500430	Overhaul Kit	1	
316905	500440	Master	1	
316705	206026	Steel	8	.056

Hurth Marine HBW 360A

Item#	Reference	Description	Usage	Notes
316750F		Friction-Steel	1	

Hurth Marine HBW 5, 50, 100

Item#	Reference	Description	Usage	Notes
A10049B		Oring	1	
316700	288757	Friction	8	.063
316003	288739	Gasket	4	
316005	254716	Gasket - Shift Cover	1	
316401	280135	Metal Seal	1	
316402	105153	Metal Seal	1	
316410	106864	Metal Seal - Lever	1	
316750		Friction-Steel	1	
316801B	500427	Gasket Set	1	
316901	500437	Master	1	
316701	288758	Steel	6	.056
316187-396	288748	Thrust Washer (OE Design)	2	
	03304304019			
	0501336515			

Hurth Marine IRM 220, 220A

Item#	Reference	Description	Usage	Notes
322750X		FSMOD Hurth / ZF IRM220,A (WO/PP)		
322702-180		Friction Rev 1 Sided BRZ EXT SPL	1	
322750X		Friction Steel Module	1	
322901		MASTER OVERHAUL KIT	1	
322700-220	3205302057	Forward & Reverse Friction	22	.087
322100	03380100	Ring, Sealing Lock	4	
322400	0634319110	Metal Clad Seal - Input	1	
322402	063400069	Metal Clad Seal - Output	1	
322800	3205199501	Overhaul	1	
322701-140	3205302062	Forward & Reverse Steel	24	.055

Hurth Marine V DRIVE -ZF63IV, ZF68IV- HYDRAULIC -ZF63/A, ZF68/A

Item#	Reference	Description	Usage	Notes
010614B		Filter/INN Poly	1	
010614B		O'ring Hurth Filter Inner Poly 19.0 X 3.0	1	

Item#	Reference	Description	Usage	Notes
316501		Seal Seat, Bottom of Oil Filter	1	ID .865" x OD 1.205" x HT .
316940A	438337	Filter	1	
FK316940	463772	Filter Kit - Includes Filter & 2 Orings	1	
316708	455-786	Friction	8	.079
010611A	101-101	Oring - Control Valve	2	
A10137B	105571	Oring - Output Flange	1	
316004	27-813301	Gasket - Shift Cover	1	
A10046A	25-813407	Oring - Outer Filter Cover	1	
316405	26-813286	Metal Clad Seal - Input	1	
316407	26-813292	Metal Clad Seal - Output	1	
316408	444-070	Seal - Output V DRIVE	1	
316409	444-071	Seal - Output V DRIVE	1	
316750C		Friction-Steel - 630 HYD & 630 V Drive	1	
316807AB	500-423	Overhaul - 630 V Drive	1	
316807B		Overhaul - 630 Hydraulic	1	
316907		Master - 630 Hydraulic	1	
316907V		Master - 630 V Drive	1	
316102	447-038	Sealing Ring - Shaft	3	
316709	455-787	Steel	10	146.71 x 97.13 x 1.7

Hurth Marine V DRIVE-ZF80IV/80-11V/85IV - REDUCTION- ZF80A/80-1A/85A				
Item#	Reference	Description	Usage	Notes
316411		Metal Clad Seal Input Shaft	1	
316940A	438337	Filter	1	
FK316940	463772	Filter Kit - Includes Filter & 2 Orings	1	
316708	455-786	Friction	10	.079
010611A	101-101	Oring - Control Valve	2	
A10137B	105571	Oring - Output Flange	1	
316004	27-813301	Gasket - Shift Cover	1	
316408A	105-113	Seal - Output V DRIVE	1	
316409A	480-762	Seal - Output V DRIVE	1	
A10046A	25-813407	Oring - Outer Filter Cover	1	
316405	26-813286	Metal Clad Seal - Input	1	
316407A	634319104	Metal Clad Seal - Output - REDUCTION	1	
316750D	#N/A	CLUTCH PLATE MODULE - (800 REDUCTION AND V DRIVE)	1	
316807BB	#N/A	OVERHAUL KIT - (V DRIVE)	1	
316807CB	#N/A	OVERHAUL KIT - (800 REDUCTION)	1	
316907A	500435	MASTER OVERHAUL KIT - (800 REDUCTION)	1	
316907AV	#N/A	MASTER OVERHAUL KIT - (V DRIVE)	1	
316102	447-038	Sealing Ring - Shaft	3	
316709	455-787	Steel	12	146.71 x 97.13 x 1.7

Mercruiser II-TR, S				
Item#	Reference	Description	Usage	Notes
049740		FR HD Various	1	0.061/1.55
023738BR	04/500206	Friction	1	190.6 x 147.17 x 2.92
049700	04/500230	Friction	1	0.061/1.55
049700-216	334409	Forward Friction	1	0.085/2.16
049700BR	1018224	Friction	1	0.061/1.55
049700BR235	069 00790	Friction	1	133.35 x 92.79 x 2.36
023358	809910	Oil Pan for Stern Drive	1	
023701	0.164.3643.0	Forward Steel	4	0.068/1.73
023739	04/500207	Steel	1	214.83 x 155.58 x 1.75

Newage 175-750				
Item#	Reference	Description	Usage	Notes
326700BR	MT725/S	Newage Inner Drive Plate	7	.061"/1.55mm

ALTO MARINE CATALOG

Paragon HF7 (Direct Drive)

Item#	Reference	Description	Usage	Notes
023033		Gasket HF7 FRT HSG		
023911B		MASTER OVERHAUL KIT	1	
023911B		Master Overhaul Kit Paragon HF7		
049700BR	1018224	Friction	8	0.061/1.55
010019B	11683	Oring	2	
010114B	11779	Oring - Relief Valve	1	
010116B	12222	Oring - Piston	1	
010236B	12221	Oring - Reverse Piston	1	
010256B	10280	Oring - Outer	1	
023031	12640	Gasket - Front	1	
023032	12227	Gasket - Cover	1	
023032A	12576	Gasket - Cover	1	
023035		Gasket - Reduction	1	
023036	P11397	Gasket - Reverse-Gear Ring	1	
023099	11573	Washer - Seal	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023425	11791	Metal Clad Seal - Front Pump	1	
023426	RB446	Metal Clad Seal - Coupling	1	
023750J	#N/A	Friction-Steel	1	
023809CB		Overhaul	1	
023909E	#N/A	Master - SN5M-5P	1	
023909F	#N/A	Master - SN6A & Later	1	
023110	HF-1094	Sealing Ring - Collar	2	
023751	11758	Steel	9	.060

Paragon HJ7

Item#	Reference	Description	Usage	Notes
023750J		Friction Steel Module	1	
049700BR	1018224	Friction	7	0.061/1.55
010019B	11683	Oring	1	
010114B	11779	Oring - Relief Valve	1	
010148B	X-11777	Oring	1	
010223B		Oring - Coupling	1	
010256B	10280	Oring - Outer	1	
023031	12640	Gasket - Front Housing	1	
023037	Y-11767	Gasket - Cover Housing	1	
023096	X-11726	Washer - Seal	1	
023097	11176	Washer - Seal	6	
023098	11353	Washer - Seal	6	
023099	11573	Washer - Seal Detent	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023425	11791	Metal Clad Seal - Front	1	
023426	RB446	Metal Clad Seal - Rear	1	
023110	HF-1094	Sealing Ring - Oil Dist.	2	
023751	11758	Steel	8	.060

Paragon P200, 300, 400

Item#	Reference	Description	Usage	Notes
049700BR	1018224	Forward Friction	8	0.061/1.55
023751	11758	Forward Steel	9	.060

Paragon P21, P31, OW1 (SN5M-P)

Item#	Reference	Description	Usage	Notes
049700BR	1018224	Friction	6	0.061/1.55
010019B	11683	Oring	2	
010114B	11779	Oring - Relief Valve	1	
010116B	12222	Oring - Piston	1	
010223B		Oring - Forward & Rear Coupling	2	
010236B	12221	Oring - Reverse Piston	1	

Item#	Reference	Description	Usage	Notes
010256B	10280	Oring - Outer	1	
010320B	16196	Oring	1	
023031	12640	Gasket - Front	1	
023032	12227	Gasket - Cover	1	
023034	11083	Gasket - Rear	1	
023099	11573	Washer - Seal	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023425	11791	Metal Clad Seal - Front Pump	1	
023427	2XE-446A	Metal Clad Seal - Rear	1	
023750E	KN-10031X	Friction-Steel	1	
023809DB	Z-7601	Overhaul : Combo fits SN5M-5P & 6A & Later	1	
023909D	#N/A	Master : Combo fits SN5M-5P & 6A & Later	1	
023110	HF-1094	Sealing Ring - Collar	2	
023751	11758	Steel	7	.060

Paragon P32A-P35B, P22-P25, OW2-OW5 (SN5M-5P & 6A & Later)				
Item#	Reference	Description	Usage	Notes
010028B		Oring ARP-028 Poly	1	
049700BR	1018224	Friction	8	0.061/1.55
010019B	11683	Oring	2	
010114B	11779	Oring - Relief Valve	1	
010116B	12222	Oring - Piston	1	
010236B	12221	Oring - Reverse Piston	1	
010256B	10280	Oring - Outer	1	
023031	12640	Gasket - Front	1	
023032	12227	Gasket - Cover	1	
023032A	12576	Gasket - Cover	1	
023034	11083	Gasket - Rear	1	
023039	RA20-15A	Gasket - Reduction	1	
023040	RB20-15A	Gasket - Reduction	1	
023099	11573	Washer - Seal	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023423	11518	Metal Clad Seal - Coupling	1	
023425	11791	Metal Clad Seal - Front Pump	1	
023750E	KN-10031X	Friction-Steel	1	
023809	#N/A	Gasket Set	1	
023809B	Z-7603	Overhaul - Combo fits SN5M-5P & 6A & Later	1	
023909A	#N/A	Master - Combo fits SN5M-5P & 6A & Later	1	
023110	HF-1094	Sealing Ring - Collar	2	
023751	11758	Steel	9	.060

Paragon P34-P35, P42-P45 (SN5M-5P & 6A & Later)				
Item#	Reference	Description	Usage	Notes
023809A		Gasket	1	
023809A		Gasket Paragon P34-35, P42-45		
049700BR	1018224	Friction	8	0.061/1.55
010019B	11683	Oring	2	
010114B	11779	Oring - Relief Valve	1	
010116B	12222	Oring - Piston	1	
010236B	12221	Oring - Reverse Piston	1	
010256B	10280	Oring - Outer	1	
023031	12640	Gasket - Front	1	
023032	12227	Gasket - Cover	1	
023032A	12576	Gasket - Cover	1	
023034	11083	Gasket - Rear	1	
023039	RA20-15A	Gasket - Reduction	1	
023040	RB20-15A	Gasket - Reduction	1	
023099	11573	Washer - Seal	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023423	11518	Metal Clad Seal - Coupling	1	

Item#	Reference	Description	Usage	Notes
023425	11791	Metal Clad Seal - Front Pump	1	
023750G	KN-10031	Friction-Steel	1	
023809	#N/A	Gasket Set	1	
023809AB	Z-7603	Overhaul Kit - Combo Fits	1	
023909	#N/A	Master - Combo Fits	1	
023110	HF-1094	Sealing Ring - Collar	2	
023751	11758	Steel	9	.060

Paragon P41 (SN5M-5P & 6A & Later)

Item#	Reference	Description	Usage	Notes
049700BR	1018224	Friction	8	0.061/1.55
010019B	11683	Oring	2	
010114B	11779	Oring - Relief Valve	1	
010116B	12222	Oring - Piston	1	
010236B	12221	Oring - Reverse Piston	1	
010256B	10280	Oring - Outer	1	
023031	12640	Gasket - Front	1	
023032	12227	Gasket - Cover	1	
023032A	12576	Gasket - Cover	1	
023036	P11397	Gasket - Reverse-Gear Ring	1	
023099	11573	Washer - Seal	1	
023501	11240	Clip	2	
023502	11237	Lock Screw	2	
023425	11791	Metal Clad Seal - Front Pump	1	
023426	RB446	Metal Clad Seal - Coupling	1	
023750J	#N/A	Friction-Steel	1	
023809EB	Z-7802	Overhaul Kit - Combo fits SN5M-5P & 6A & Later	1	
023909E	#N/A	Master - SN5M-5P	1	
023909F	#N/A	Master - SN6A & Later	1	
023110	HF-1094	Sealing Ring - Collar	2	
023751	11758	Steel	9	.060

Twin Disc MG-502

Item#	Reference	Description	Usage	Notes
332700	B3336	Forward/Reverse Friction	16	102.67 x 70.23 x 2.16
332701	B3337	Forward/Reverse Steel	18	94.36 x 63.68 x 1.3

Twin Disc MG-506

Item#	Reference	Description	Usage	Notes
332702	2N2428	Forward/Reverse Friction	16	112.14 x 71.3 x 2.16
332703	094 35217	Forward/Reverse Steel	18	101.6 x 64.69 x 1.6

Twin Disc MG-5061A , MG-5061SC

Item#	Reference	Description	Usage	Notes
332750		Clutch Module		
332800	K1754	Overhaul Kit	1	

Twin Disc MG-509-512

Item#	Reference	Description	Usage	Notes
332704	005 08052	Forward/Reverse Friction - MG-509 & MG-512	14	164.24 x 103.81 x 2.87
332705-200	4720762	Forward/Reverse Steel - MG-509 Only 2.mm	14	152.4 x 92.51 x 2.01

Twin Disc MG-514A, B, C

Item#	Reference	Description	Usage	Notes
332706	2L1753	Friction - All Models	14	236.04 x 137.16 x 3.1
332709	5N6137	Steel MG-514A, MG-514B - Late	1	203.07 x 122.94 x 4.72

Item#	Reference	Description	Usage	Notes
332709	5N6137	Steel MG-514C	1	203.07 x 122.94 x 4.72

Twin Disc Various

Item#	Reference	Description	Usage	Notes
332713		Steel Disc Breaking CL Repl B5437	1	
332711-228	206107B	Steel - MG-518	1	203.23 x 138.4 x 2.29

Velvet Drive ® 1500

Item#	Reference	Description	Usage	Notes
027700	1023-666-003	Forward/Reverse Friction	1	0.086/2.18
027701	1023-166-002	Forward Steel	1	0.067/1.7

Velvet Drive ® 7000

Item#	Reference	Description	Usage	Notes
023748	1026-666-001	Forward/Reverse Friction	15	.061
023749	1026-166-001	Forward/Reverse Steel	15	.068

Velvet Drive ® 71 & 72

Item#	Reference	Description	Usage	Notes
023352		Bearing Retainer		
023352		Bearing Retainer	1	
023901LS	#N/A	MASTER OVERHAUL KIT	1	
010210B		O'ring Cont. Valve Velvet Drive Poly	1	
023359	1017-036-002	Oil Baffle 71C		
010210B		Oring Cont. Valve Velvet Dr Poly	1	
023701K		ST HD Various	1	0.068/1.73
023701-040		ST VD 71/72C Series Selective Repl 3-176	1	
023254		Snap Ring VD71/72 Drive Gear LG	1	
023276UP12		Spring - Reverse Pressure Plate		
023248	4867DDKIT	Bushing - Carrier Assembly	2	
023941	1000-238-002	Filter - Oil	1	
023738A		Reverse Large Friction	3	190.2 x 146.76 x 2.92
023738BR	04/500206	Reverse Large Friction	3	190.6 x 147.17 x 2.92
023738BR155	72A-66	Reverse Large Friction	2	.061
049700BR	1018224	Forward Small Friction	7	0.061/1.55
049722	W-1597A	Forward Small K2 (Grooved) Friction	7	.063
010226B	5M-122	Oring - Forward Clutch Inner	1	
010238B		Oring - Reverse Clutch Inner	1	
023002	04-50021A	Seal - Front Pump	1	0
023020	04-500213	Gasket - Forward/Reverse Adapter	1	#N/A
023021	L4-145	Gasket - Front Adapter	1	
023022	04-500274	Gasket - Valve Cover	1	0
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	
023054A	04-500237A	Seal - Forward Clutch Outer	1	0
023559-150	#N/A	Coupling Shaft VD71/72 5" X 1.50 Bore	1	
A38001	#N/A	Seal - Reverse Clutch Outer	1	
023185	71-79B	Shift Lever	1	
023320	1000-149-034	Output Shaft Nut - Coupling Nut with Washer	1	
023321	13000	Nut - Ouput Shaft Coupling (Fits 4" & 5" couplings)	1	
023322	4840D	Needle Bearing - Forward & Reverse Adapter	1	
023323	4547AY	Coupling 5 - MODEL 10-18 Only	1	
023324	4547BA	Coupling 4 - MODEL 10-17 Only	1	
023325	1000-130-018	Roller Bearing	1	
023326	6007J	Ball Bearing- Forward	1	
023327	1000-031-001	Coupling - Current Reduction	1	
023328	4912	Coupling - Early Reduction	1	
023350A	1004-508-101	Oil Pump	1	

Item#	Reference	Description	Usage	Notes
023543-087	4BX-AA	Coupling Shaft VD 71/72 4" X .875 Bore	1	
023543-125	4865DD	Coupling Shaft VD 71/72 4" X 1.25 Bore	1	
023559-125	4886D	Coupling Shaft VD 71/72 5" X 1.25 Bore	1	
023559-137	#N/A	Coupling Shaft VD71/72 5" X 1.375 Bore	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	
099329B	1000-140-002	Switch - Oil Temperature 260°	1	
DA-101	1004-650-001	Damper Assembly	1	
DA-102	1004-650-002	Damper Assembly	1	
DA-103	1004-650-003	Damper Assembly	1	
DA-106	1004-650-006	Damper Assembly	1	
DA-106A	120-8-1446	Damper Assembly	1	
DA-107	1004650007	Damper Assembly	1	
DA-108	1004-650-008	Damper Assembly	1	
DA-302	2301-650-001	Damper Assembly	1	
023420	1000-044-014	Metal Clad Seal - Front Pump	1	
023421	71C-110	Metal Clad Seal - Coupling	1	
023422	1000-044-017	Metal Clad Seal - Coupling	1	
023750D	#N/A	Friction-Steel	1	
023750H	#N/A	Friction-Steel VD71 Only	1	
023752D	#N/A	Friction	1	
023755	A4867AE	Forward Clutch Pack 10-17 Only	1	
023755A	A4867AB	Forward Clutch Pack 10-18 Only	1	
023801	10-17-410-002	Gasket Set	1	
023801B	A4867HA	Overhaul Kit	1	
023901	#N/A	Master	1	
018101	2000-016-050	Sealing Ring - Pinion Carrier	4	Metal
023604	#N/A	Sealing Ring Kit : Contains 4 Pc 018101, 2 Pc. 038105	1	
038105	04-500201	Sealing Ring - Drive Gear	2	0
EK023835		Seal Kit with Filter	1	
023252	04-500241	Snap Ring - Reverse Gear	1	0
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
023701	0.164.3643.0	Forward Small Steel	6	0.068/1.73
023701-120	445-12314	Forward Small - Hi-Performance Steel	1	138.99 x 99.01 x 1.19
023701-140	1021-166-001 SEL	Forward Small - Hi-Performance Steel	1	0.055/1.4
023701A	10-16-166-001	Forward Small (3 Teeth missing) Steel	6	138.99 x 99.01 x 1.73
023703	04/500231	Forward - MODEL 73 Only Steel	1	0.068/1.73
023739	04/500207	Steel Reverse Large Steel	2	214.83 x 155.58 x 1.75
023760	04/500233	Forward/ Front Pressure Plate	1	0.322/8.18
023761	04/500229	Forward/Rear Pressure Plate	1	138.99 x 99.01 x 8.76
023767	04/500235	Forward Belleville Spring	1	0.073/1.85
023187	04-500243	Washer	1	0
023188	04-500242	Washer	1	0
023189	73C-15	Thrust Washer	1	
023196	04-500204	Thrust Washer	1	0

Velvet Drive ® 71 & 72 "V" Drive				
Item#	Reference	Description	Usage	Notes
023266		Snap Ring VD "v" Drive	1	
010235B	1000-141-235	Oring - Pre-Load Cap	2	
023027	1308-045-001	Gasket - V DRIVE Housing Up to 1991	1	
023028	1308-045-004	Gasket - V DRIVE Housing 1992-On	1	
023029	1308-045-002	Gasket - V DRIVE Trans	1	
023030	1308-045-003	Gasket	1	
023151A	1013-037-002	Shim	1	.005
023151B	1013-037-004	Shim	1	.009
023151C	1308-037-009	Shim	1	.020
023320	1000-149-034	Nut - Output Shaft	1	
023332	1308-027-005	Flange - Housing	1	
023333	942-1652	Bolt - Flange Housing	6	
023335	1308-410-015	Flange Kit - V DRIVE Conversion Kit	1	
023335	1308-410-015	Flange Kit - V DRIVE Conversion Kit HEAVY DUTY	1	
023421	71C-110	Metal Clad Oil Seal - Output UP to 1989	1	

Item#	Reference	Description	Usage	Notes
023422	1000-044-017	Metal Clad Oil Seal - Output 1990-On	1	
023801CB	1308-410-001	OVERHAUL KIT	1	

Velvet Drive ® 71 & 72 Damper Assemblies

Item#	Reference	Description	Usage	Notes
DA-101	1004-650-001	Damper Assembly	1	
DA-102	1004-650-002	Damper Assembly	1	
DA-103	1004-650-003	Damper Assembly	1	
DA-106	1004-650-006	Damper Assembly	1	
DA-106A	120-8-1446	Damper Assembly	1	
DA-107	1004650007	Damper Assembly	1	
DA-108	1004-650-008	Damper Assembly	1	
DA-302	2301-650-001	Damper Assembly	1	

Velvet Drive ® CR-2, 1013, 1014 DROP CENTER

Item#	Reference	Description	Usage	Notes
023738BR	04/500206	Reverse Friction	3	190.6 x 147.17 x 2.92
049700BR	1018224	Forward Friction	7	0.061/1.55
010226B	5M-122	Oring - Forward Clutch Inner	1	
010238B		Oring - Reverse Clutch Inner	1	
023002	04-50021A	Seal - Front Pump	1	0
023020	04-500213	Gasket - Case & Adapter	1	#N/A
023022	04-500274	Gasket - Valve Cover	1	0
023041	1013-045-002	Gasket - Reduction Housing	1	
023042	1013-045-001	Gasket - Adapter	1	
023054A	04-500237A	Seal - Forward Clutch Outer	1	0
A38001	#N/A	Seal - Reverse Clutch Outer	1	
023420	1000-044-014	Metal Clad Seal - Front Pump	1	
023428	1000-044-003	Metal Clad Seal - Coupling	1	
023750D	#N/A	Friction-Steel	1	
023801DB	1013-410-001	Overhaul	1	
023901B	#N/A	Master	1	
023901BLS	#N/A	Banner	1	
023111	4806L	Sealing Ring - Teflon	2	
038105	04-500201	Sealing Ring	5	0
023701	0.164.3643.0	Forward Steel	6	0.068/1.73
023739	04/500207	Reverse Steel	2	214.83 x 155.58 x 1.75

Velvet Drive ® S500

Item#	Reference	Description	Usage	Notes
044701	1233029-6	Forward/Reverse Steel	7	0.071/1.8

Velvet Drive ® S5000, S5000 "V" Drive

Item#	Reference	Description	Usage	Notes
340022		Gasket Adapter	1	
010241B		Oring - Clutch Piston		
340800	2001-410-001	Overhaul Kit S5000	1	
340800V	2002-410-001	Overhaul Kit S5000 V Drive	1	
340901	#N/A	Master- S5000	1	
340901V	#N/A	Master - S5000 V Drive	1	
340750	#N/A	Friction-Steel	1	
340702	2001-666-001	Friction - Drive	16	.066
340703	2001-166-002	Steel - Drive	14	.077
340705	2001-062-002	Steel	4	.044
010045B		Oring - Piston	2	
010123	1000-141-123	Oring - Control Valve	1	
010130B	1000-141-130	Oring - Clutch Piston	2	
010214	1000-141-214	Oring - Tube Assembly	1	
010241	#N/A	Oring - Clutch Piston	2	
340020	2001-045-005	Gasket - Front Pump S5000 & V Drive	1	

Item#	Reference	Description	Usage	Notes
340021	2001-045-003	Gasket - Valve Housing S5000 & V Drive	1	
340021V	2002-045-002	Gasket - Adapter - V Drive	1	
340051	1000-016-020	Seal - Piston In	2	
340052	1000-016-019	Seal - Piston Out	2	
340940	2001-238-001	Filter - Oil Screen	1	
340420	1000-044-065	Metal Clad Seal - Adapter S5000 & V Drive	2	
340421	1000-044-066	Metal Clad Seal - Coupling S5000	1	
340422	2000-044-003	Metal Clad Seal - Output Shaft Side V Drive	1	
340423	2000-044-004	Metal Clad Seal - Output Flange Side V Drive	1	
018101	2000-016-050	Sealing Ring - Pinion Carrier	1	Metal
340101	1000-016-021	Sealing Ring - In Shaft	1	
340251	1000-139-069	Snap Ring	2	
340252	1000-139-071	Snap Ring	1	
340253	1000-139-068	Snap Ring	5	
340150		Input Shaft	1	
340151		Input Shaft	1	
023320	1000-149-034	Nut - Output Shaft with Washer	1	
099328	1000-640-004	Neutral Safety Switch	1	
340350	2001-123-9001	Control Valve	1	

Volvo Penta Damper Assemblies

Item#	Reference	Description	Usage	Notes
DA-302	2301-650-001	152mm x 123mm 10/23/29 Teeth DIN 5464	1	

ZF Marine HSW 450A-2

Item#	Reference	Description	Usage	Notes
315750A		Friction and Steel module	1	
316940A	438337	Filter	1	
FK316940	463772	Filter Kit - Includes Filter & 2 Orings	1	
315700BR	489120	Friction	8	.066
1581181	105559	Oring - Output Shaft	1	
316004	27-813301	Gasket - Control Block	1	
315401	374056	Metal Clad Seal - Output Shaft	1	
315402	500065	Metal Clad Seal - Dist. Shaft	1	
316405	26-813286	Metal Clad Seal - Input Shaft	1	
315750	#N/A	Friction-Steel	1	
315800		Overhaul	1	
315900	#N/A	Master	1	
315701	489119	Steel	10	

ZF Marine HSW 450D

Item#	Reference	Description	Usage	Notes
315802		Seal Kit	1	
315403		Metal Clad Seal - Output	1	

ZF Marine IRM 280, 280A

Item#	Reference	Description	Usage	Notes
322806	3207199513	Overhaul Kit	1	
322905		Master Overhaul Kit	1	
322750B		Friction and Steel	1	
322715B216	3207302029	Friction Externally Splined - Sintered	20	.089
322715A173	3207302028	Friction Externally Splined - 1 side Sintered	4	.072
322707-137	3207302027	Steel Internally Splined	22	.054

ZF Marine IRM 280A-1

Item#	Reference	Description	Usage	Notes
322501		Rubber Cup Plug for OHK 3207188513	1	.275

ALTO MARINE CATALOG

ZF Marine IRM 301A, 301C

Item#	Reference	Description	Usage	Notes
322804		Overhaul Kit	1	
322903		Master Overhaul Kit	1	
322750A		Friction and Steel	1	
322711A198	3210303015	Friction Externally Splined - Sintered	18	.081
322705-150	3209303035	Internally Splined - Large	16	.060

ZF Marine IRM 304A, 304C, IRM310A/APL, IRM311A

Item#	Reference	Description	Usage	Notes
322711A167X		Friction	4	
322711A198	3210303015	Friction	16	.081
322750C		Friction and Steel		
322808		OVERHAUL KIT		
322907		OVERHAUL KIT		
322705-150	3209303035	Steel	18	.060

Hurth Marine Fitment Info

Hurth Marine

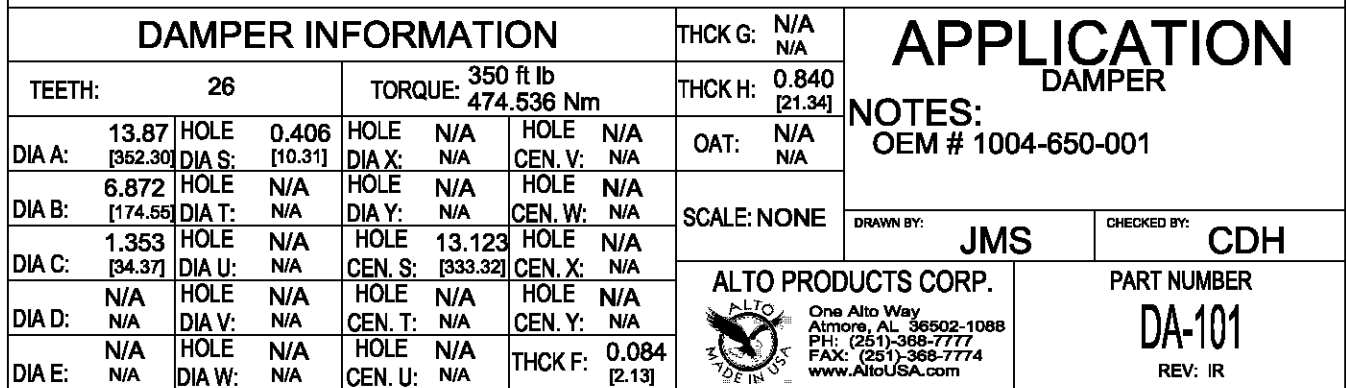
ZF63IV, ZF68IV (V DRIVE)
ZF63/A, ZF68/A (HYDRAULIC)
HSW630/A/H/V

Master Kit #	316907D
Overhaul Kit #	316807D
Module #	316750C
Friction Plate	316708 - 8 per
Steel Plate	316709 - 10 per
ZF63 Versions	01 to 04, 001 to 004, 009 to 015
ZF63A Versions	001 to 005, 015 to 018, 012, 020, 021, 034, 035, 21, 22, 24, 25, 30
ZF63IV Versions	001 to 004, 012 to 015, 14 to 17

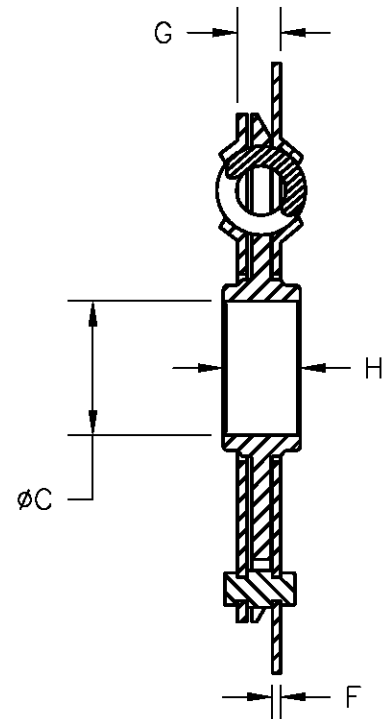
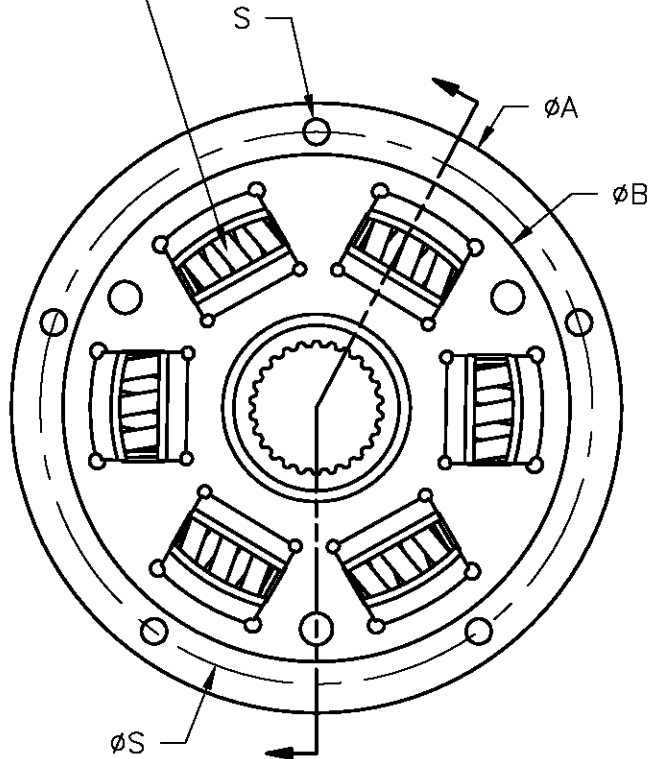
Hurth Marine

ZF80IV, ZF80-1IV, ZF85IV (V DRIVE)
ZF80A, ZF80-1A, ZF85A(REDUCTION)

Master Kit #	316907E
Overhaul Kit #	316807E
Module #	316750D
Friction Plate	316708 - 10 per
Steel Plate	316709 - 12 per
ZF80A Versions	001 to 006, 15 to 20
ZF80-1A Versions	007 to 012
ZF80IV Versions	01 to 05, 001 to 005
ZF80-1IV Versions	006 to 010



ORANGE
SPRING



DAMPER INFORMATION

THCK G: 0.440
[11.18]

THCK H: 0.780
[19.81]

OAT: 0.865
[21.97]

SCALE: NONE

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APPLICATION

DAMPER

NOTES:

OEM # 1004-650-002

OEM # AS4-K1C

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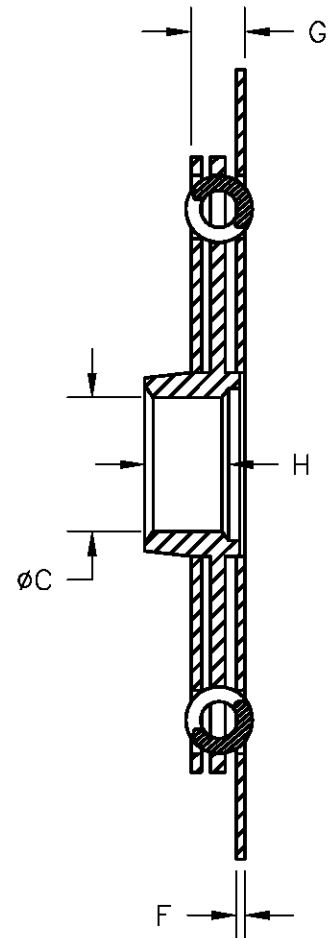
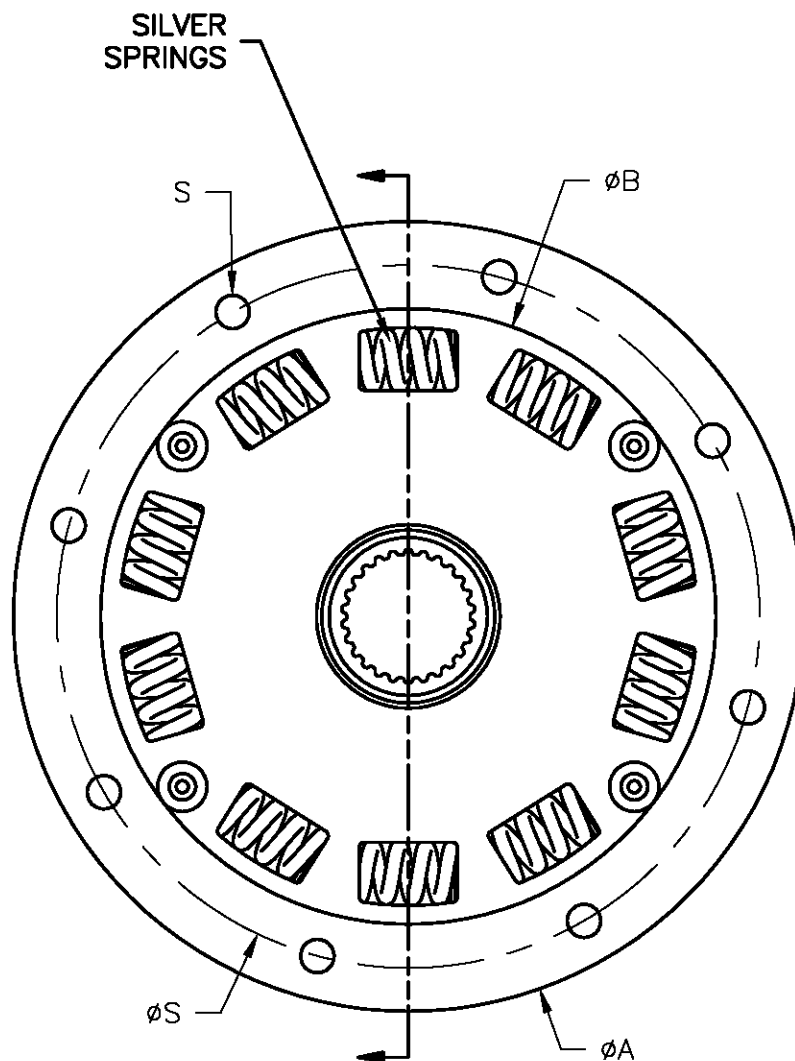
CDH

PART NUMBER

DA-102

REV: IR

TEETH: 26		TORQUE: 332 ft lb 450.131 Nm	
DIA A: 6.18 [156.97]	HOLE DIA S: 0.258 [8.55]	HOLE DIA X: N/A	HOLE CEN. V: N/A
DIA B: 5.145 [130.68]	HOLE DIA T: N/A	HOLE DIA Y: N/A	HOLE CEN. W: N/A
DIA C: 1.35 [34.29]	HOLE DIA U: N/A	HOLE CEN. S: 5.595 [142.11]	HOLE CEN. X: N/A
DIA D: N/A	HOLE DIA V: N/A	HOLE CEN. T: N/A	HOLE CEN. Y: N/A
DIA E: N/A	HOLE DIA W: N/A	HOLE CEN. U: N/A	THCK F: 0.083 [2.11]



DAMPER INFORMATION

THCK G: 0.540
[13.72]

THCK H: 0.780
[19.81]

OAT: 1.160
[29.46]

SCALE: NONE

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APPLICATION

DAMPER

NOTES:
OEM # 1004-650-003

DRAWN BY:

JMS

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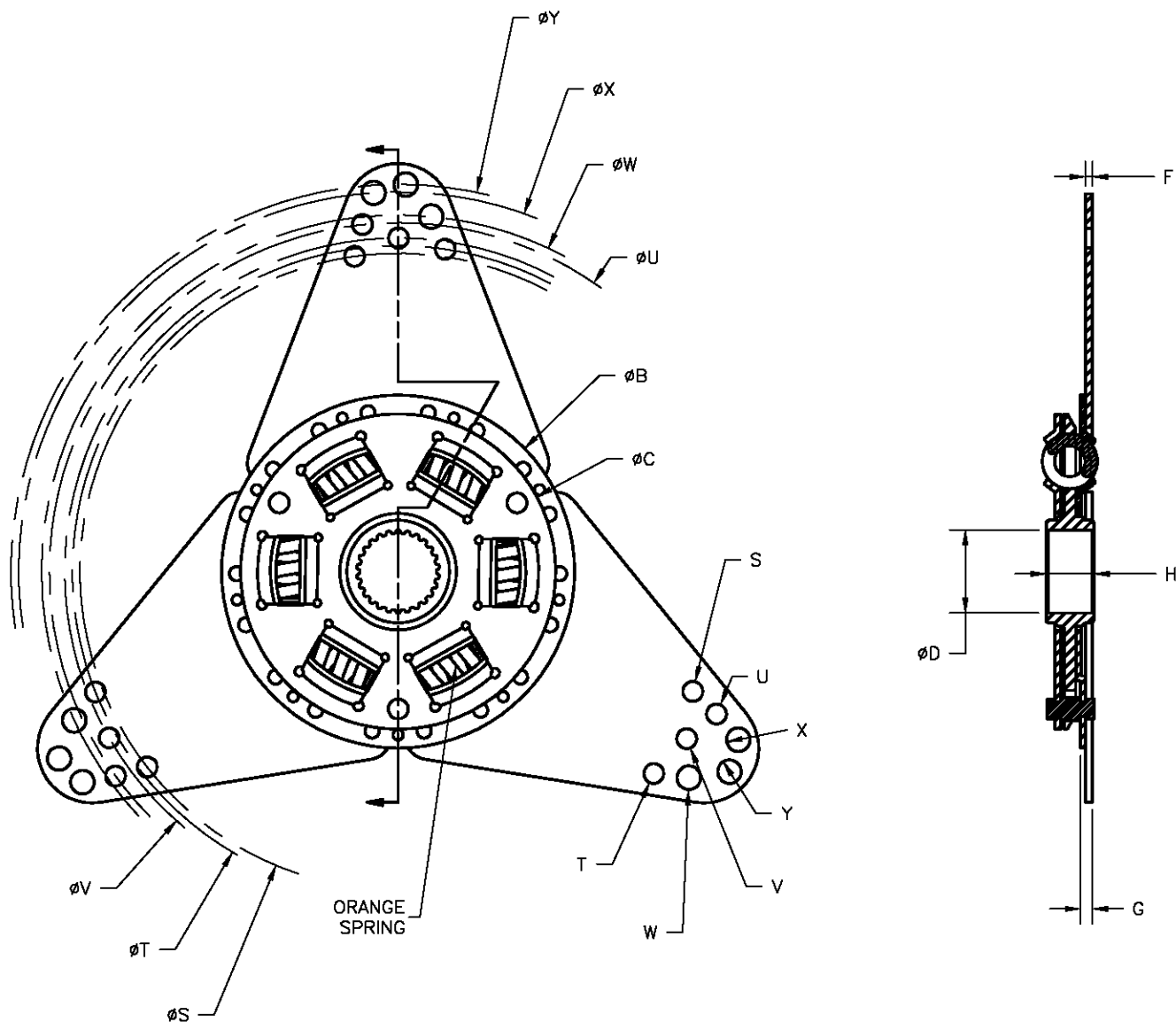
CDH

PART NUMBER

DA-103

REV: IR

TEETH: 26		TORQUE: 350 ft lb 474.536 Nm	
DIA A: 8.000 [203.20]	HOLE DIA S: 0.340 [8.64]	HOLE DIA X: N/A	HOLE CEN. V: N/A
DIA B: 6.235 [158.37]	HOLE DIA T: N/A	HOLE DIA Y: N/A	HOLE CEN. W: N/A
DIA C: 1.35 [34.29]	HOLE DIA U: N/A	HOLE CEN. S: 7.121 [180.87]	HOLE CEN. X: N/A
DIA D: N/A	HOLE DIA V: N/A	HOLE CEN. T: N/A	HOLE CEN. Y: N/A
DIA E: N/A	HOLE DIA W: N/A	HOLE CEN. U: N/A	THCK F: 0.083 [2.11]



DAMPER INFORMATION

THCK G: 0.193
[4.90]

TEETH: 26

TORQUE: 332 ft lb
450.131 Nm

THCK H: 0.800
[20.32]

OAT: 0.975
[24.77]

SCALE: NONE

APPLICATION

DAMPER

NOTES:

OEM # 1004-650-006

OEM # AS4-K2C

DRAWN BY:

JMS

CHECKED BY:

CDH

DIA A:	N/A	HOLE	0.326	HOLE	0.387	HOLE	10.875
	N/A	DIA S:	[8.28]	DIA X:	[9.83]	CEN. V:	[276.23]
DIA B:	5.755	HOLE	0.326	HOLE	0.387	HOLE	11.625
	[146.18]	DIA T:	[8.28]	DIA Y:	[9.83]	CEN. W:	[295.28]
DIA C:	5.140	HOLE	0.326	HOLE	10.375	HOLE	12.375
	[130.56]	DIA U:	[8.28]	CEN. S:	[263.53]	CEN. X:	[314.33]
DIA D:	1.353	HOLE	0.326	HOLE	10.625	HOLE	12.625
	[34.37]	DIA V:	[8.28]	CEN. T:	[269.88]	CEN. Y:	[320.68]
DIA E:	N/A	HOLE	0.387	HOLE	11.375	THCK F:	0.113
	N/A	DIA W:	[9.83]	CEN. U:	[288.93]		[2.87]

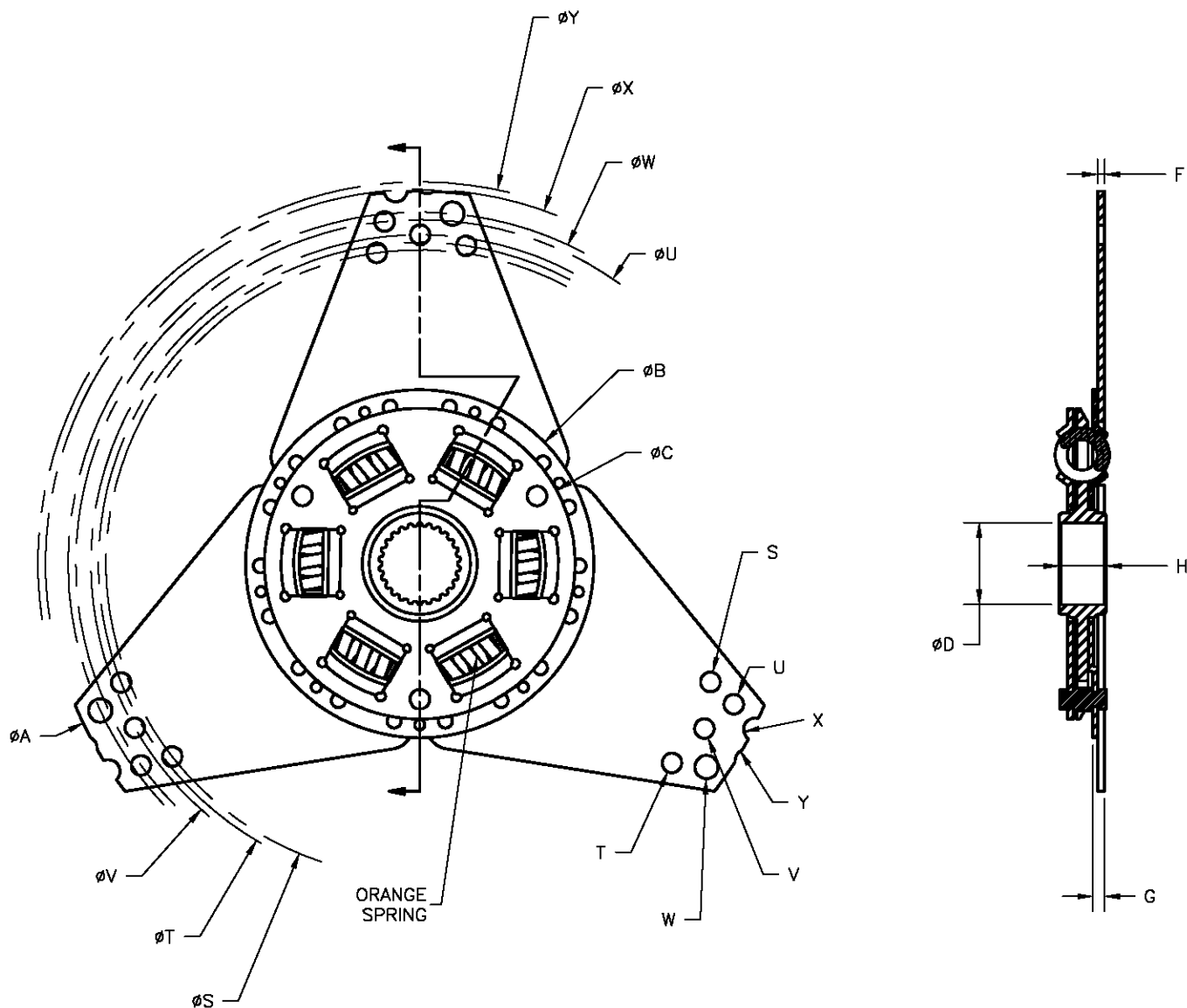


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PART NUMBER

DA-106

REV: IR



DAMPER INFORMATION

TEETH: 26		TORQUE: 332 ft lb 450.131 Nm	
DIA A: 12.32 [312.93]	HOLE 0.326 DIA S: [8.28]	HOLE 0.387 DIA X: [9.83]	HOLE 10.875 CEN. V: [276.23]
DIA B: 5.755 [146.18]	HOLE 0.326 DIA T: [8.28]	HOLE 0.387 DIA Y: [9.83]	HOLE 11.625 CEN. W: [295.28]
DIA C: 5.140 [130.56]	HOLE 0.326 DIA U: [8.28]	HOLE 10.375 CEN. S: [263.53]	HOLE 12.375 CEN. X: [314.33]
DIA D: 1.353 [34.37]	HOLE 0.326 DIA V: [8.28]	HOLE 10.625 CEN. T: [269.88]	HOLE 12.625 CEN. Y: [320.68]
DIA E: N/A	HOLE 0.387 DIA W: [9.83]	HOLE 11.375 CEN. U: [288.93]	THCK F: 0.113 [2.87]

THCK G: 0.193
[4.90]

THCK H: 0.800
[20.32]

OAT: 0.975
[24.77]

SCALE: NONE



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APPLICATION DAMPER

NOTES:
OEM # 120-8-1446
OEM # AS8-K2C

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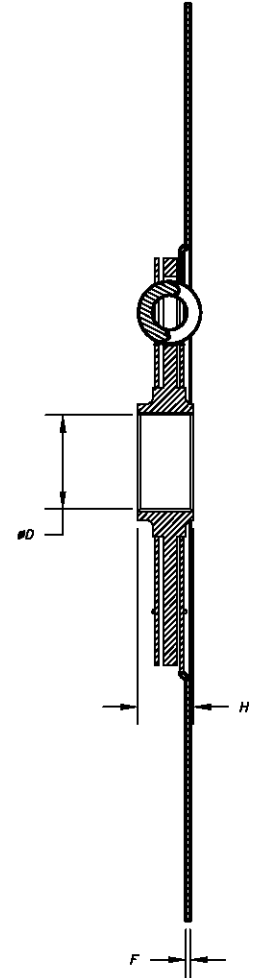
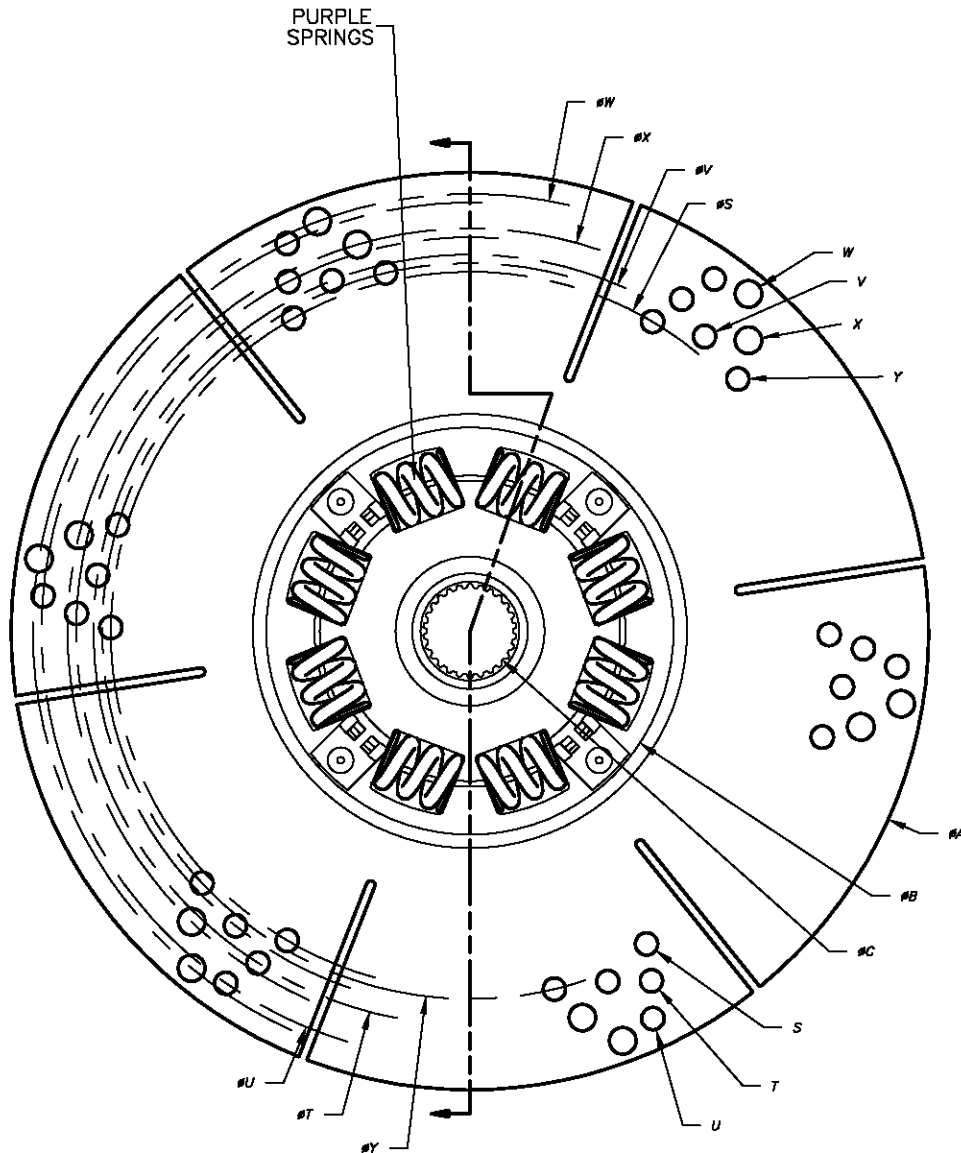
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CDH

PART NUMBER

DA-106A

REV: IR



DAMPER INFORMATION

THCK G: N/A
N/A

TEETH: 26

TORQUE: 450 ft lb
610.118 Nm

THCK H: 0.800
[20.32]

OAT: 0.800
[20.32]

SCALE: NONE

APPLICATION DAMPER

NOTES:

OEM # 1004-650-007
OEM # AS7-K2C

DRAWN BY:

JMS

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CDH

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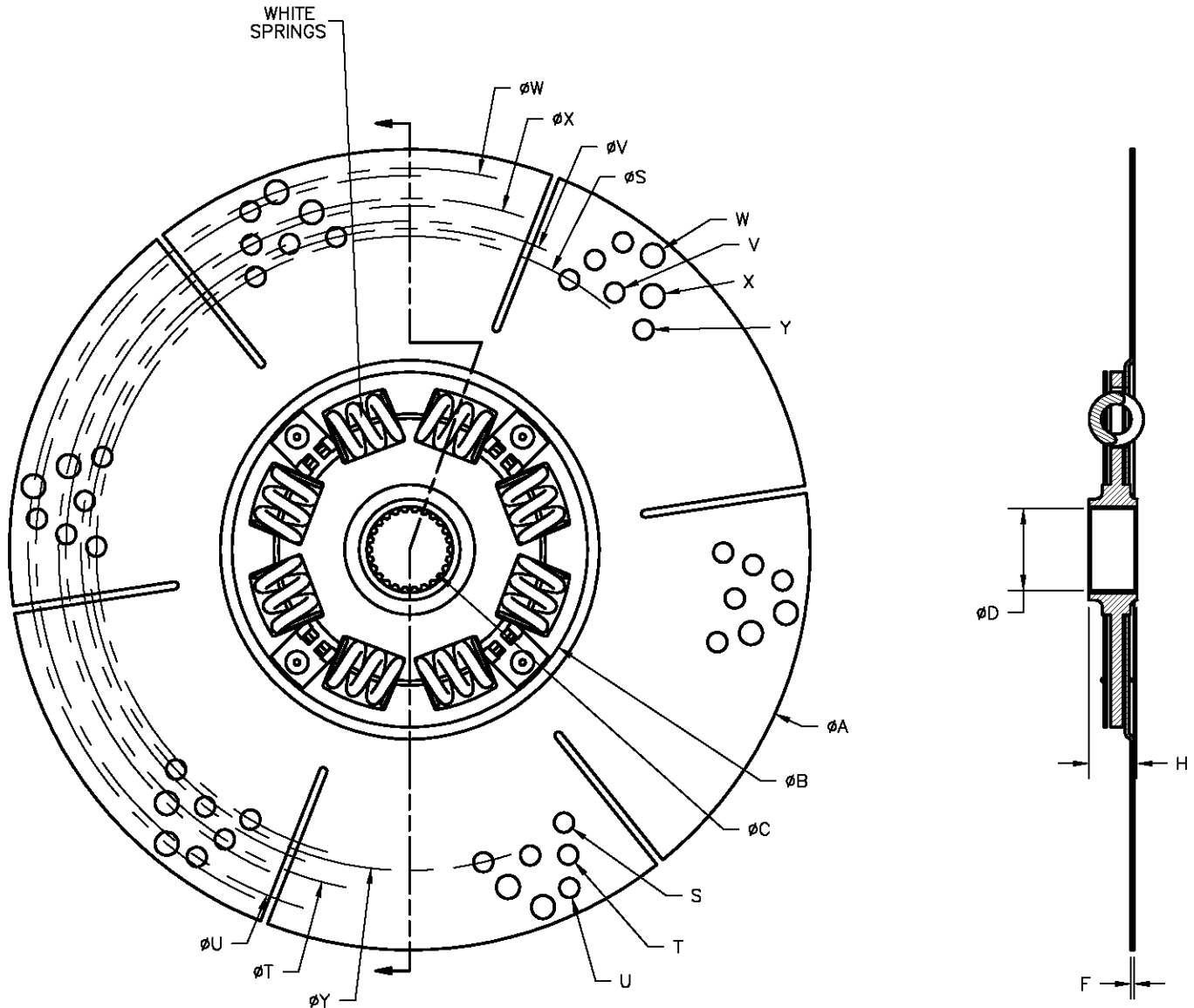
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PART NUMBER

DA-107

REV: IR

DIA A:	13.25 [336.55]	HOLE DIA S:	0.325 [8.25]	HOLE DIA X:	0.388 [9.86]	HOLE CEN. V:	10.875 [276.23]
DIA B:	5.880 [149.35]	HOLE DIA T:	0.325 [8.25]	HOLE DIA Y:	0.326 [8.28]	HOLE CEN. W:	12.625 [320.68]
DIA C:	1.251 [31.78]	HOLE DIA U:	0.326 [8.28]	HOLE CEN. S:	10.375 [263.53]	HOLE CEN. X:	11.625 [295.28]
DIA D:	1.353 [34.37]	HOLE DIA V:	0.325 [8.25]	HOLE CEN. T:	11.375 [288.93]	HOLE CEN. Y:	10.625 [269.88]
DIA E:	N/A	HOLE DIA W:	0.388 [9.86]	HOLE CEN. U:	12.375 [314.33]	THCK F:	0.063 [1.60]



DAMPER INFORMATION

THCK G: N/A
N/A

TEETH: 26

TORQUE: 450 ft lb
610.118 Nm

THCK H: 0.800
[20.32]

OAT: NA
NA

SCALE: NONE

APPLICATION DAMPER

NOTES:

OEM # 1004-650-008

OEM # AS5-K2C

DRAWN BY:

JMS

CHECKED BY:

CDH

DIA A:	13.24 [336.55]	HOLE DIA S:	0.322 [8.18]	HOLE DIA X:	0.388 [9.86]	HOLE CEN. V:	10.875 [276.23]
DIA B:	5.880 [149.35]	HOLE DIA T:	0.322 [8.18]	HOLE DIA Y:	0.322 [8.18]	HOLE CEN. W:	12.625 [320.68]
DIA C:	1.251 [31.78]	HOLE DIA U:	0.322 [8.22]	HOLE CEN. S:	10.375 [263.53]	HOLE CEN. X:	11.625 [295.28]
DIA D:	1.353 [34.37]	HOLE DIA V:	0.322 [8.18]	HOLE CEN. T:	11.375 [288.93]	HOLE CEN. Y:	10.625 [269.88]
DIA E:	N/A	HOLE DIA W:	0.388 [9.86]	HOLE CEN. U:	12.375 [314.33]	THCK F:	0.063 [1.60]

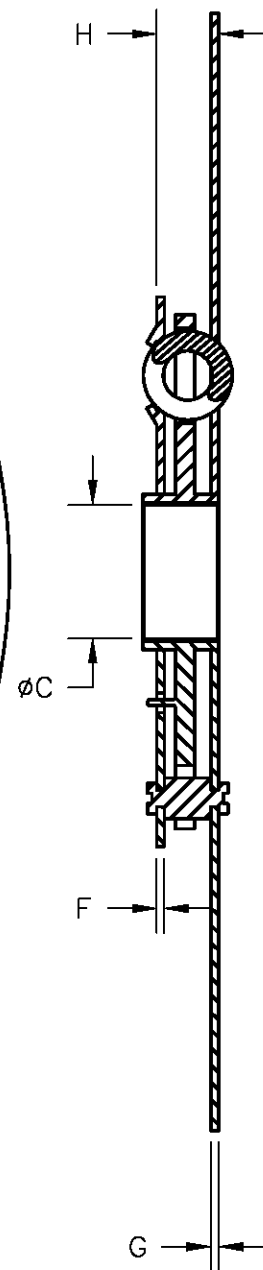
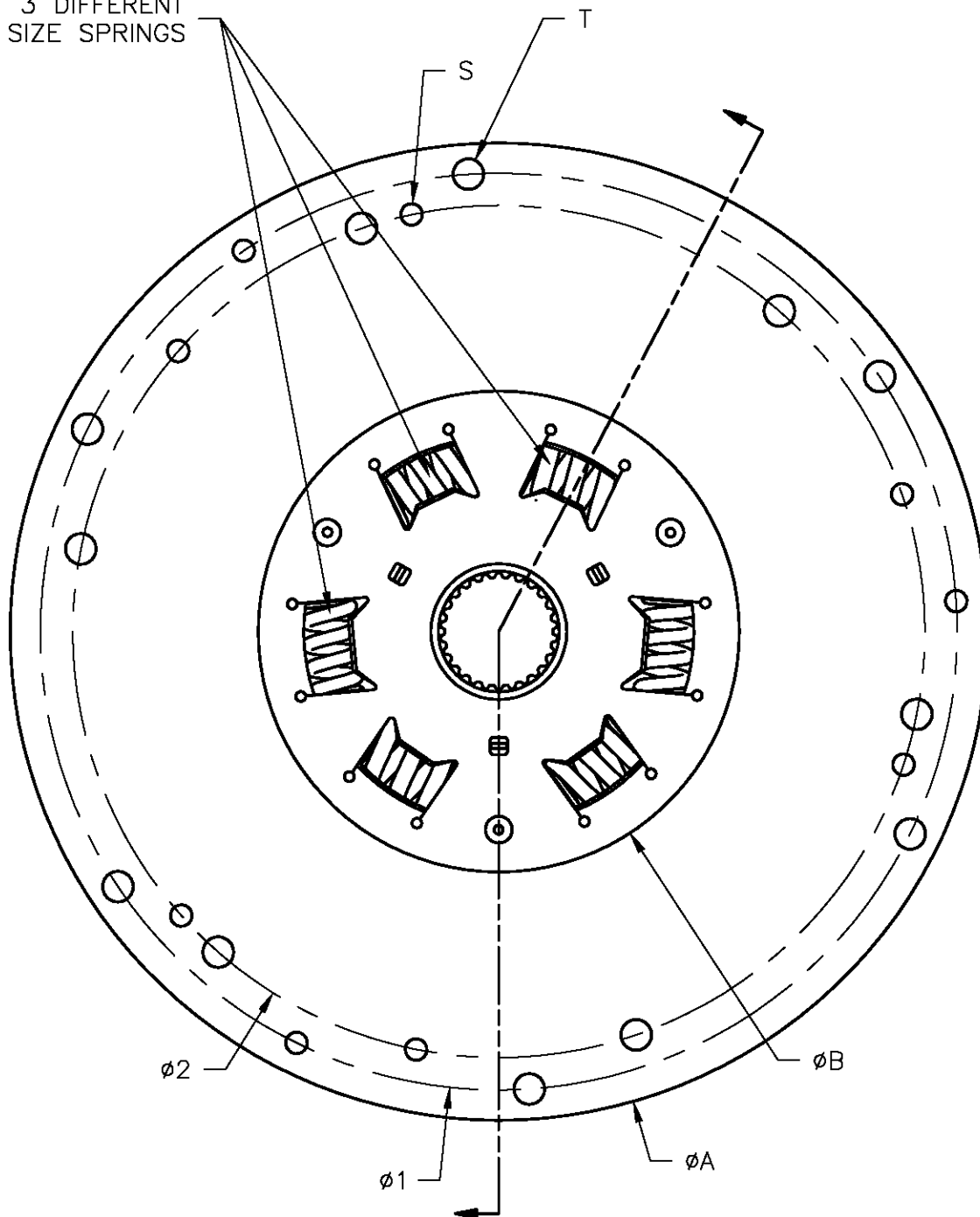
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PART NUMBER

DA-108

REV: IR

3 DIFFERENT
SIZE SPRINGS



DAMPER INFORMATION

THCK G: 0.080
[2.03]

THCK H: 0.630
[16.00]

OAT: N/A
N/A

SCALE: NONE

APPLICATION

DAMPER

NOTES:

OEM # 1866-032-231

OEM # 855389-3

DRAWN BY:

JMS

CHECKED BY:

CDH

ALTO PRODUCTS CORP.



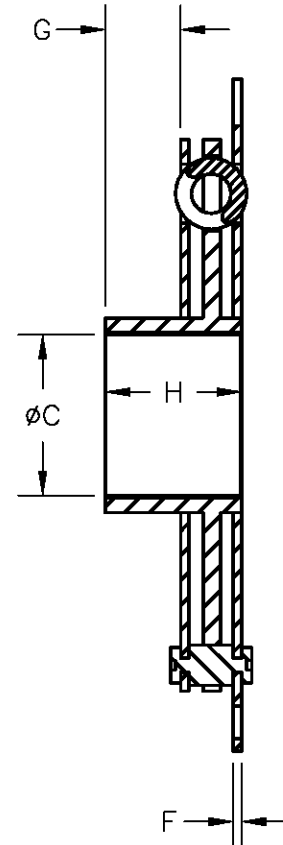
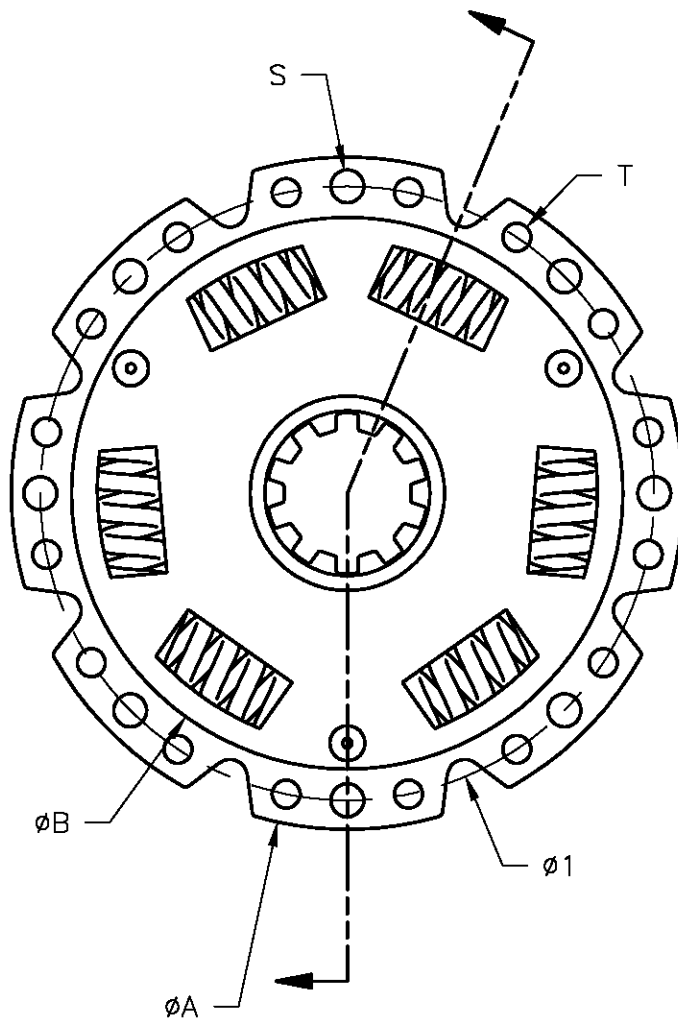
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PART NUMBER

DA-206

REV: IR

TEETH: 26		TORQUE: 313 ft lb 424.371 Nm	
DIA A: 11.315 [287.40]	HOLE DIA S: 0.250 [6.35]	HOLE DIA X: N/A N/A	HOLE CEN. V: N/A N/A
DIA B: 5.567 [141.40]	HOLE DIA T: 0.356 [9.04]	HOLE DIA Y: N/A N/A	HOLE CEN. W: N/A N/A
DIA C: 1.35 [34.29]	HOLE DIA U: N/A N/A	HOLE CEN. 1: 10.615 [269.62]	HOLE CEN. X: N/A N/A
DIA D: N/A N/A	HOLE DIA V: N/A N/A	HOLE CEN. 2: 9.865 [250.57]	HOLE CEN. Y: N/A N/A
DIA E: N/A N/A	HOLE DIA W: N/A N/A	HOLE CEN. U: N/A N/A	THCK F: 0.077 [1.96]



DAMPER INFORMATION

THCK G: 0.512
[13.00]

THCK H: 0.984
[25.00]

OAT: N/A
N/A

SCALE: NONE

ALTO PRODUCTS CORP.

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APPLICATION

DAMPER

NOTES:

OEM # 947-77-601-02

OEM # 254750

OEM # 1866-050-002

DRAWN BY:

JMS

CHECKED BY:

CDH

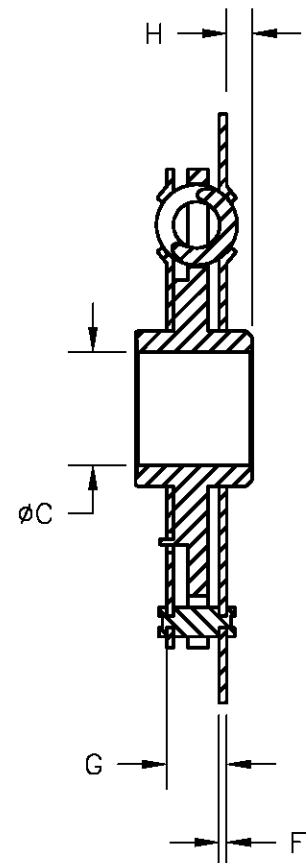
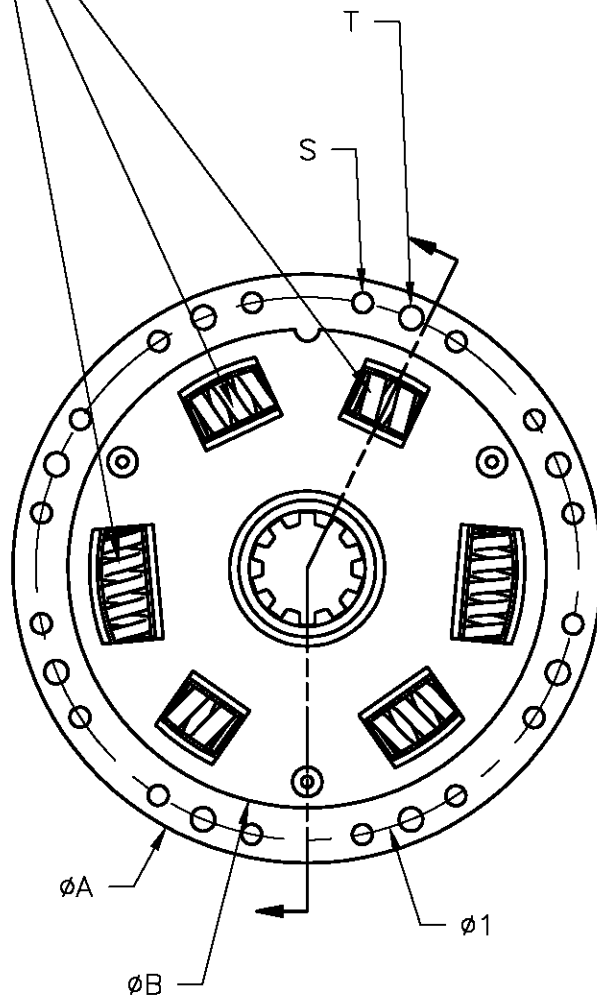
PART NUMBER

DA-301

REV: IR

TEETH: 10		TORQUE: 121.5 ft lb 164.731 Nm	
DIA A: 4.783 [121.50]	HOLE DIA S: 0.236 [5.99]	HOLE DIA X: N/A	HOLE CEN. V: N/A
DIA B: 3.937 [100.00]	HOLE DIA T: 0.201 [5.11]	HOLE DIA Y: N/A	HOLE CEN. W: N/A
DIA C: 1.141 [29.00]	HOLE DIA U: N/A	HOLE CEN. 1: 4.370 [111.00]	HOLE CEN. X: N/A
DIA D: N/A	HOLE DIA V: N/A	HOLE CEN. T: N/A	HOLE CEN. Y: N/A
DIA E: N/A	HOLE DIA W: N/A	HOLE CEN. U: N/A	THCK F: 0.060 [1.52]

3 DIFFERENT
SIZE SPRINGS



DAMPER INFORMATION

THCK G: 0.595
[15.11]

TEETH: 10

TORQUE: 147.5 ft lb
199.983 Nm

THCK H: 0.257
[6.53]

DIA A: 5.965 [151.51]	HOLE DIA S: 0.201 [5.11]	HOLE DIA X: N/A	HOLE CEN. V: N/A
DIA B: 4.843 [123.00]	HOLE DIA T: 0.236 [5.99]	HOLE DIA Y: N/A	HOLE CEN. W: N/A
DIA C: 1.145 [29.08]	HOLE DIA U: N/A	HOLE CEN. 1: 5.512 [140.00]	HOLE CEN. X: N/A
DIA D: N/A	HOLE DIA V: N/A	HOLE CEN. T: N/A	HOLE CEN. Y: N/A
DIA E: N/A	HOLE DIA W: N/A	HOLE CEN. U: N/A	THCK F: 0.079 [2.01]

OAT: 1.181
[30.00]

SCALE: NONE

APPLICATION

DAMPER

NOTES:

OEM # 947-44-601-03
OEM # 254762
OEM # 1866-052-001

DRAWN BY:

JMS

CHECKED BY:

CDH

ALTO PRODUCTS CORP.



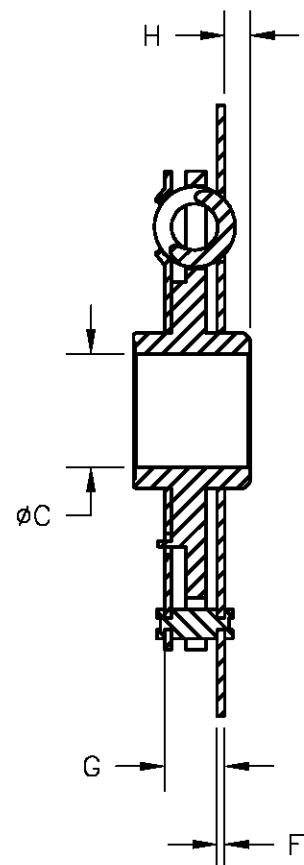
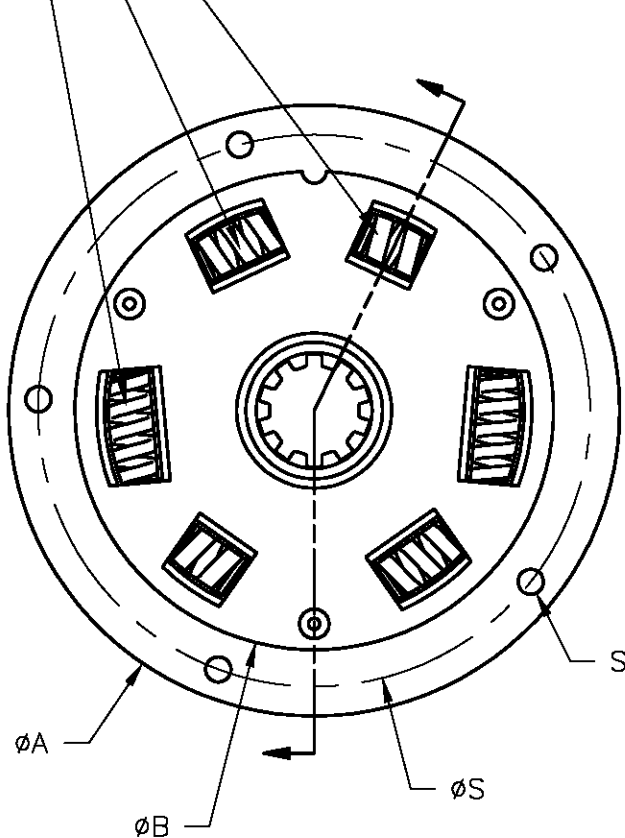
One Alto Way
Atmore, AL 36504
PH: (251)-368-7777
FAX: (251)-368-7774
www.AltoUSA.com

PART NUMBER

DA-302

REV: IR

3 DIFFERENT
SIZE SPRINGS



DAMPER INFORMATION

THCK G: 0.565
[14.35]

THCK H: 0.257
[6.53]

OAT: 1.181
[30.00]

SCALE: NONE

ALTO PRODUCTS CORP.

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Atmore, AL 36504
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FAX: (251)-368-7774
www.AltoUSA.com



APPLICATION

DAMPER

NOTES:

OEM # 288240

OEM # 1866-061-001

DRAWN BY:

JMS

CHECKED BY:

CDH

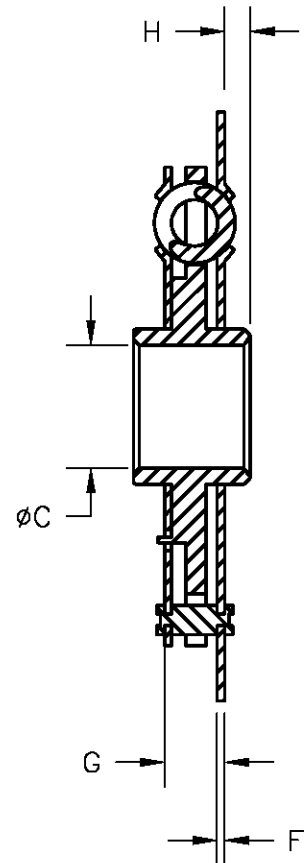
PART NUMBER

DA-303

REV: IR

TEETH: 10		TORQUE: 184.2 ft lb 249.741 Nm	
DIA A: 6.189 [157.20]	HOLE DIA S: 0.257 [6.53]	HOLE DIA X: N/A	HOLE CEN. V: N/A
DIA B: 4.848 [123.14]	HOLE DIA T: N/A	HOLE DIA Y: N/A	HOLE CEN. W: N/A
DIA C: 1.145 [29.08]	HOLE DIA U: N/A	HOLE CEN. S: 5.593 [142.06]	HOLE CEN. X: N/A
DIA D: N/A	HOLE DIA V: N/A	HOLE CEN. T: N/A	HOLE CEN. Y: N/A
DIA E: N/A	HOLE DIA W: N/A	HOLE CEN. U: N/A	THCK F: 0.079 [2.01]

Figure 1 is a schematic diagram of a circular device, likely a camera or sensor array. It features a central lens or aperture, surrounded by six rectangular components (possibly sensors or actuators) arranged radially. A circular array of small circular elements (possibly LEDs or sensors) is located around the perimeter. Labels include T, S, ϕA , ϕB , and $\phi 1$.



DAMPER INFORMATION						THCK G: 0.550 [13.97]	APPLICATION DAMPER	
TEETH: 26		TORQUE: 221.27 ft lb 300 Nm				THCK H: 0.260 [6.60]		
DIA A: 5.962 [151.44]	HOLE DIA S: 0.205 [5.20]	HOLE DIA X: N/A N/A	HOLE CEN. V: N/A N/A		OAT: 1.175 [29.84]	NOTES: OEM #1866-052-002		
DIA B: 4.853 [123.26]	HOLE DIA T: 0.240 [6.096]	HOLE DIA Y: N/A N/A	HOLE CEN. W: N/A N/A					
DIA C: 1.250 [31.75]	HOLE DIA U: N/A N/A	HOLE CEN. 1: 1.353 [34.36]	HOLE CEN. X: N/A N/A		SCALE: NONE	DRAWN BY: BTB		CHECKED BY: CDH
DIA D: N/A N/A	HOLE DIA V: N/A N/A	HOLE CEN. T: N/A N/A	HOLE CEN. Y: N/A N/A			ALTO PRODUCTS CORP.  One Alto Way Atmore, AL 36504 PH: (251)-368-7777 FAX: (251)-368-7774 www.AltoUSA.com		PART NUMBER DA-305 REV: IR
DIA E: N/A N/A	HOLE DIA W: N/A N/A	HOLE CEN. U: N/A N/A	THCK F: 0.075 [1.90]					

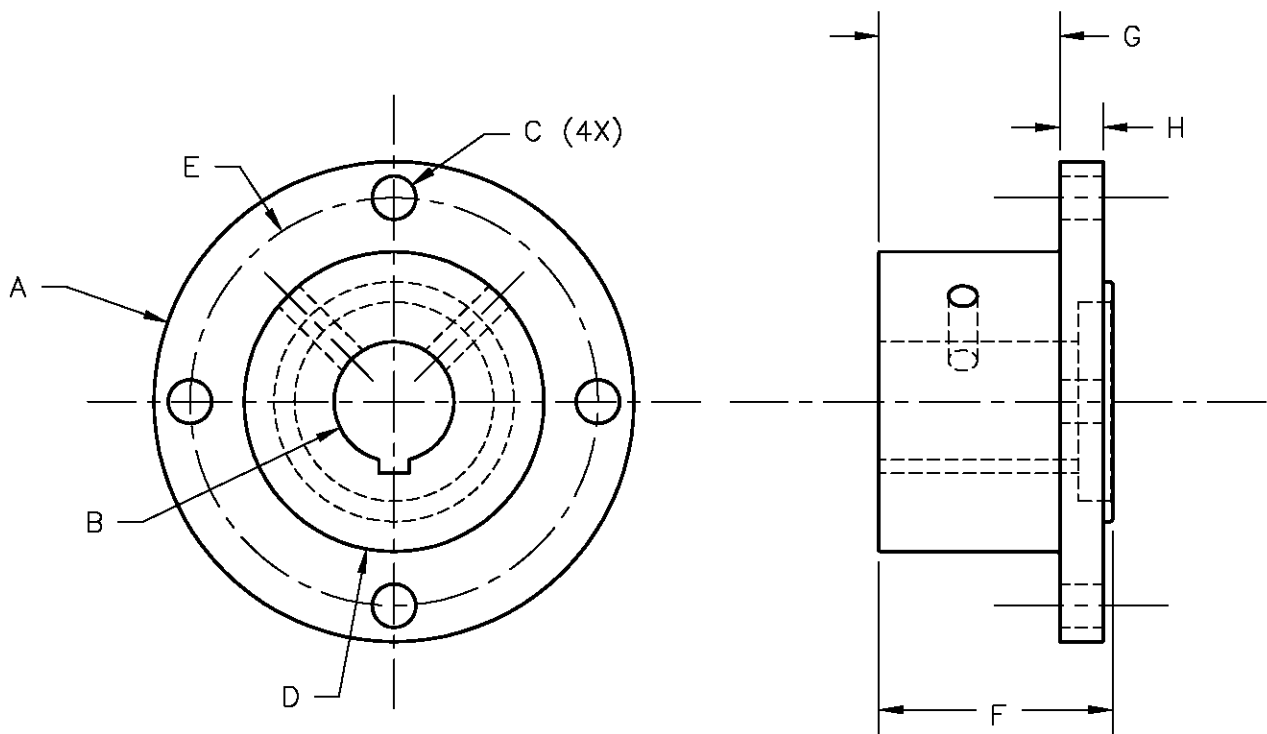
MARINE COUPLINGS

VELVET DRIVE ®

ALTO NO.	OEM NO.	DESCRIPTION	USAGE	NOTES
COUPLINGS				
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
023543-075	4BX-A	Coupling Shaft VD71/72 4" X .75 Bore		
023543-087	4BX-AA	Coupling Shaft VD 71/72 4" X .875 Bore		
023543-100	1866-052-002	Coupling Shaft VD71/72 4" X 1.00 Bore		
023543-125	4865DD 4BX-D	Coupling Shaft VD 71/72 4" X 1.25 Bore		
023559-125	4886D 5AX-D	Coupling Shaft VD 71/72 5" X 1.25 Bore		
023559-137	NA	Coupling Shaft VD71/72 5" X 1.375 Bore		
023559-150	NA	Coupling Shaft VD71/72 5" X 1.50 Bore		

Velvet Drive is a registered trademark of Borg Warner Corporation

SEE COUPLING SPEC SHEET NEXT PAGE.....



COUPLING INFORMATION

PART NUM.	DIM: A	DIM: B	DIM: C	DIM: D	DIM: E	DIM: F	DIM: G	DIM: H
023559-125	5.00"	1.250"	0.455"	3.125"	4.250"	2.435"	1.885"	0.450"
023559-137	5.00"	1.375"	0.455"	3.125"	4.250"	2.435"	1.885"	0.450"
023559-150	5.00"	1.500"	0.455"	3.125"	4.250"	2.435"	1.885"	0.450"
023543-075	4.00"	0.750"	0.392"	2.250"	3.250"	2.330"	1.845"	0.385"
023543-087	4.00"	0.875"	0.392"	2.250"	3.250"	2.330"	1.845"	0.385"
023543-100	4.00"	1.000"	0.392"	2.250"	3.250"	2.330"	1.845"	0.385"
023543-125	4.00"	1.250"	0.392"	2.250"	3.250"	2.330"	1.845"	0.385"

APPLICATION

CPL SHAFT VD71/72

ALTO PRODUCTS CORP.



One Alto Way
Atmore, AL 36504
PH: (251)-368-7777
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www.AltoUSA.com

DRAWN: JMS

CHECKED: CDH

SCALE: 1:2

DATE: 7/8/13