HYDRAcap® Module Assembly Procedure

This Technical Service Bulletin is related to installing and removing end caps on HYDRAcap® modules.

Introduction

When HYDRAcap® fiber integrity loss is detected, the isolated module needs to undergo bubble testing to enable fiber repair. To perform this test, the module is removed from the skid and module end caps must be detached. This same procedure should be followed when implementing o-ring or end cap replacements. Due diligence is required to prevent part damage and ensure pressure vessel integrity.

TSB 136.02 recommends two people for lifting and carrying modules. The estimated time for removal and installation of end cap and related components is approximately 15 minutes per module.

Tools Needed:

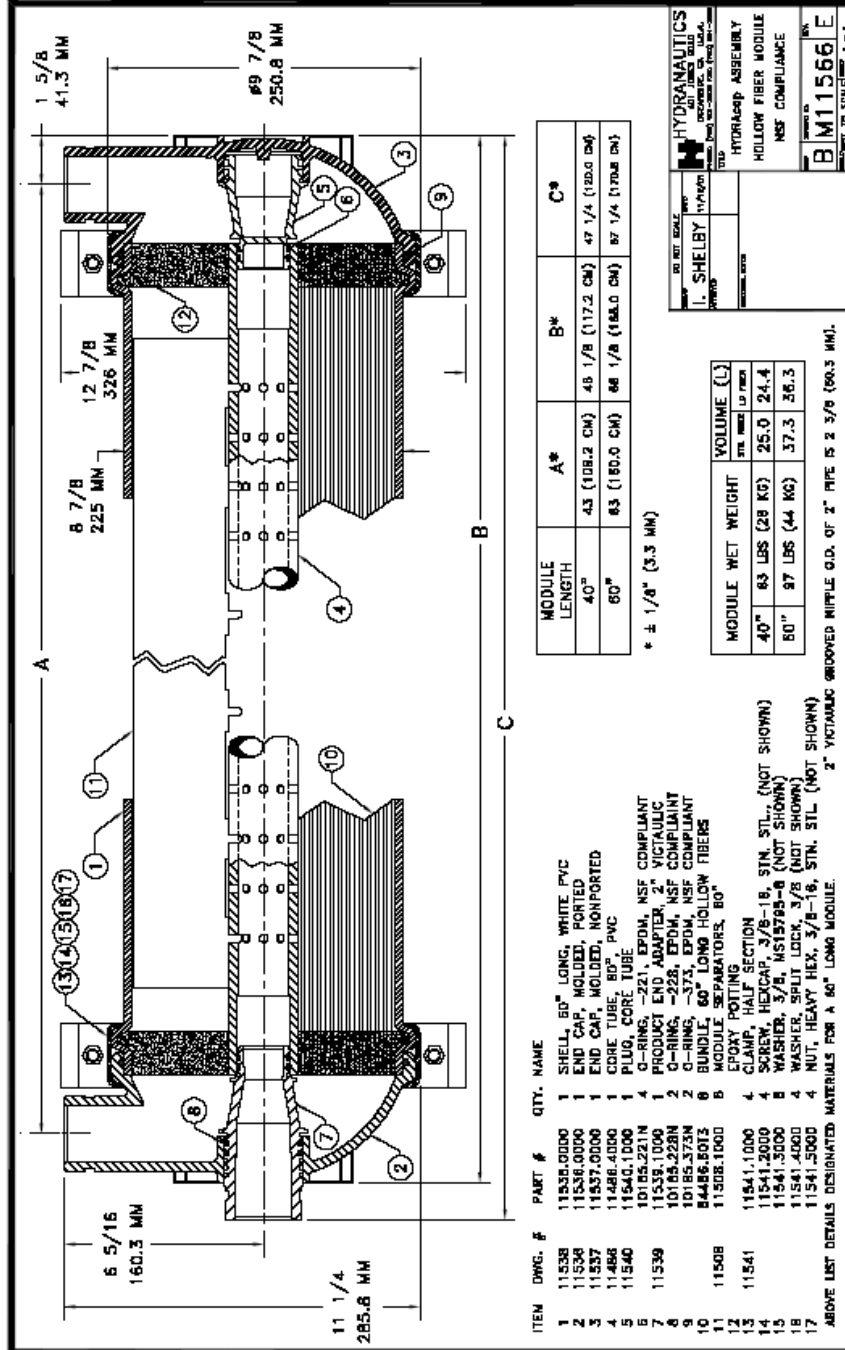1. Rubber Mallet
2. Crescent Wrench
3. 9/16" Wrench

To Dismantle Module:

1. Stop HYDRAcap® UF system.
2. Release system pressure.
3. Drain rack
4. Disconnect Victaulic clamps from all module ports then drain module.
5. Release vessel from frame brackets and remove module from skid.
6. Vertically place module on ground upon a flat smooth surface.
7. Remove bolts, washers, split washers and nuts from stainless steel clamp half Sections (Part #11541.1000) at both top and bottom of Module.
8. Disconnect clamp half sections from module.
9. Grasp ported end cap (Part #11536.0000) with both hands. Using short rotations and forcing upwards, disconnect end cap from shell. Although a rubber mallet may be used to assist in end cap removal, do not use any metallic tools,. Shell and end cap are made from plastic and irreversible damage on sealing surfaces may occur.

10. Remove product end adapter (Part #11539.1000).
11. Turn module upside down.
12. Grasp non-ported end cap with both hands (Part #11537.0000). Using short rotations and forcing upwards, disconnect end cap from shell. Although a rubber mallet may be used to assist in end cap removal, do not use any metallic tools. Shell and end cap are made from plastic and irreversible damage on sealing surfaces may occur.
13. Remove bottom core tube plug (Part #11540.1000).
14. Module is now completely disassembled.

To Assemble Module:
1. Gather all parts needed for assembly.
2. Thoroughly clean all surfaces that contact o-ring.
3. Visually check all o-rings for damage. If required, replace damaged o-rings.
4. Apply lubricant over all o-ring surfaces.
5. Engage core tube plug (Part #11540.1000) into core tube.
6. Slide non-ported end cap (Part #11537.0000) onto module by pushing down and twisting until seated to shell. Since o-ring seals tightly, use a rubber mallet to strike end cap on the raised fin-like supporting sections to assist engagement. Do not use excessive force. Frequently check alignment of both parts.
7. Attach stainless steel clamp half sections (Part #11541.1000). If end cap is correctly oriented, then clamp half Sections should fit easily over end cap and whell. Attach bolts, washers, split washers and nuts. Use appropriate tools to **partially** tighten clamps.
8. Turn module upside down.
9. Attach product end adapter (Part #11539.1000).
10. Slide the remaining ported end cap (Part #11537.0000) onto module by pushing down and twisting until seated to Shell. Since o-ring seals tightly, use a rubber mallet to strike end cap on the raised fin-like supporting sections to assist engagement. Do not use excessive force. Frequently check alignment of both parts.
11. Attach stainless steel clamp half sections (Part #11541.1000). If end cap is correctly oriented, then clamp half sections should fit easily over end cap and shell. Twist bottom and top end caps to achieve proper side port vertical alignment. attach bolts, washers, split washers and nuts. Use appropriate tools to **completely** tighten **upper** and **lower** clamp half Section assemblies.
13. Module is completely and securely assembled.

MODULE LENGTH	A*	B*	C*
40"	43" (109.2 CM)	46 1/8 (117.2 CM)	47 1/4 (120.0 CM)
60"	63 (160.0 CM)	66 1/8 (168.0 CM)	67 1/4 (170.8 CM)

* ± 1/8" (3.3 MM)

MODULE LENGTH	WET WEIGHT	VOLUME (L)		
		STR. SIDE	LP FIBER	
40"	63 LBS (28 KG)	25.0	24.4	
60"	97 LBS (44 KG)	37.3	36.3	

2" VICTAULIC GROOVED NIPPLE O.D. OF 2" PIPE IS 2 3/8 (60.3 MM).

ITEM	DWG. #	PART #	QTY.	NAME
1	11535	11535.0000	1	SHELL, 60" LONG, WHITE PVC
2	11536	11536.0000	1	END CAP, MOLDED, PORTED
3	11537	11537.0000	1	END CAP, MOLDED, NONPORTED
4	11486	11486.4000	1	CORE TUBE, 60", PVC
5	11540	11540.1000	1	PLUG, CORE TUBE
6		10155.221N	4	O-RING, -221, EPDM, NSF COMPLIANT
7	11539	11539.1000	1	PRODUCT END ADAPTER, 2" VICTAULIC
8		10155.228N	2	O-RING, -228, EPDM, NSF COMPLIANT
9		10155.373N	2	O-RING, -373, EPDM, NSF COMPLIANT
10		84486.6013	8	BUNDLE, 60" LONG HOLLOW FIBERS
11	11508	11508.1000	8	MODULE SEPARATORS, 60"
12				EPOXY POTTING
13	11541	11541.1000	4	CLAMP, HALF SECTION
14		11541.2000	4	SCREW, HEXCAP, 3/8-16, STN. STL., (NOT SHOWN)
15		11541.3000	8	WASHER, 3/8, MS15795-6 (NOT SHOWN)
16		11541.4000	4	WASHER, SPLIT LOCK, 3/8 (NOT SHOWN)
17		11541.5000	4	NUT, HEAVY HEX, 3/8-16, STN. STL. (NOT SHOWN)

ABOVE LIST DETAILS DESIGNATED MATERIALS FOR A 60" LONG MODULE.

HYDRANAUTICS
HYDRAcap® ASSEMBLY
HOLLOW FIBER MODULE
NSF COMPLIANCE

I. SHELBY

B M11566 E

1 5/8 / 41.3 MM
⌀9 7/8 / 250.8 MM
12 7/8 / 326 MM
8 7/8 / 225 MM
6 5/16 / 160.3 MM
11 1/4 / 285.8 MM