

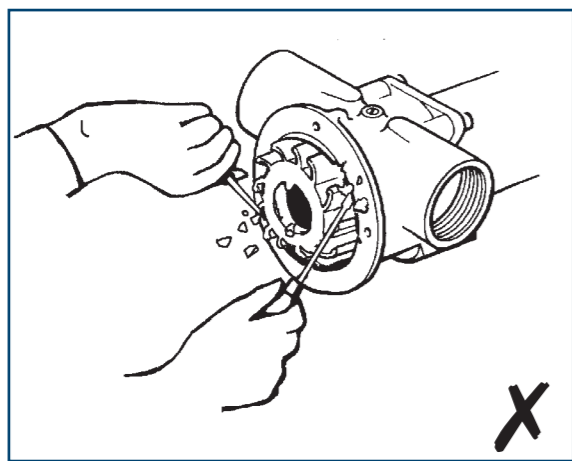
Introduction



Jabsco - The Original Impeller

Jabsco flexible impellers can be fitted to most makes and models of bronze flexible impeller engine cooling, bilge, transfer and general purpose pumps.

Jabsco flexible impellers are subjected to rigorous quality processes to ensure reliable, efficient and long lasting performance.

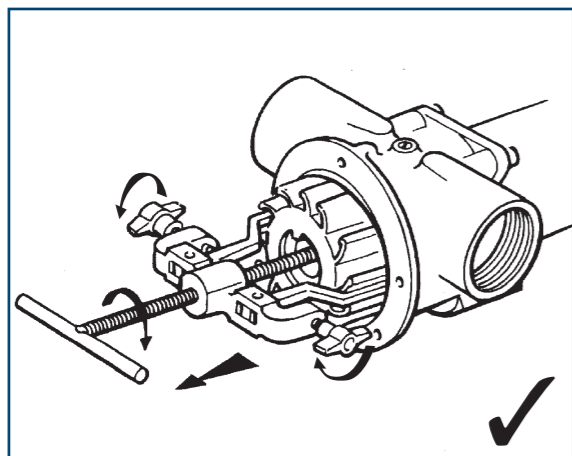


Impeller Replacement - The Basics

Use Neoprene Impellers for engine cooling, and for fresh or salt water transfer duties. Neoprene is the most commonly used material and is suitable for use where only small amounts of oil or diesel fuel are present.

Use Nitrile Impellers for bilge pumping, and for transfer duties where the water is heavily contaminated, for example by oil or diesel. For diesel transfer duties, go to pages 45-46 and select a Jabsco Sliding Vane pump.

Replace all impellers at least once every year, or sooner, depending on the engine duty. When the installation is correct an impeller may last for several years, but it is always advisable to stick to a schedule of preventative, rather than corrective, maintenance.



Replacing impellers is easy. By removing the end cover screws, it is possible to remove the impeller by using either a Jabsco Impeller Removal Tool, or channel lock pliers, to grip the hub of the impeller. Don't use screwdrivers as they may damage the face of the pump body, causing leaks, and they can be dangerous in confined spaces.

Always carry spare impellers on board in case of emergency. The impeller is one of the most vital components of the engine cooling system and should always be treated as such.

Always grease new impellers. Firstly, it makes it easier to install the impeller into the pump bore, and secondly it gives added protection to the impeller during initial prime. After replacing the gasket and end cover the pump is ready to use.

Identification



Selecting your Jabsco Replacement Impeller

There are several ways of identifying the part number of the correct Jabsco impeller if you do not already know it.

1. If you have a Jabsco pump, the Jabsco impeller part number can be found on the Data Sheet that is delivered with each pump.
2. If you have a Jabsco pump, but no data sheet, and you know the full pump model number, go to pages 117-140, Pump Spares by Pump Model, and read off the correct Jabsco impeller part number.
3. If you have another brand of pump, and you know their impeller part number, go to page 105, Upgrade to a Jabsco Impeller, and check for a Jabsco Replacement Impeller part number.
4. If you have the impeller in front of you:

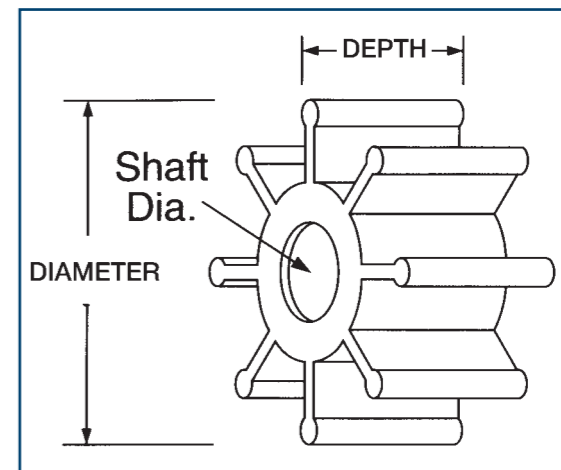


CHART A - Measuring Your Impeller

Identify the impeller profile Code Letter by placing the impeller on the profiles on pages 98-100.

- Go to pages 101-102, Selection Table by Profile.
 - Measure the Depth (see Chart A).
 - Identify the Drive (see Chart B).
 - Measure the Shaft Diameter (see Chart A).
 - Select the material.
 - Read off the part number.
5. If you do not have the impeller in front of you, but you can ask someone who does:
 - Go to pages 103-104, Selection Table by Dimensions.
 - How many blades are there?
 - What is the outside diameter? (see Chart A).
 - What type of Drive is it? (see Chart B).
 - What is the Depth? (see Chart A).
 - What is the Shaft Diameter? (see Chart A).
 - Which material do they need?
 - Read off the part number.

1	SLOTTED SHAFT PIN DRIVE	
2	THROUGH HOLE PIN DRIVE	
3	KEY DRIVE	
4	SINGLE FLAT DRIVE	
5	DOUBLE FLAT DRIVE	
6	DING DRIVE KEYWAY	
7	SPLINE DRIVE	
8	RIBBED SEGMENT KEY	

CHART B - Identifying the Impeller Drive

Flexible Impeller Removal Tool

The Flexible Impeller Removal Tool is the easiest way to remove impellers, especially when the pump is mounted in tight and cramped conditions.

- Simple three stage operation easily removes the impeller.
- Removes the risk of expensive damage to the pump.
- Manufactured from corrosion resistant cast aluminum and stainless steel.
- Two models fit all impellers.

Size: 6" x 1" x 8" max (15cm wide x 2cm deep x 20cm high).

Weight: 1.1lb (0.5kg)

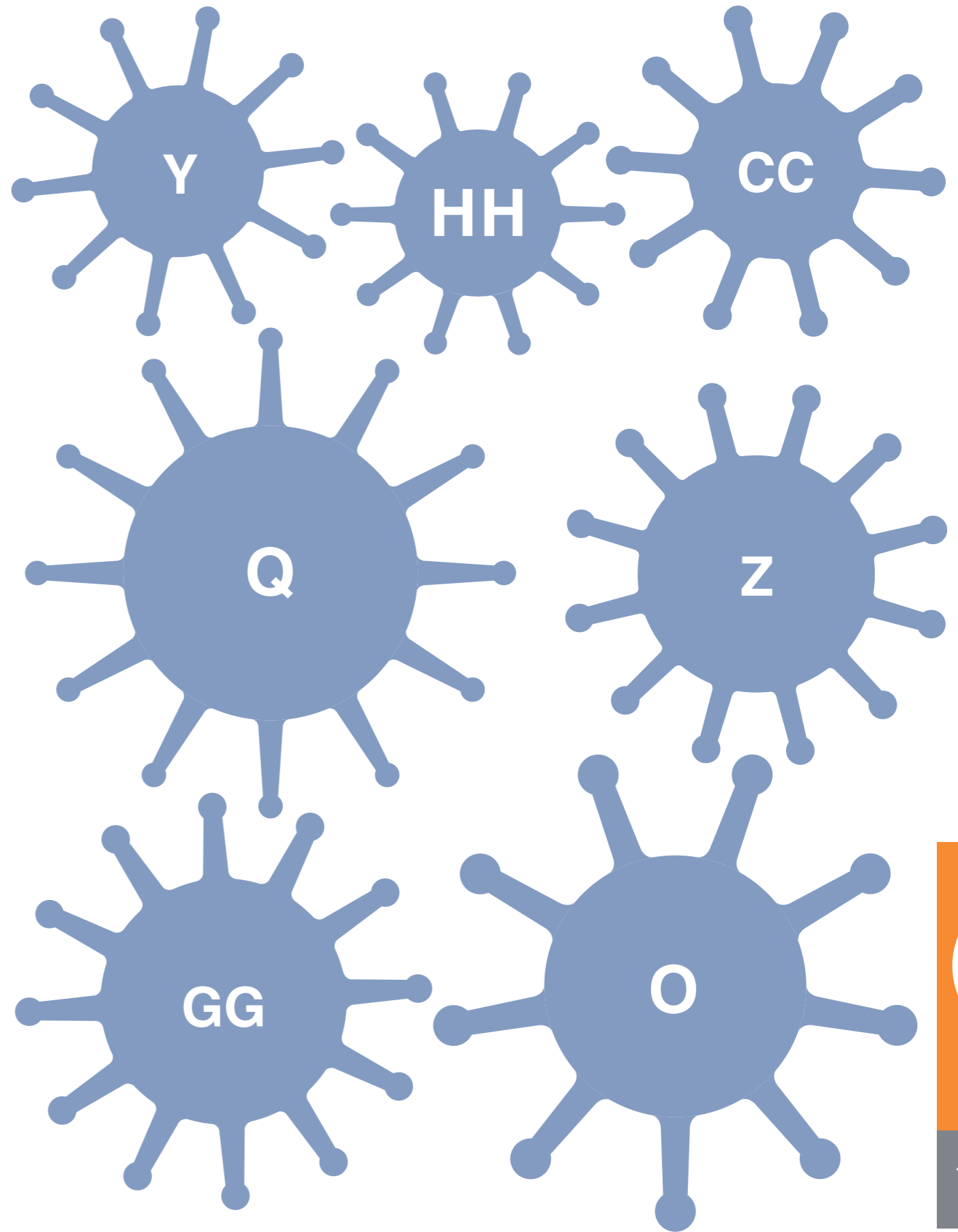
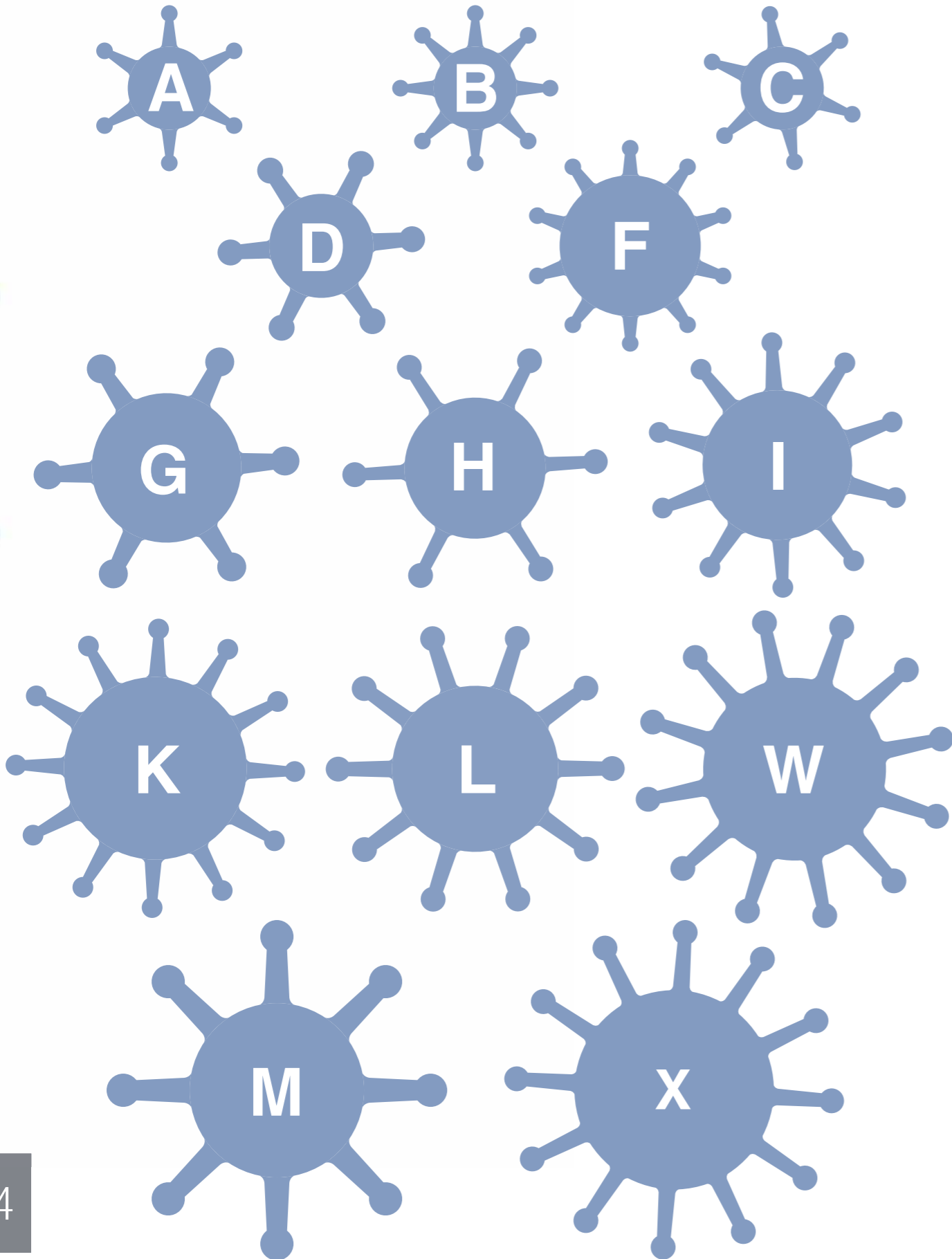
50070-0040 Suitable for impellers up to 2 1/2" (65mm) diameter.

50070-0200 Suitable for impellers from 2 1/2" (65mm) to 4 1/2" (118mm) diameter.

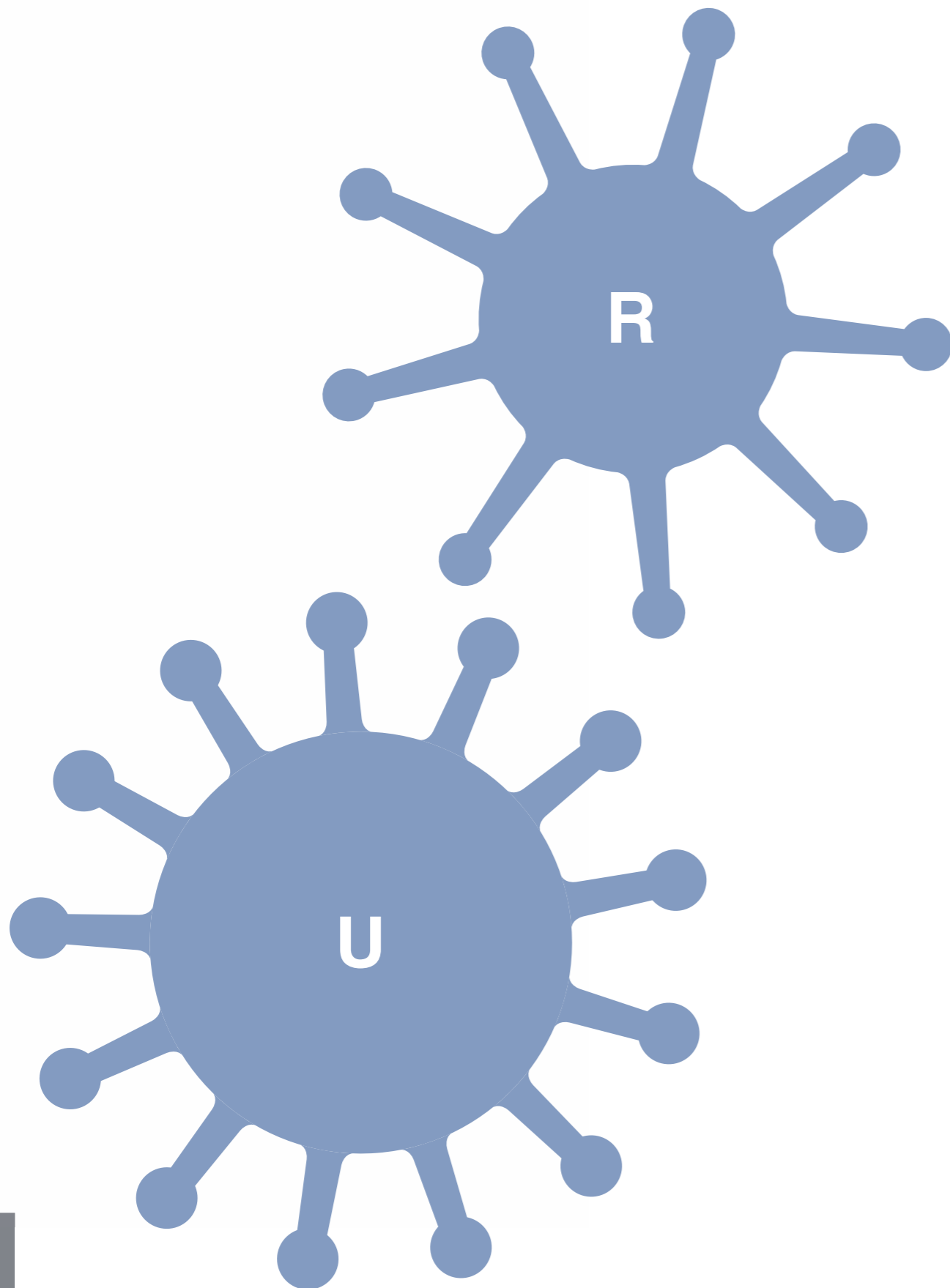
50070-0080 Compact version suitable for impellers up to 2 1/4" (57mm) diameter.



Impeller Replacement



Impeller Replacement



Impeller Type	Impeller Number	Material	Drive Type	Number of Blades	Dimensions				Shaft Diameter		Insert Material
					Diameter		Width		in	mm	
					in	mm	in	mm	in	mm	
A	1414-0001-P	Neoprene	4	6	1 1/4	32	1 1/2	12	5/16	8	Brass*
	1414-0003-P	Nitrile	4	6	1 1/4	32	1 1/2	12	5/16	8	Brass*
	12104-0001B	Neoprene	2	6	1 1/4	32	1 1/2	12	5/16	8	Brass
	21414-0001-P	Neoprene	4	6	1 1/4	32	1 1/2	12	5/16	8	Brass
(For use with Yanmar 1GM10 Marine Engines)											
B	14750-0001B	Neoprene	4	8	1 1/4	32	1 1/2	12	5/16	8	Brass*
	14750-0003-P	Nitrile	4	8	1 1/4	32	1 1/2	12	5/16	8	Brass*
C	14609-0001B	Neoprene	4	6	1 1/4	32	1 1/2	12	5/16	8	Brass*
	14609-0003	Neoprene	4	6	1 1/4	32	1 1/2	12	5/16	8	Brass*
	14787-0001B	Neoprene	4	6	1 1/4	32	1 1/2	12	5/16	8	Plastic*
CC	31130-0061-P	Neoprene	7	10	2 1/2	66	2 1/16	68	3/8	16	Brass††
D	4528-0001-P	Neoprene	1 or 2	6	1 1/16	40	3/4	19	3/8	9.5	Brass
	4528-0003-P	Nitrile	1 or 2	6	1 1/16	40	3/4	19	3/8	9.5	Brass
	17255-0003-P	Nitrile	-	6	1 1/16	40	3/4	19	1/4	6.4	None†
	22405-0001-P	Neoprene	1	6	1 1/16	40	3/4	19	1 1/2	12	Brass
F	9200-0011B	Neoprene	4	10	1 1/16	40.5	3/4	19	5/16	8	Plastic*
	9200-0003B	Nitrile	4	10	1 1/32	40.5	3/4	19	5/16	8	Plastic*
	9200-0021B	Neoprene	4	10	1 1/32	40.5	3/4	19	5/16	8	Brass
	9200-0023-P	Nitrile	4	10	1 1/32	40.5	3/4	19	5/16	8	Brass
G	653-0001-P	Neoprene	1	6	2	51	7/8	22	1 1/2	12	Brass
	673-0001-P	Neoprene	1 or 2	6	2	51	7/8	22	1/2	12.7	Brass
(673-Series Impellers may be replaced with the newer 18673-Series - See Impeller Type I)											
G	4527-0003B	Nitrile	2	6	2	51	7/8	22	5/16	8	None
	5616-0001-P	Neoprene	6	6	2	51	7/8	22	1/2	12.7	Brass
	7273-0001-P	Neoprene	4	6	2	51	7/8	22	5/16	8	Plastic
	273-0003-P	Nitrile	4	6	2	51	7/8	22	5/16	8	Plastic
	22799-0001-P	Neoprene	3	6	2	51	7/8	22	1/2	12.7	Brass
GG	18958-0001-P	Neoprene	3	12	3 1/4	82.5	2 3/4	73.4	2 1/2	21	Brass
H	6303-0001-P	Neoprene	4	6	2	51	7/8	22	5/16	8	Plastic
	6303-0003-P	Nitrile	4	6	2	51	7/8	22	5/16	8	Plastic
	17486-0001	Neoprene	6	6	2	51	7/8	22	1/2	12.7	Brass**
HH	18777-0001-P	Neoprene	7	10	2 1/4	57	2	51	3/8	16	Brass
I	18653-0001-P	Neoprene	1	10	2	51	7/8	22	1/2	12	Brass
	18673-0001-P	Neoprene	1 or 2	10	2	51	7/8	22	1/2	12.7	Brass
	18673-0003-P	Nitrile	1 or 2	10	2	51	7/8	22	1/2	12.7	Brass
K	1210-0001-P	Neoprene	7	12	2 1/4	57	1 1/4	31.5	3/8	16	Brass
	1210-0003-P	Nitrile	7	12	2 1/4	57	1 1/4	31.5	3/8	16	Brass
	4568-0001-P	Neoprene	3	12	2 1/4	57	1 1/4	31.5	3/8	16	Brass
	4568-0003-P	Nitrile	3	12	2 1/4	57	1 1/4	31.5	3/8	16	Brass
	5929-0001-P	Neoprene	6	12	2 1/4	57	1 1/4	31.5	1/2	12.7	Brass
	5929-0003-P	Nitrile	6	12	2 1/4	57	1 1/4	31.5	1/2	12.7	Brass
	13554-0001-P	Neoprene	7	12	2 1/4	57	1 3/8	48.4	3/8	16	Brass
	14281-0001-P	Neoprene	5	12	2 1/4	57	1 1/4	31.5	3/8	16	Plastic
22120-Series	Neoprene	7	12	2 1/4	57	2	51	3/8	16	Brass	
(22120-Series Impellers may be replaced with the newer 18777-Series - See Impeller Type HH)											
L	3085-0001-P	Neoprene	7	10	2 1/4	57	1 1/4	31.5	1/2	12.7	Brass

Section Table by Profile

Impeller Replacement

Impeller		Material	Drive Type	Number of Blades	Dimensions				Shaft Diameter		Insert Material
Type	Number				Diameter		Width		in	mm	
					in	mm	in	mm			
M	920-0001-P	Neoprene	7	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass
	920-0003-P	Nitrile	7	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass
	920-0008B	Natural Rubber	7	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass†
	4598-0001-P	Neoprene	3	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass
	4598-0003-P	Nitrile	3	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass**
	6056-0003-P	Nitrile	6	8	2 ⁵ / ₁₆	65	2	51	%	16	Brass**
	11979-0001-P	Neoprene	7	8	2 ⁵ / ₁₆	65	1 ¹ / ₁₆	36.5	%	16	Brass
	17018-0001-P	Neoprene	7	8	2 ⁵ / ₁₆	65	3	76.2	%	16	Brass
O	836-0001-P	Neoprene	7	9	3 ³ / ₁₆	95	2 ¹ / ₂	63	1	25.4	Brass
	836-0003-P	Nitrile	7	9	3 ³ / ₁₆	95	2 ¹ / ₂	63	1	25.4	Brass
	836-0008-P	Natural Rubber	7	9	3 ³ / ₁₆	95	2 ¹ / ₂	63	1	25.4	Brass†
	6760-0001B	Neoprene	7	9	3 ³ / ₁₆	95	3 ¹ / ₂	88.9	1	25.4	Bras
6760-0003-P	Nitrile	7	9	3 ³ / ₁₆	95	3 ¹ / ₂	88.9	1	25.4	Brass	
Q	17370-0001-P	Neoprene	5	12	3 ³ / ₁₆	95	3 ¹ / ₂	88.9	1	25.4	Plastic
	17935-0001-P	Neoprene	7	12	3 ³ / ₁₆	95	2 ¹ / ₂	63	1	25.4	Brass
	17936-0001-P	Neoprene	7	12	3 ³ / ₁₆	95	3 ¹ / ₂	88.9	1	25.4	Brass
	17938-0001-P	Neoprene	7	12	3 ³ / ₁₆	95	3 ³ / ₄	95	1	25.4	Brass
R	17240-0001B	Neoprene	7	9	4 ¹ / ₁₆	118	3 ¹ / ₂	88.9	1	25.4	Brass
	18786-0001B	Neoprene	5	9	4 ¹ / ₁₆	118	3 ¹ / ₂	88.9	1	25.4	Plastic
	18789-0001	Neoprene	7	9	4 ¹ / ₁₆	118	3 ¹ / ₂	88.9	1	25.4	Brass
U	2999-0001B	Neoprene	7	13	5	127	4	101.6	1 1/2	38	Brass
W	18838-0001-P	Neoprene	3	12	2 ⁵ / ₁₆	62	1 ¹ / ₄	31.5	%	16	Brass††
X	18948-0001-P	Neoprene	3	12	2 ⁵ / ₁₆	65	1 ¹ / ₈	41.4	%	16	Brass††
	17937-0001-P	Neoprene	7	10	2 ⁵ / ₁₆	65	2	51	%	16	Brass
	17937-0003-P	Nitrile	7	10	2 ⁵ / ₁₆	65	2	51	%	16	Brass
Y	17954-0001-P	Neoprene	4	10	2 ⁵ / ₁₆	65	2	51	%	19	Brass††
	17956-0001-P	Neoprene	6	10	2 ⁵ / ₁₆	65	2	51	%	16	Brass
	18327-0001-P	Neoprene	3	10	2 ⁵ / ₁₆	65	2	51	%	16	Brass††
Z	30919-0001	Neoprene	5	12	3 ³ / ₁₆	77	3	76.2	1 ³ / ₁₆	20	Brass

* Insert material was different
 † Impeller molded on shaft
 ‡ For low temperature to 27°F (120°F (max))
 ** Extended Drive sleeves
 †† Sherwood replacement Impeller
 ‡‡ Mercruiser replacement



Section Table by Dimensions

Impeller Replacement

Number of Blades	Dimensions		Drive Type	Shaft Dimensions				Material	Insert Material	Impeller	
	Diameter			Diameter		Width				Number	Type
	in	mm		in	mm	in	mm				
6	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Brass*	1414-0001-P	A
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Nitrile	Brass*	1414-0003-P	A
	1 ¹ / ₄	32	2	1 ¹ / ₂	12	%	8	Neoprene	Brass	12104-0001B	A
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Brass	21414-0001-P	A
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Brass*	14609-0001B	C
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Brass*	14609-0003	C
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Plastic*	14787-0001B	C
	1 ¹ / ₆	40	1 or 2	3/4	19	3/8	9.5	Neoprene	Brass	4528-0001-P	D
	1 ¹ / ₆	40	1 or 2	3/4	19	3/8	9.5	Nitrile	Brass	4528-0003-P	D
	1 ¹ / ₆	40	-	3/4	19	1/4	6.4	Nitrile	None†	17255-0003-P	D
	1 ¹ / ₆	40	1	3/4	19	1 ¹ / ₂	12	Neoprene	Brass	22405-0001-P	D
	2	51	1	3/4	22	1 ¹ / ₂	12	Neoprene	Brass	653-0001-P	G
	2	51	1 or 2	3/4	22	1/2	12.7	Neoprene	Brass	673-0001-P	G
	2	51	2	3/4	22	%	8	Nitrile	None	4527-0003B	G
	2	51	6	3/4	22	1/2	12.7	Neoprene	Brass	5616-0001-P	G
	2	51	4	3/4	22	%	8	Neoprene	Plastic	7273-0001-P	G
	2	51	4	3/4	22	%	8	Nitrile	Plastic	7273-0003-P	G
	2	51	3	3/4	22	1/2	12.7	Neoprene	Brass	22799-0001-P	G
	2	51	4	3/4	22	%	8	Neoprene	Plastic	6303-0001-P	H
	2	51	4	3/4	22	%	8	Nitrile	Plastic	6303-0003-P	H
2	51	6	3/4	22	1/2	12.7	Neoprene	Brass**	17486-0001	H	
8	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Neoprene	Brass*	14750-0001B	B
	1 ¹ / ₄	32	4	1 ¹ / ₂	12	%	8	Nitrile	Brass*	14750-0003-P	B
	2 ⁵ / ₁₆	65	7	2	51	%	16	Neoprene	Brass	920-0001-P	M
	2 ⁵ / ₁₆	65	7	2	51	%	16	Nitrile	Brass	920-0003-P	M
	2 ⁵ / ₁₆	65	7	2	51	%	16	Natural Rubber	Brass†	920-0008B	M
	2 ⁵ / ₁₆	65	3	2	51	%	16	Neoprene	Brass	4598-0001-P	M
	2 ⁵ / ₁₆	65	3	2	51	%	16	Nitrile	Brass**	4598-0003-P	M
	2 ⁵ / ₁₆	65	6	2	51	%	16	Nitrile	Brass**	6056-0003-P	M
	2 ⁵ / ₁₆	65	7	1 ¹ / ₁₆	36.5	%	16	Neoprene	Brass	11979-0001-P	M
	2 ⁵ / ₁₆	65	7	3	76.2	%	16	Neoprene	Brass	17018-0001-P	M
9	3 ³ / ₁₆	95	7	2 ¹ / ₂	63	1	25.4	Neoprene	Brass	836-0001-P	O
	3 ³ / ₁₆	95	7	2 ¹ / ₂	63	1	25.4	Nitrile	Brass	836-0003-P	O
	3 ³ / ₁₆	95	7	2 ¹ / ₂	63	1	25.4	Natural Rubber	Brass†	836-0008-P	O
	3 ³ / ₁₆	95	7	3 ¹ / ₂	88.9	1	25.4	Neoprene	Brass	6760-0001B	O
	3 ³ / ₁₆	95	7	3 ¹ / ₂	88.9	1	25.4	Nitrile	Brass	6760-0003-P	O
	4 ¹ / ₁₆	118	7	3 ¹ / ₂	88.9	1	25.4	Neoprene	Brass	17240-0001B	R
	4 ¹ / ₁₆	118	5	3 ¹ / ₂	88.9	1	25.4	Neoprene	Plastic	18786-0001B	R
	4 ¹ / ₁₆	118	7	3 ¹ / ₂	88.9	1	25.4	Neoprene	Brass	18789-0001	R

Section Table by Dimensions

Upgrade to a Jabsco Impeller

Impeller Replacement

Impeller Replacement

Number of Blades	Dimensions		Drive Type	Shaft Dimensions				Material	Insert Material	Impeller	
	Diameter			Diameter		Width				Number	Type
	in	mm		in	mm	in	mm				
10	2 1/8	66	7	2 1/8	68	3/8	16	Neoprene	Brass	31130-0061-P	CC
	1 3/4	40.5	4	3/4	19	3/8	8	Neoprene	Plastic*	9200-0011B	F
	1 3/4	40.5	4	3/4	19	3/8	8	Nitrile	Plastic*	9200-0003B	F
	1 3/4	40.5	4	3/4	19	3/8	8	Neoprene	Brass	9200-0021B	F
	1 3/4	40.5	4	3/4	19	3/8	8	Nitrile	Brass	9200-0023-P	F
	2 1/4	57	7	2	51	3/8	16	Neoprene	Brass	18777-0001-P	HH
	2	51	1	3/4	22	3/8	12	Neoprene	Brass	18653-0001-P	I
	2	51	1 or 2	3/4	22	3/8	12.7	Neoprene	Brass	18673-0001-P	I
	2	51	1 or 2	3/4	22	3/8	12.7	Nitrile	Brass	18673-0003-P	I
	2 1/4	57	7	1 1/4	31.5	3/8	12.7	Neoprene	Brass	3085-0001-P	L
	2 3/8	65	7	2	51	3/8	16	Neoprene	Brass	17937-0001-P	Y
	2 3/8	65	7	2	51	3/8	16	Nitrile	Brass	17937-0003-P	Y
	2 3/8	65	4	2	51	3/8	19	Neoprene	Brass	17954-0001-P	Y
	2 3/8	65	6	2	51	3/8	16	Neoprene	Brass	17956-0001-P	Y
2 3/8	65	3	2	51	3/8	16	Neoprene	Brass	18327-0001-P	Y	
12	3 1/4	82.5	3	2 3/8	73.4	1 1/8	21	Neoprene	Brass	18958-0001-P	GG
	2 1/4	57	7	1 1/4	31.5	3/8	16	Neoprene	Brass	1210-0001-P	K
	2 1/4	57	7	1 1/4	31.5	3/8	16	Nitrile	Brass	1210-0003-P	K
	2 1/4	57	3	1 1/4	31.5	3/8	16	Neoprene	Brass	4568-0001-P	K
	2 1/4	57	3	1 1/4	31.5	3/8	16	Nitrile	Brass	4568-0003-P	K
	2 1/4	57	6	1 1/4	31.5	3/8	12.7	Neoprene	Brass	5929-0001-P	K
	2 1/4	57	6	1 1/4	31.5	3/8	12.7	Nitrile	Brass	5929-0003-P	K
	2 1/4	57	7	1 3/8	48.4	3/8	16	Neoprene	Brass	13554-0001-P	K
	2 1/4	57	5	1 1/4	31.5	3/8	16	Neoprene	Plastic	14281-0001-P	K
	2 1/4	57	7	2	51	3/8	16	Neoprene	Brass	22120-Series	K
	3 1/4	95	5	3 3/8	88.9	1	25.4	Neoprene	Plastic	17370-0001-P	Q
	3 1/4	95	7	2 3/8	63	1	25.4	Neoprene	Brass	17935-0001-P	Q
	3 1/4	95	7	3 3/8	88.9	1	25.4	Neoprene	Brass	17936-0001-P	Q
	3 1/4	95	7	3 3/8	95	1	25.4	Neoprene	Brass	17938-0001-P	Q
	2 3/8	62	3	1 1/4	31.5	3/8	16	Neoprene	Brass	18838-0001-P	W
	2 3/8	65	3	1 1/4	41.4	3/8	16	Neoprene	Brass	18948-0001-P	X
3 3/8	77	5	3	76.2	1 1/8	20	Neoprene	Brass	30919-0001	Z	
13	5	127	7	4	101.6	1 1/4	38	Neoprene	Brass	2999-0001B	U

Jabsco impellers are perfect replacements in other makes of bronze flexible impeller pumps such as Johnson, Yanmar, Sherwood, Yamaha, Mercruiser, Vetus, Ancor and CEF. The following cross reference chart identifies the Jabsco impellers that will serve as direct replacements. They will produce the same flow rate and will also provide the quality and long life expected from a genuine Jabsco impeller. If your impeller is not listed here, try following the impeller identification procedures on page 133.

Jabsco	Volvo	Yanmar	Yamaha	Johnson	Sherwood	Vetus	Mercruiser	Crusader	Ancor	CEF	Oberdorfer	Onan	Perkins USA
653-0001				09-810B		IMP00801				500101			
673-0001	804696 / 897055 / 875808-8			09-1026B						500116			
673-0003				09-1026B-9						500216			
836-0001				09-1029B		IMP00901			J050005	500105			
836-0003				09-1029B-9					J050405	500205			
920-0001	801277 / 825941 / 877061-2			09-1028B					500106				
920-0003										500206			
1133-0001				09-1028B-9					J050001				
1210-0001	860203 / 3856039-7 / 875811-2	129470-42530		09-1027B		IMP00201			J050007	500107		132-0162	0460038
1210-0003				09-1027B-9					J050407	500207			
3085-0001													24880190
4528-0001	803729 / 875807-0 / 876554-7	104211-42070		09-806B	9979	IMP00501			J050010	500100		132-0859	24990272
4528-0003										500201			
4568-0001	831182 / 875575-3	124310-46090		09-801B						500108			
4568-0003										500208			
4598-0001										500102	6603		
4598-0003										500202			
6303-0001										500110	6617		
6303-0003				09-824P					J050011	500210			
6760-0001				09-802B					JP50015	500145			
6760-0003										500245			
13554-0001				09-812B									
17935-0001	875660 / 875736-1 / 825942 / 807904			09-819B							J050035	500135	7054
17935-0003				09-819B-9						J050435			
17936-0001	875814-6 / 875697 / 845796 / 844683 / 842857			09-814B		IMP00801			J050045	500145			0460027
17937-0001	801277 / 825941 / 877061-2	127610-42200		09-1028B	18200	IMP00301			J050009	500114	7441		0460024 / 24880031
17937-0003													
17954-0001*							47-59362			500214			
18327-0001					15000								
18673-0001													24880194
18838-0001	835512-5		YSC-101-03-01-0C		9959			1003026	J050003	500103		132-0117 / 24880178	NA900010 /
18948-0001	835874-9		6TA-12457-00		10615			20300	J050020	500120	8922		NA900012
18958-0001					17000								
21414-0001		128170-42070							J050013	500113			
22120-0001	834794 / 876120-7								J050022	500104			
22405-0001	875583-7 / 833995			09-808B		IMP00601			J050021	500121			
22799-0001		124223-42091				IMP00101			J050016	500129			
31130-0061								47-83131350					

*Has single flat drive not spline



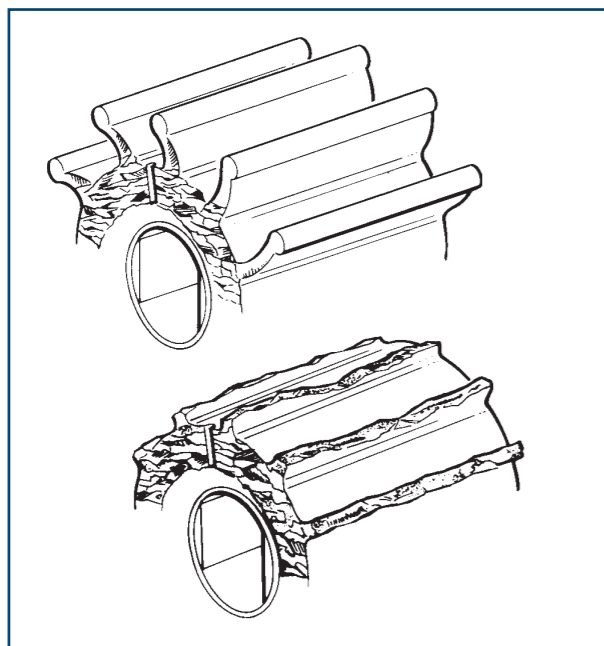
Flexible Impeller Removal Tool

The Flexible Impeller Removal Tool is the easiest way to remove impellers, especially when the pump is mounted in tight and cramped conditions.

- Simple three stage operation easily removes the impeller.
- Removes the risk of expensive damage to the pump.
- Manufactured from corrosion resistant cast aluminum and stainless steel.
- Two models fit all impellers.

Size: 6" x 1" x 8" max (15cm wide x 2cm deep x 20cm high).
Weight: 1.1lb (0.5kg).

- 50070-0040** Suitable for impellers up to 2 1/2" (65mm) diameter.
- 50070-0200** Suitable for impellers from 2 1/2" (65mm) to 4 1/2" (118mm) diameter.
- 50070-0080** Compact version suitable for impellers up to 2 1/4" (57mm) diameter.

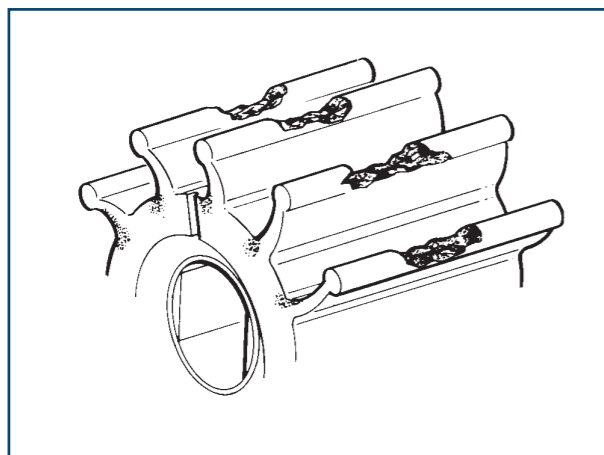


Trouble Shooting 1

- Symptoms:**
- End faces hard and either polished or cracked, like carbon.
 - Some or all blades completely missing.

- Cause:**
- Dry running, lack of water in pump.
 - Temporary suction blockage.
 - Leaking suction plumbing.

- Remedy:**
- Do not run pump for more than 20 seconds without liquid.
 - Install a liquid sensor/temperature alarm.
 - Check suction plumbing, strainers, and thru-hull fittings for blockages and leakage.
 - Arrange discharge plumbing to trap liquid in the pump.

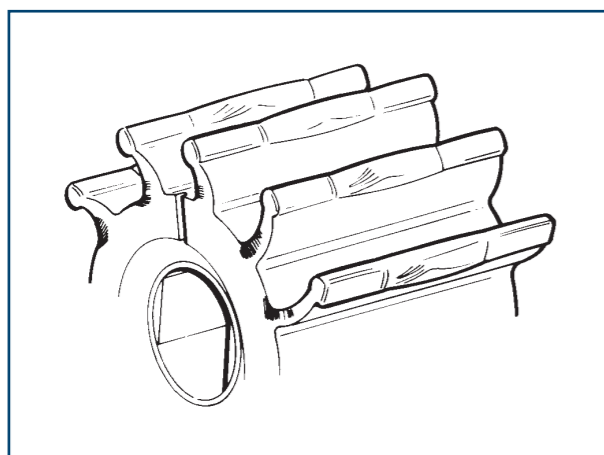


Trouble Shooting 2

- Symptoms:**
- Pieces missing from the middle of blade tips.
 - Blade edges are hollowed out.
 - Pitting is evident on cam and the inside of pump ports, and on ends of impeller.

- Cause:**
- Cavitation, i.e. too much vacuum on inlet is causing water to boil inside pump.

- Remedy:**
- Reduce pump speed.
 - Increase inlet plumbing diameter.
 - Reduce inlet plumbing length and remove unnecessary restrictions.
 - Reduce cam thickness.



Trouble Shooting 3

- Symptoms:**
- Worn blade tips, cam imprint on edges.
 - Worn end faces.
 - Worn impeller drive and shaft wear.

- Cause:**
- Abrasive wear from fluid in pump.
 - Heat exchanger/cooler blockage.
 - High discharge pressure.

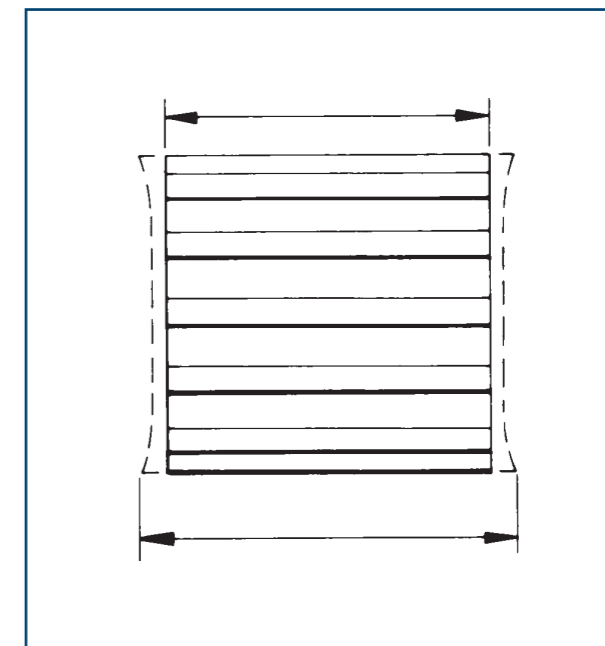
- Remedy:**
- Check discharge plumbing for partial blockages.
 - Increase discharge pipe diameter.

Trouble Shooting 4

- Symptoms:**
- Impeller appears to have swollen.
 - Blades appear wider than impeller hub.
 - Rubber may feel sticky.

- Cause:**
- Chemical attack, more common with oily bilge water or diesel transfer.

- Remedy:**
- Ensure impeller is rinsed after use.
 - Remove impeller when not in use.
 - Remove impeller for long term storage.

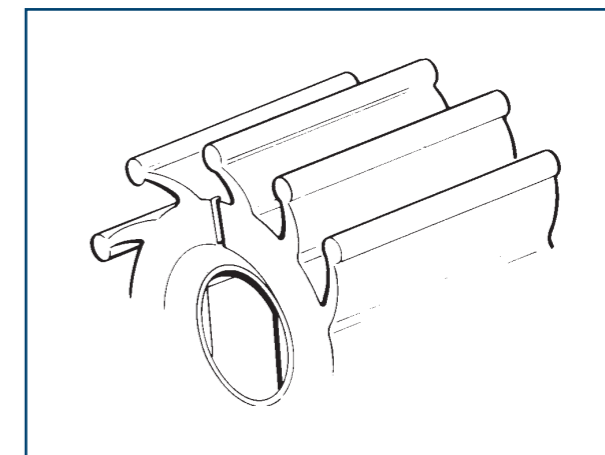


Trouble Shooting 5

- Symptoms:**
- Blades have some or severe permanent set.

- Cause:**
- Normal use of impeller.
 - Long term storage in pump.
 - Normal end of impeller life.

- Remedy:**
- Refit impeller to rotate in opposite direction.
 - Remove impeller for long term storage.
 - Replace impeller.



Trouble Shooting 6

- Symptoms:**
- Blades cracked about half way up the length.
 - Some of blades missing.
 - Reduced flow.

- Cause:**
- Normal end of impeller life.
 - High discharge pressure.

- Remedy:**
- Replace impeller, check for impeller pieces in discharge plumbing.
 - Reduce outlet restrictions or increase outlet plumbing diameter.

