

VELVET DRIVE[®] V-DRIVE

Hydrex Marine Division (HMD)
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HYDRAULIC MARINE TRANSMISSION



VELVET operating method and special load gear make what long used

DIFFERENTIAL, VELVET DRIVE has advantages, mostly in operation system.

VELVET DRIVE also makes V-drive system allowing easy operation with operation.

DIFFERENTIAL, VELVET DRIVE is available with V-drive gear drive. The system of the system has a special in operation system.

DIFFERENTIAL, VELVET DRIVE has advantages, mostly in operation system.

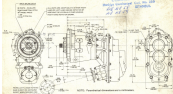
DIFFERENTIAL, VELVET DRIVE has advantages, mostly in operation system.

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DIFFERENTIAL, VELVET DRIVE has advantages, mostly in operation system.

INSTALLATION DRAWING

simon motor
 600000 11 100
 100000 100000 100000 100000
 100000 100000 100000 100000



MODEL	A	B	C	D	E	F	REMARKS
FIG. 1							
1000	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000
FIG. 2							
1000	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000

GENERAL SPECIFICATIONS

MODEL	MAXIMUM GAS HP INPUT		AVAILABLE FIRING	START ROTATION	GAS WEIGHT
	LASSING	DESEL			
1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000

Fig. 1 - Page "A" with "B" in Simon & Co.
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Velvet Drive® CR2 Hydraulic Marine Transmission

The counter-rotating marine gear designed especially for twin-screw applications.



Wanner Gear
Division of Wanner Machine Corporation

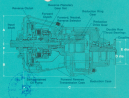
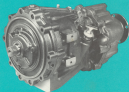


Now, the proven performance of 'Velvet Drive' in an optional-rotation transmission.

Velvet Drive, left.

In the more than twenty years that Borg-Warner has manufactured marine transmissions, the Velvet Drive® name has topped the top of its listing class, and Borg-Warner has produced more than half a million precision built marine gears. Now, you can have proven Velvet Drive performance with optional propeller rotation, with the Velvet Drive CRD.

The Velvet Drive CRD brings powerboat and engine builders all of the benefits associated with the Velvet Drive name. Like all Velvet gearing for quiet, smooth power, the CRD still has clutch packs for limited full reverse load adjustment, easy forward, heavy afterburn shifting.



Check these benefits. . .

- ☐ Free shunting
- ☐ Optional propeller rotation
- ☐ Internal gearing
- ☐ Permanent lubrication
- ☐ Adjustable-tilt clutch packs
- ☐ Other design for easy rebuilding
- ☐ Four ratio options
- ☐ Self-contained for easy installation

Velvet Drive marine gears are currently offered with these engines.

- ☐ Caterpillar
- ☐ Chrysler
- ☐ Commander
- ☐ Cummins
- ☐ Detroit Diesel Allison
- ☐ Fiat
- ☐ Ford
- ☐ Honda
- ☐ Isuzu
- ☐ Johnson
- ☐ Marine Power
- ☐ Mercedes-Benz
- ☐ Mercury Marine
- ☐ Outboard Marine Corp.
- ☐ Peasecraft
- ☐ Perkins
- ☐ Rotax Marine Engines
- ☐ Volvo
- ☐ Yamaha Electric
- ☐ Yanmar
- ☐ Westerbeke

For GSEB tests or monitoring applications, the Raptor (Line 100) was designed specifically for multi-sensor engine tests. Its counterbalancing feature eliminates the need for counterbalancing engines and the resulting need for costly inventory of test loads of engines or engine data.

In addition, the RPT's "drop-center" design permits a very easy interchange of units for monitoring applications—single or twin-engine.

The Raptor (Line 100) engine counterbalances the engine with built-in variable weights.



General Performance Data

Model	Maximum Fuel R.P. Input	Available Rating	Shaft Position	Dry Weight
710 (161.55)	7500 (250.0) 4500 (150.0) rpm 1500 (50.0) 3000 (100.0) rpm	1.50 2.50 3.67 0.00 to 1	output burns, same oil or synthetic engine rotation	160 lb 173.0 kg. 1
720 (150.14)	1500 (50.0) 3000 (100.0) rpm 1500 (50.0) 3000 (100.0) rpm	1.50 2.00 3.67 0.00 to 1		170 lb 179.4 kg. 1

Dimensions

Model	A	B	C	D-101	D-102	Performance	R-Group (Line) Output Rotation	
							Engines	Counter
710 (161.55)	4.00 (101.60)	4.19 (106.66)	1.647 (41.83)	4.75 (120.65)	6.00 (152.40)	1.00	1.00 (25.40)	1.00 (25.40)
						0.50	1.00 (25.40)	1.00 (25.40)
						2.41	1.00 (25.40)	1.00 (25.40)
						3.00	3.50 (88.90)	1.00 (25.40)
720 (150.14)	4.00 (101.60)	4.19 (106.66)	1.648 (41.84)	4.75 (120.65)	6.00 (152.40)	1.00	1.00 (25.40)	1.00 (25.40)
						0.50	1.00 (25.40)	1.00 (25.40)
						2.41	1.00 (25.40)	1.00 (25.40)
						3.00	3.50 (88.90)	1.00 (25.40)

Oil

Automatic lubrication system. Capacity is dependent upon horsepower and oil cooler ratings—approx. capacity is 10 gal. (37.8 liter). Engine tests as may be used if engine run will not exceed 10000.

Notes

The above performance ratings are subject to change without notice and are intended only as a general guide. Parenthetical dimensions are in millimeters.



The complete Velvet Drive line: CR2, In-line and V-drive

In addition to the Velvet Drive CR2, Bury-Walker provides In-line and V-drive configurations Velvet Drive models. All models utilize the same outstanding basic design features, forward and reverse planetary gearing and multiple shafts packs. Great helical gearing, easy mounting, and

a self-contained hydraulic system (except for the oil cooler circuit) are other features common to Velvet Drive. Bury-Walker also provides a line of power loading accessories shown below.



In-Line model

The Velvet Drive In-line model series is the most compact in its power loading class. With nearly 600,000 In-line engine gears installed, Bury-Walker has become the world's largest producer of mineral pressure load transmissions.

V-Drive model

Velvet Drive Integral V-drive is also CR2. It requires no external drive, and the Velvet Drive CR2 in place operates power loader engines with two standard-option engines in two engine installations.



Accessories



Power drive assemblies and couplings

Complete range of sizes. Flange coupler engine type or horizontal motor-and motor. Flange type coupler shaft couplings of forged steel to 1 1/2" shaft dia. also available.



Manual safety switch

Prevents starting the engine when transmission is in drive gear.



Transmission oil cooler

Provides cooling of hydraulic fluid to maintain correct operating temperature. Three sizes.



Temperature alarm kit

Alarm operates on unsafe transmission oil temperature. Includes sensor and circuit board. Provides signal to an operator installed light or audible alarm (Alarm not included).

Distributed by:

INDUSTRIAL POWER LIMITED

2875 Oak Street

Portland, OR 97205-3000

Phone (503) 462-1111 Fax (503) 462-2222

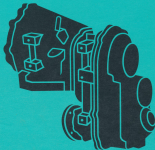
Division of Bury-Walker Corporation
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Division of Bury-Walker Limited
P.O. Box 1000, Lethbridge
S7N 1Y0, Alberta, Canada
Telephone: (403) 942-1111
Fax: (403) 942-2222



Quiet Gearbox

Velvet Drive[®] V-Drive Hydraulic Marine Transmission

The quiet, space-saving marine gear for single or twin-screw applications



Warner Gear
Division of Borg Warner Corporation

**The quiet space-saving
Valvet Drive™
Vee Marine Gears.**

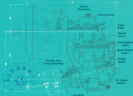
Borg Warner's integral V-Drive marine transmissionSM is a compact, self-contained unit that helps create extra cargo and cabin space by allowing you to mount your engine further aft. Because our V-Drive requires no universal joints, a potentially costly maintenance item is

completely eliminated. The design effect of the Valvet Drive™ V-Drive marine gear allows easy proper shaft alignment for quick, simple installation.



Check these benefits...

- ☐ Lifetime service available
- ☐ Free shipping
- ☐ Additional cabin and cargo space
- ☐ Optional powerflex rotation
- ☐ Improved weight distribution
- ☐ Low noise level
- ☐ No universal joints to repair or replace
- ☐ Helical gearing
- ☐ Over-engineered construction
- ☐ Adjustable-top clutch packs
- ☐ High capacity smoother thrust bearings
- ☐ Six size options
- ☐ Self-lubricated for easy installation
- ☐ Improved accessibility for easier servicing
- ☐ Neutral-safety switch as standard



high test facilities and engineering facilities. BorgWarner's P-Direct results in better weight distribution, easier access to the engine, stuffing box and propeller shaft, and a greatly reduced noise level.

Both direct drive models and a series of reduction ratios are avail-

able. And for maintenance applications, separate propeller reduction can be provided for two lengths of the rotation.

General Performance Data

Model	Maximum SAE HP Input (7.5-Minute) Rotation		Available Ratios	Shaft Rotation	Dry Weight
	336 R (3200 rpm)	348 R (3200 rpm)			
TFC (75-04)	336 R (3200 rpm)	348 R (3200 rpm)	0.90 1.21 1.53 1.86 2.49 3.12 to 1.00	Specify output characteristics for all animals or appropriate engine rotation when ordering.	180 lb. (81.2 kg.)
TFC (75-05)	348 R (3200 rpm)	360 R (3200 rpm)			200 lb. (90.7 kg.)

Dimensions (weights and dimensions)

Model	A	B	C	D	E	Rotation
TFC Series (75-04)	6.60 (167.6mm)	12.70 (322.6mm)	18.15 (460.41)	7.64 (194.5mm)	10.18 (258.5mm)	10.1 1.25.3 2.49.3 3.12.3
					12.14 (307.5mm)	1.25.3 1.99.3
TFC Series (75-05)	6.60 (167.6mm)	12.70 (322.6mm)	18.15 (460.41)	8.58 (217.5mm)	10.18 (258.5mm)	10.1 1.25.3 2.49.3 3.12.3
					12.14 (307.5mm)	1.25.3 1.99.3

Transmission Fluid

Automatically transmission fluids are recommended for use in all direct drive transmissions. However engine lube oil (same type as used in the engine) may be used in applications where maximum input speed does not exceed 3,000 RPM.

Notes

(1) The above transmission ratings are subject to change without notice and are intended only as a general guide for pressure test usage. For additional application information, consult a Marine Type Machine Distributor.

Important

Specify output ratios (or rotations) whenever at low engine speeds which can cause gear rattle and result in damage to the test engine as well as the transmission. Palmer-Clear is not responsible for test system-related damages of this type.



The complete Valvet Drive line: Y-Drive, CR2 and In-Line.

In addition to the Valvet Drive Y-Drive marine gear, Borg-Warner offers the counter-rotating CR2 as well as In-Line models. All models utilize the same patented helix design features, forward and reverse planetary gearing and massive main shafts. Quiet helical gearing, easy mounting,

and a sophisticated hydraulic system (standard for the oil cooled design) are other features common to Valvet Drive. Borg-Warner also offers drive and control motor series, shown below.



CR2 shown

The Valvet Drive CR2 marine gear was designed especially for recreational applications. Its counter-rotating features eliminate the need for opposite rotating engines. The CR2's structural design permits a very easy interchange of units for replacement applications—single or twin-power.

CR2-LINE shown

The Valvet Drive In-Line series is the expanded standard in its power handling class. Water-cooled helical marine gears included. Borg-Warner has made the CR2-LINE the perfect product of recent pleasure boat transmissions.



Accessories



Shaft-drive assemblies and couplings

Complete range of shaft, flange, shaft, shaft couplings, shafts for horizontal vibration and more. Also full propeller shaft couplings of largest size to 25" shaft size available.



Transmission shaft kit

Apply operator to shafts, transmission, transmission, includes remote and control flange. (Flange right to an operator's position right or left—gear, motor not included.)

Designed by

INDUSTRIAL ENGINE LIMITED

875 So. First

Westwood, N.J. 07675

Phone: (201) 261-1100 • Telex: 271777

Warner Gear

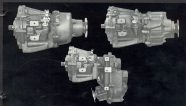
Warner Gear Transmissions
P.O. Box 2000, Warner Gear
Warner Gear Transmissions, Inc.

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MODEL

71 & 72



VELVET DRIVE®
HYDRAULIC MARINE
TRANSMISSIONS

Pleasure & Commercial
Boats

MODEL 71 & 72 HYDRAULIC MARINE TRANSMISSIONS

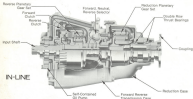
Since the day the first Velvet Drive® In-Line marine transmission rolled off of the assembly line, Borg-Warner has manufactured more than 500,000 precision-built marine gears.

Borg-Warner pioneered the hydraulic transmission for pleasure craft applications. With its steel, helical gearing brought the luxury of quiet operation at the same time that hydraulic control ushered in the era of fingertip shifting.

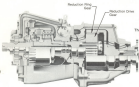
The Velvet Drive name is closely associated with a wide range of additional

performance benefits. Our multiplexed clutch packs (no bands) never need adjusting. Our exclusive coastal design with planetary casing allows a lower engine installation profile to maximize deck space and lower your boat's center of gravity.

Every Velvet Drive marine gear is self-contained, having its own tank and hydraulic pump separate from the engine. The gear-driven pump assures positive lubrication. An externally mounted oil cooler reduces transmission weight. Service is available worldwide.



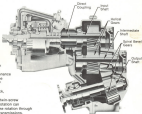
The "71" and "72" designations of Borg-Warner marine transmissions indicate input horsepower ranges. There are three basic models of transmissions, each with offerings in the 71 and 72 ratings. The most popular model is the in-line unit. "In-line" indicates that the input and output shafts of the transmission are on the same plane. Direct drive versions of the in-line models are frequently used on high horsepower light weight boats while the reduction ratio versions use an additional planetary gear set to allow the use of larger propellers for greater pulling power at lower speeds.



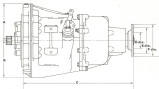
The Helmut Drive CR2 was designed specifically for twin screw applications. Its counter rotating feature eliminates the need for opposite rotating engines and the resulting need for costly inventory of two types of engines or engine parts. In addition, the CR2's "drop-center" design permits a very easy interchange of units for repowering applications — single or twin screws.

CR2

Gemerc's Integral V-Drive marine transmission is a compact, self-contained unit that helps create extra cargo and cabin space by allowing you to move your engines further aft. Because the V-Drive requires no universal joints, a potentially costly maintenance item is completely eliminated. The deeper draft of the Helmut Drive® V-Drive marine gear allows easy proper shaft alignment for quick, simple installation. A series of reduction ratios is available. For twin-screw applications, opposite propeller rotation can be provided for less engines at the rotation through the use of gear and chain drive transmissions.



V-DRIVE



DIMENSIONS (inches (millimeters))

Model	A	B	C	D dia.	E dia.	F dia.
71C (10-17)	9.63 (245.00)	5.69 (144.93)	16.89 (429.29)	3.39 (86.06)	4.39 (111.76)	5.97 (151.70)
73C (10-18)	9.63 (245.00)	5.69 (144.93)	17.75 (451.86)	3.39 (86.06)	4.39 (111.76)	5.97 (151.70)

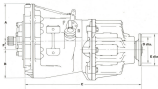
MODEL 71C (10-17) GENERAL INFORMATION

Available torque	1.00, 1.50, 1.80, 2.10, 2.50, 3.00, 3.60
Shaft rotation	Output shafts are engine output shafts (by reference 1)
Approximate dry weight (without drive)	700 (15.485 kg)
Approximate dry weight (reduction)	750 (16.633 kg)

MODEL 73C (10-18) GENERAL INFORMATION

Available torque	1.00, 1.50, 1.80, 2.10, 2.50, 3.00, 3.60
Shaft rotation	Output shafts are engine output shafts (by reference 1)
Approximate dry weight (without drive)	750 (16.633 kg)
Approximate dry weight (reduction)	800 (17.781 kg)

1.00 1.50 1.80 2.10 2.50 3.00 3.60
 22.2 33.3 40.8 47.9 56.8 66.7 80.0
 1.00 1.50 1.80 2.10 2.50 3.00 3.60
 22.2 33.3 40.8 47.9 56.8 66.7 80.0

**DIMENSIONS** inches (millimeters)

Model	A	B	C	D dia.	E dia.	Reduction	If Output Shcs. Shaft Engine	
							Rotation	Rotation
							Quadrant	Quadrant
TFC (T-12)	5.43 (138.03)	4.75 (120.65)	16.43 (417.43)	4.26 (108.85)	6.00 (152.00)	1.88	1.25 (31.25)	1.00 (25.40)
						2.00	1.00 (25.40)	1.25 (31.25)
						2.47	1.00 (25.40)	1.27 (32.26)
						2.85	2.50 (63.50)	1.00 (25.40)
TDC (T-16)	5.43 (138.03)	4.75 (120.65)	16.50 (419.14)	4.26 (108.85)	6.00 (152.00)	1.88	1.25 (31.25)	1.00 (25.40)
						2.00	1.00 (25.40)	1.25 (31.25)
						2.47	1.00 (25.40)	1.27 (32.26)
						2.85	2.50 (63.50)	1.00 (25.40)

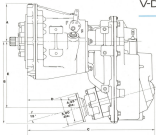
MODEL TFC (T-12) GENERAL INFORMATION

Available (T-12)	1.88 2.00 2.47 2.85 1/100
Shaft rotation	Specify output shaft rotation to be same as or opposite to engine rotation when ordering.
Dry weight	18.15 (77.0 kg)

MODEL TDC (T-16) GENERAL INFORMATION

Available (T-16)	1.88 2.00 2.47 2.85 1/100
Shaft rotation	Specify output shaft rotation to be same as or opposite to engine rotation when ordering.
Dry weight	19.15 (86.8 kg)

NOTE: *Dry footcandle units are to be related to output engine rotation.
Only available for automatic rotation engines.



DIMENSIONS (unless millimeters)

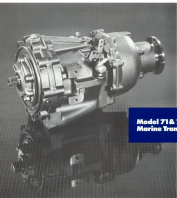
Model	A	B	C	D	E	Rotation
T1C (10-04)	5.63 (142.86)	12.75 (323.85)	18.15 (460.47)	1.64 (41.66)	10.14 (258.06)	1.0/1.1 (2.48/1)
					10.14 (257.06)	1.0/1.1 (1.98/1)
					10.14 (258.06)	1.0/1.1 (2.48/1)
T3C (10-08)	5.63 (142.86)	12.75 (323.85)	20.06 (509.82)	1.68 (42.78)	10.14 (257.06)	1.0/1.1 (1.98/1)

MODEL T1C (10-04) GENERAL INFORMATION

Available torque	1.0/1, 1.04, 1.06, 1.48 / 1.00
Shaft rotation	Specify output shaft rotation to be same as or opposite to engine rotation when ordering.
Dry weight	260lbs. (90.2 kg.)

MODEL T3C (10-08) GENERAL INFORMATION

Available torque	1.0/1, 1.04, 1.06, 1.48 / 1.00
Shaft rotation	Specify output shaft rotation to be same as or opposite to engine rotation when ordering.
Dry weight	260lbs. (90.2 kg.)



**Model 71 & 72
Marine Transmissions**

Classifications/Ratings

Service Classifications

Maximum rated: Full throttle used approximately 95% of total running time. Typical cruising is at 80% or less of maximum rated engine speed. Engine running time is said to be four years per year. Applications in boats designed as pleasure craft and used for commercial use, such as charter boats or party fishing boats, are considered light duty commercial applications.

Light duty commercial: Full throttle used approximately 75% of total running time. Longer running periods with throttle settings at 75% or less of maximum rated engine

speed. Engine running time is up to 1500 hours per year. Light-duty commercial applications include sport fishing boats, party fishing boats, drive boats, beach & rescue boats, and patrolboats.

Heavy duty commercial: Full throttle used up to approximately 25% of total running time. Longer running periods up to 80% of maximum rated engine speed. Engine running time is up to 2000 hours per year. Heavy duty applications include towboats, heavy supply boats, ferries, and offshore fishing trawlers.

Important Notes

System forecasts: System related noise or vibrations can occur at low engine speeds. They can cause gear rattle and result in damage to the host engine as well as the transmission. Volvo Drive Transmissions, a Division of Volvo Boat Corporation is not responsible for total system-related forecasts of this type.

Specifications: All specifications and descriptive data shown are nominal and subject to change without notice.

Lubrication: Dexron III, Selenia III, or equivalent motor fluid which meets Detroit Diesel Allison C-4 specifications are recommended for use in all Volvo Drive[®] transmissions.

Applications: Mating of engine, transmission model, transmission size and propeller size is important. The operator must allow the engine to obtain maximum rated engine RPM. Specific applications should be referred to Volvo Drive[®] transmission distributors for assistance.

SERIES 700

(Assembly numbers 70-04 and 70-07)



SERIES 700

(Assembly numbers 70-04 and 70-07)



Model 700 Ratings

This model is broken into three groups of assemblies. Below are listed the Model 700 assemblies available and the proper set of rating charts applicable to each assembly. Charts are located on back cover of brochure.

Assembly No.	Description	Chart Applicable
70-00-00000	Volvo 1.08.5 mhp	A
70-00-00000	Volvo 1.08.5 mhp	C
70-00-00000	Volvo 1.08.5 mhp	D
70-00-00000	Volvo 1.08.5 mhp	E
70-00-00000	Volvo 1.08.5 mhp	F
70-00-00000	Volvo 1.08.5 mhp	G
70-00-00000	Volvo 1.08.5 mhp	H
70-00-00000	Volvo 1.08.5 mhp	I
70-00-00000	Volvo 1.08.5 mhp	J

Assembly No.	Description	Chart Applicable
70-00-00000	Volvo 1.08.5 mhp	A
70-00-00000	Volvo 1.08.5 mhp	C
70-00-00000	Volvo 1.08.5 mhp	D
70-00-00000	Volvo 1.08.5 mhp	E
70-00-00000	Volvo 1.08.5 mhp	F
70-00-00000	Volvo 1.08.5 mhp	G
70-00-00000	Volvo 1.08.5 mhp	H
70-00-00000	Volvo 1.08.5 mhp	I
70-00-00000	Volvo 1.08.5 mhp	J

Ratings

SEPRIS TFC (Group A)

(Assembly numbers 10-00 and 10-01)



SEPRIS TFC (Group A)

(Assembly numbers 10-02 and 10-03)



SEPRIS TFC (Group B)



SEPRIS TFC (Group B)



SEPRIS TFC (Group C)



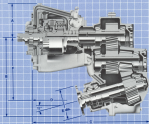
SEPRIS TFC (Group C)



V-Drive

The V-drive® V-Drive marine transmission is a compact, self-contained unit that helps create extra cargo and cabin space by allowing you to move your engine further aft. Because the V-Drive requires no universal joints, a potentially costly maintenance item is completely eliminated.

The deeper offset of the V-drive® V-Drive marine gear allows easy propeller shaft alignment for quick, simple installation. A series of reduction ratios is available. Optional propeller rotation can be provided for left-rotate applications with two engines of like rotation.



Dimensions (inches (millimeters))

Model	A	B	C	D	E (in.)	F	Reduction
750 (19-05)	5.00 (127.00)	12.12 (307.62)	16.00 (406.40)	7.00 (177.80)	5.00 (127.00)	10.00 (254.00) 12.00 (304.80) 14.00 (354.10) 16.00 (406.40)	1.25:1 0.80:1 0.71:1 0.63:1
550 (14-05)	5.00 (127.00)	12.12 (307.62)	20.00 (508.00)	6.00 (152.40)	5.00 (127.00)	10.00 (254.00) 12.00 (304.80) 14.00 (354.10) 16.00 (406.40)	1.25:1 0.80:1 0.71:1 0.63:1

Model 750 (19-05) General Information

Available Option 1.00, 1.00, 1.00, 1.00, 1.00
Shaft Rotation Specify output shaft rotation to be reverse or opposite to engine rotation when ordering
Gross Weight 1100 lbs. (499.0 kg)

Model 550 (14-05) General Information

Available Ratios 1.25, 1.00, 0.80, 0.71, 0.63
Shaft Rotation Specify output shaft rotation to be reverse or opposite to engine rotation when ordering
Gross Weight 800 lbs. (363.0 kg)



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Effective Date Jan 3

HI 4

PRICE LIST

GEAR DRIVEN, FLATBELT TRANSMISSIONS AND ACCESSORIES

A. GEAR DRIVEN CO-AXIAL TRANSMISSION

Engine rotation viewed from flywheel
 Propeller from stern of boat looking forward

SAC VETA SOL MOTOR

71 Gears

Part Number	Engine	Prop.	Description
10-17-000-0042	SH Engine	SH Prop.	Direct Drive <i>AS1-71C</i>
10-17-000-0024	LH Engine	LH Prop.	Direct Drive <i>AS1-71CR</i>
<i>SOL MOTOR</i>			
10-17-000-0006	SH Engine	SH Prop.	1.523:1 Reduction <i>AS2-71C</i>
10-17-000-0006	LH Engine	LH Prop.	1.523:1 Reduction <i>AS2-71CR</i>
10-17-000-0006	SH Engine	SH Prop.	2.1:1 Reduction <i>AS3-71C</i>
10-17-000-0010	LH Engine	LH Prop.	2.1:1 Reduction <i>AS3-71CR</i>
10-17-000-0011	SH Engine	SH Prop.	2.57:1 Reduction <i>AS4-71C</i>
10-17-000-0012	LH Engine	LH Prop.	2.57:1 Reduction <i>AS4-71CR</i>
10-17-000-0013	SH Engine	SH Prop.	3.909:1 Reduction <i>AS5-71C</i>
10-17-000-0014	LH Engine	LH Prop.	3.909:1 Reduction <i>AS5-71CR</i>
10-17-000-0007	SH Engine	LH Prop.	1.909:1 Reduction <i>AS7-71CR</i>
10-17-000-0008	LH Engine	SH Prop.	1.909:1 Reduction <i>AS7-71C</i>
10-17-000-0015	SH Engine	SH Prop.	Front Ball
10-17-000-0016	LH Engine	LH Prop.	For Z-Drives etc.

*Reduction motor
 from 1/2" to 1/4"*

The 5" propeller shaft coupling flange is standard on all
 10-17 assemblies with the exception of the 10-17-000-0016
 which have a 4" flange.

Prices ex Warner Gear, Broomfield, CO carriage and pack
 Subject to change without notice.

Subsidiary of Borg Warner Corporation

Dept. Main Jan. 1961
 Division of Borg Warner
 Broomfield, Colorado
 10000 14th Avenue, Broomfield, Colorado, U.S.A.
 Telex: 251 000 000 Warner Gear
 Cable: Warner Gear, Broomfield, Colorado

Engine rotation viewed from flywheel
Propeller from stern of boat looking forward



72 Series

Part Number			Description
10-18-000-001	RE Engine	RE Prop	Direct Drive <i>AS11-72C</i>
10-18-000-002	LE Engine	LE Prop	Direct Drive <i>AS11-72CR</i>
10-18-000-003	RE Engine	RE Prop	1.525:1 Reduction <i>AS12-72C</i>
10-18-000-004	LE Engine	LE Prop	1.525:1 Reduction <i>AS12-72CR</i>
10-18-000-007	RE Engine	RE Prop	2.1:1 Reduction <i>AS13-72C</i>
10-18-000-008	LE Engine	LE Prop	2.1:1 Reduction <i>AS13-72CR</i>
10-18-000-009	RE Engine	RE Prop	2.57:1 Reduction <i>AS14-72C</i>
10-18-000-010	LE Engine	LE Prop	2.57:1 Reduction <i>AS14-72CR</i>
10-18-000-011	RE Engine	RE Prop	2.905:1 Reduction <i>AS15-72C</i>
10-18-000-012	LE Engine	LE Prop	2.905:1 Reduction <i>AS15-72CR</i>
10-18-000-005	RE Engine	LE Prop	1.900:1 Reduction <i>AS17-72C</i>
10-18-000-006	LE Engine	RE Prop	1.900:1 Reduction <i>AS17-72CR</i>
10-18-000-013	RE Engine	RE Prop	Prop. Half <i>AS20-72C</i>
10-18-000-014	LE Engine	LE Prop	For 2-Drivers etc <i>AS20-72CR</i>

Output shaft flanges for models 10-18 are 5" diameter

73 Series

Part Number			Description
10-06-000-004	RE Engine	RE Prop	Direct Drive <i>AS1-73C</i>
10-06-000-005	LE Engine	LE Prop	Direct Drive <i>AS1-73CR</i>
10-06-000-006	RE Engine	RE Prop	1.5:1 Reduction <i>AS2-73C</i>
10-06-000-007	LE Engine	LE Prop	1.5:1 Reduction <i>AS2-73CR</i>
10-06-000-008	RE Engine	RE Prop	3.0:1 Reduction <i>AS5-73C</i>
10-06-000-009	LE Engine	LE Prop	3.0:1 Reduction <i>AS5-73CR</i>
10-06-000-010	RE Engine	LE Prop	2.0:1 Reduction <i>AS7-73C</i>
10-06-000-011	LE Engine	RE Prop	2.0:1 Reduction <i>AS7-73CR</i>

Output shaft flanges for models 10-06 are 3 1/2" diameter

uses ex Warner Gear, Wigglesworth, etc. marriage and packing
ject to change without notice.

Gray Motor Gear Division
Warner Gear Division
Kardian
Baltimore, Md. 21201
Tel. 410 517-1600

V-Drives HEFST 30C Motor

All units shown for engines LH rotation viewed from Propeller front side of boat looking forward



V-Drive 71 Series

Part Number		Description
10-04-000-002	HL Prop	1.90:1 Reduction
10-04-000-003	LL Prop	1.90:1 Reduction
10-04-000-004	HL Prop	2.50:1 Reduction
10-04-000-005	HL Prop	2.45:1 Reduction
10-04-000-006	LL Prop	3.10:1 Reduction
10-04-000-007	HL Prop	3.14:1 Reduction
10-04-000-008	LL Prop	0.97:1 Reduction
10-04-000-009	HL Prop	0.98:1 Reduction
10-04-000-010	LL Prop	1.53:1 Reduction
10-04-000-011	HL Prop	1.51:1 Reduction
10-04-000-012	HL Prop	1.21:1 Reduction
10-04-000-013	LL Prop	1.21:1 Reduction

OK 1000 Kit Mounting plates for 10-04

With the 10-04 V-Drive use side mounting plates ref: page V-Drive Service Manual.

Output shaft flanges for Model 10-04 are 5" diameter. The V-Drive is equivalent to our 10-17 Valve Drive.

V-Drive 72 Series

Part Number		Description
10-05-000-002	HL Prop	1.90:1 Reduction
10-05-000-003	LL Prop	1.90:1 Reduction
10-05-000-004	LL Prop	2.50:1 Reduction
10-05-000-005	HL Prop	2.45:1 Reduction
10-05-000-006	LL Prop	3.10:1 Reduction
10-05-000-007	HL Prop	3.14:1 Reduction
10-05-000-008	LL Prop	0.97:1 Reduction
10-05-000-009	HL Prop	0.98:1 Reduction
10-05-000-010	LL Prop	1.53:1 Reduction
10-05-000-011	HL Prop	1.51:1 Reduction
10-05-000-012	HL Prop	1.21:1 Reduction
10-05-000-013	LL Prop	1.21:1 Reduction

OK 1001 Kit Mounting plates for 10-05

With the 10-05 V-Drive use side mounting plates ref: page V-Drive Service Manual

Output shaft flanges for 10-05 V-Drives are 5" diameter

Best Water Tight Seal
 Double or Triple Sealed
 Bearings
 Maximum Under Load
 151450 L
 Tel. 985 1242 - 142 00 00

MEERKEZ KAPAK BENLAKEM AS Numaralan Yol Luv.

C. CRZ PROP CHAINED POSITION SAC NOTE

All units shown for engines RH rotation viewed from fly
Propeller from stern of boat looking forward



21 Şubat

Part Number		Description
10-13-000-001	LH Prop	SAC ÇİAŞ 1.58:1 Reduction
10-13-000-002	RH Prop	SAC ÇİAŞ 1.58:1 Reduction
10-13-000-003	LH Prop	SAC ÇİAŞ 2.03:1 Reduction
10-13-000-004	RH Prop	SAC ÇİAŞ 2.03:1 Reduction
10-13-000-005	LH Prop	2.47:1 Reduction
10-13-000-006	RH Prop	2.47:1 Reduction
10-13-000-007	LH Prop	2.93:1 Reduction
10-13-000-008	RH Prop	2.93:1 Reduction

SAC NOTE

All units shown for engines RH rotation viewed from fly
Propeller from stern of boat looking forward

MEERKEZ KAPAK

21 Şubat

Part Number		Description
10-13-000-009	RH Prop	YALNIZ SAC ÇİAŞ 1.58:1 Reduction
10-13-000-010	RH Prop	2.03:1 Reduction
10-13-000-011	RH Prop	2.47:1 Reduction
10-13-000-012	RH Prop	2.93:1 Reduction

Output shaft flanges for models 10-13 are 3" diameter

Prices ex Warner Gear, Biggleswade, UK carriage and packing
Subject to change without notice.

Bank Name: Bank of England
Branch: London
Address: 1, Abchurch Lane, London EC4N 3DF
Telephone: 01-424 2000
Fax: 01-424 2001

CR2-72 Seebi
SOL MOTOR



All units shown for engine rotation viewed from Propeller from stern of boat looking forward

72 Seebi

Part Number		Description
10-14-000-001	LM Prop	3.58:1 Reduction
10-14-000-002	RM Prop	3.58:1 Reduction
10-14-000-003	LM Prop	2.03:1 Reduction
10-14-000-004	RM Prop	2.03:1 Reduction
10-14-000-005	LM Prop	2.47:1 Reduction
10-14-000-006	RM Prop	2.47:1 Reduction
10-14-000-007	LM Prop	2.91:1 Reduction
10-14-000-008	RM Prop	2.91:1 Reduction

CR-2

SAG MOTOR

All units shown for engine rotation viewed from Propeller from stern of boat looking forward

72 Seebi

Part Number		Description
10-14-000-009	RM Prop	1.58:1 Reduction
10-14-000-010	RM Prop	2.03:1 Reduction
10-14-000-011	RM Prop	2.47:1 Reduction
10-14-000-012	RM Prop	2.91:1 Reduction

Output shaft flanges for models 10-14 are 3" diameter

Applications for engine approval must be submitted through department for final approval.

Prices ex Warner Gear, Biggleswade, UK carriage and packing
Subject to change without notice.

Doyle Motor (India) Limited
Incorporated in England
Registered Office
Warner Gear Ltd, No. 7
1874-1875
Tel. 0271 271 112/113