

## PROCEDURES FOR REHUBBING PROPELLERS

### **HUB INSPECTION:**

Always check the hub in the propeller prior to any propeller repair work. If the hub were bad, you would replace the hub first. Care should be taken to prevent injury, as a great deal of pressure is necessary to perform this operation.

### **EQUIPMENT NEEDED:**

- A hydraulic, air or electric press as preferred, rated at 10 tons or better. **Be sure the press ram is square with the press table.**
- The proper installation funnels, drivers and propeller supports.
- Lubricant- Several lubricants work well. Whatever lubricant is used, it must be water-soluble and should not contain any petroleum additives. The petroleum additives will deteriorate the rubber and cause failure.
  - P-80 Rubber Lube, supplied by McDurmon Distributing
  - McDurmon 6000 Hub Lube
  - Propco P-100 Hub Lube
  - Liquid Dish Soap and isopropyl alcohol mixed in 1:1 solution.

### **SUGGESTIONS TO MAKE INSTALLATION EASIER:**

- Soak new hubs in hot water, approximately 180 degrees Fahrenheit, for a few minutes. This does not harm the hub and will enable the hub to compress with less pressure.
- In cold weather, the prop can be soaked in warm water. This prevents cracking the hub bore under pressure.
- For a hub with a cast flange on top, bevel the rubber below the flange approximately 3/16 of an inch at a 45-degree angle. This helps prevent the rubber from pinching between the flange and hub bore during installation.
- When replacing glue in style hubs, heat the prop bore with a torch to help melt the epoxy. Then press the old hub out. If the aluminum liner won't press out of the propeller, use a die grinder and carbide burrs to grind a slot down the liner. Then pry the sleeve out.

### **HOW TO IDENTIFY DAMAGED HUBS:**

- Check for burnt or frayed rubber.
- If the hub has a cast flange and the rubber is not visible, you will notice brightly colored areas on the hub or the hub bore.

### **PROCEDURE:**

If it is determined that the hub is bad, use the following procedure to press the old hub out.

- Place the propeller on the correct insertion funnel (measure the bore), and push the old hub out using a knock out approximately the same diameter as the hub spline. If the spline pushes out and the rubber stays in the propeller, cut the rubber in two or three segments and pry the rubber out.
- Inspect the propeller bore for damage, casting flaws, or an out of round hub bore. If the bore is out of round or any cracks or casting flaws are found, the propeller should be replaced -- not the hub.
- Clean the bore by glass beading or with solvents that will remove any residue from the bore.

- Use the proper support under the propeller; do not set the propeller on the diffuser ring to press the hub. The propeller needs to have support under the hub bore. Be sure the blade tips are not touching the press.
- Select the correct insertion funnel and hub driver to be used. Line the funnel up with the propeller bore. If a hub hold down fixture is being used, install now.
- **Lightly** lubricate the hub, **DO NOT OVER LUBRICATE**. Too much lubricant can cause the insertion funnel to pop up too early, and cause the rubber to balloon out larger than the bore. More drying time is required.
- Insert the lubricated hub into the insertion funnel and slip the proper hub driver into the hub. Slide the propeller under the press ram. Press the hub into the propeller. You will know when the hub is in place when you can rotate the funnel with your hand. Be sure the new hub is pressed in as far as the old hub had been.
- **DO NOT USE PROPELLER FOR AT LEAST 24 HOURS**. All propeller work and hub replacement should be done at the customer's risk. Breakage of the propeller can occur and is usually caused by brittle or fatigued metal or casting flaws.

#### SUPPLIERS OF RUBBER HUBS:

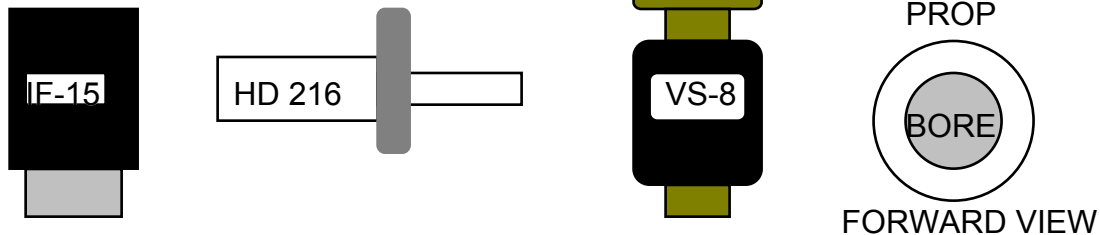
PROPCO Marine Propellers, Inc.  
P.O. Box 662  
Monroe, GA 30655  
(800) 235-7968 Fax (770) 267-0488  
Outside U.S. (770) 267-9425

McDurmon Distributing, Inc.  
G-12238 Fenton Rd.  
Fenton, MI 48430  
(800) 621-4130 Fax (810) 750-0188  
Outside U.S. (810) 750-0411

HMS Hubs, Inc.  
1474 S. Parker  
Marine City, MI 48039  
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Outside U.S. (810) 765-8311

For additional information regarding insertion tools or procedures please contact:

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## Rehubbing Procedures - Attached Chart 1

Chart 1 (only some of the common hubs listed, check with suppliers.)

IF NO.	BORE	HD.	COLLAR USED	OEM	AFTER	PROPELLER STYLE
IF-1	1 1/8	220	7/16 X 1 X 1	94218	101, VS-01	20 HP MERCURY
IF-2	1 1/4	221	5/8 X 1-1/4 X 1	M83872M	265, VS-44	28 HP MARINER, 25-30 YAMAHA
IF-3A	1 13/16	213	7/8 X 1-3/4 X 1	386787	241, VS-25	OMC 50 - 70 HP SM. GEAR CASE
IF-3	1 3/4	213	7/8 X 1-3/4 X 1-1/2	C62999	377, VS-34	MERC 40 - 50 HP 1970 - 1973
IF-3	1 3/4	213	7/8 X 1-3/4 X 2	43676	264, VS-15	MERC 40 - 70 HP TWO PIN HUB
IF-3	1 3/4	213	7/8 X 1-3/4 X 1	C32053	135, VS-2	MERC 30 -50 HP 11 SPLINE
IF-3	1 3/4	222	NO COLLAR	19669	VS-42	MERC 20/25 HP 1989 & UP
IF-3	1 3/4	213	7/8 X 1-3/4 X 2	6634598110	VS-32	YAM/TOHATSU/ SUZUKI 40-65 HP
IF-3	1 3/4	213	7/8 X 1-3/4 X 1-1/2	62999	205, VS-34	MERC/FORC/MAR/SUZ/NIS/YAM
IF-4	1 1/2	212	1-3/16 X 1-1/2 X 1	386638	251, VS-26	OMC 25-30 HP THRU HUB
IF-5	1 5/8	212	1-3/16 X 1-1/2 X 1	375789	126, VS-9	OMC GALE 20-40 HP PIN
IF-5	1 5/8	212	1-3/16 X 1-1/2 X 1		164, VS-6	CHRYSLER/FORCE PIN &
IF-6	2 1/8		USE OLD HUB FOR DRIVER	NO FUNNEL NEEDED	156, 225	OMC MODEL 14 I/O,
IF-7	2 1/4	216	1 X 2-1/4 X 1	43647	VS-17	MERCURY SQUARE HUB
IF-7	2 1/4	216	1 X 2-1/4 X 1		295, VS-30	MICHIGAN VOLVO LONG
IF-7	2 1/4	215	NO COLLAR		VS31,	TURBO AFTER MARKET V6
IF-7	2 1/4	216	1 X 2-1/4 X 1	76945	268,321,331 VS-14	MERC/YAMAHA 110-280 HP
IF-7	2 1/4	216	1 X 2-1/4 X 1	97854	276,322,329 VS-16	MERCURY, TROPHY,
IF-8	2 1/2	216	1 X 2-1/2 X 1	387157	254, VS-11	OMC V6 FOOTBALL HUB
IF-8	2 1/2	216	1 X 2-1/2 X 1	3850325	380, VS-47	VOLVO SX HUB
IF-9	1	223	5/8 X 1 X 1	42630	185, VS-19	MERC 7.5 - 10 HP
IF-10	2 3/4	217	1-1/2 X 2-3/4 X 1	47114		MERC III 23 SPLINE
IF-10	2 3/4	217	1-1/8 X 2-3/4 X 1	43636	310, VS-4	MERC TR215, BRAVO11
IF-11	3"	217	1-1/8 X 2-3/4 X 1		155, VS-7	VOLVO 270, VOLVO 280
IF-11P		217P	1-1/8 X 3-1/4 X 1		P228	VOLVO LONG HUB
IF-12	1 3/16	211	5/8 X 1-3/16 X 1	386119	234, VS-20	OMC 9.9-15 HP THRU HUB
IF-13	1.4	219	NO COLLAR	382116	098, VS-18	OMC 10/25 HP PIN DRIVE
IF-13	1.4		USE OLD HUB	389281	281, VS-21	OMC 25 HP SPLINE
IF-14	1 7/16	222	NO COLLAR	43549	308, VS-03	MERC 18-25 HP
IF-15	2 1/4	214	1 X 2-1/4 X 1	384977	172, VS-5	OMC V-4
IF-15	2 1/4	214	1 X 2-1/4 X 1		VS-5T	TURBO OMC V-4
IF-15	2 1/4	216	1 X 2-1/4 X 1	68745	134, VS-8	MERC O/B & I/O PRIOR '79
IF-15	2 1/4	215	NO COLLAR	91850	257, VS-12	MERC/MARINER/YAMAHA
IF-15	2 1/4	216	1 X 2-1/4 X 1		362,330 VS13	FORCE/CHRYSLER/MERC
IF-15	2 1/4	215	NO COLLAR		342, VS-35	SUZUKI V-6
IF-15	2 1/4	216	1 X 2-1/4 X 1	6G545918	VS33	YAMAHA V-6
IF-16	3 1/4	224		872464-3	VS38	VOLVO DUO AL
IF-17	3 1/4	224		872463-3	VS-38	VOLVO DUO S/S RH
IF-18	3 1/4	224		872464-5	VS-39	VOLVO DUO S/S LH
IF-19	2 1/16	214	1X2X1	176228		RENEGADE V-4
IF-20	3 7/8	KIT	KIT	3851258	3851259	VOLVO DUO F SERIES

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