

JML:
SCOPE OF WORK

For
PURCHASE AND SHIPMENT

Consisting of:

TWO (2) EA LOCK ASSY., B434-2650 A1
at

CONTRACTED VENDOR'S FACILITY AND SHIPPED VIA VENDOR PREFERRED SHIPPING COMPANY

References:

1. B434-2650 (596-7410825)
2. S9074-AR-GIB-010/278 (A)
3. MIL-STD-22D
4. TVD ERMG00012
5. TVD ERMG00178

1. GENERAL:

1.1 The contractor shall provide all management, tools, supplies, equipment, labor to perform engineering and manufacturing services to deliver the above mentioned equipment within the confines of specifications as defined in this Statement of Work except those items specified as Government furnished property and services.

2. SCOPE OF WORK:

2.1 Contractor will build QTY. 2 EA Lock Assy. (A1) in accordance with Ref. (1), Ref (2), and Ref (3) while providing verification of weld quality and satisfactory hydrostatic test completion record. Required material listing in Ref. (1) [as corrected by Ref (4) and Ref (5)], sufficient for the construction of 2EA A1 Lock Assemblies will be provided by PSNS. Ref (4) and Ref (5) are provided to correct starting material requirements for fabrication of A1 Lock Assembly. The following Ref (1) parts will not be included and are not required to be part of the delivered assembly: Flange assemblies (Ref 1, Pc 28 & Pc 29) and Nut, Special Hex (Ref 1, Pc 42).

3. DELIVERABLES:

3.1 Deliverable No. 1: Certificate of Compliance of weld NDT results

- a. Verification of all welds via Non-Destructive Testing (NDT) per reference (2), Table IX for Piping and Table X for Class A pressure vessels.
- b. Contract Data Requirement List (CDRL) DI-MISC-81356A Certificate of Compliance

3.2 Deliverable No. 2: Hydrostatic Test Results

- a. At time of delivery, Contractor shall submit to the Government satisfactory hydrostatic test result per Enclosure (1).
- b. Contract Data Requirement List (CDRL) DI-QCIC-82089 Hydrostatic Testing

3.3 Deliverable No. 3: QTY 2 A1 Lock Assemblies

- a. Contractor shall deliver QTY 2 EA, A1 Lock Assemblies, manufactured per Ref (1), Ref (2), Ref (3), Ref (4) and Ref (5), to the shipping address provided in para 10.

4. **WARRANTY.**

The warranty period for equipment manufactured and supplied by the company will be within a twelve-month period from delivery date of the equipment to the original purchaser by the company or by an authorized representative.

5. **CONTRACTOR FURNISHED MATERIAL.**

The Contractor is to furnish all material and labor as well as any HAZMAT and tooling necessary to complete the Lock assemblies described above, unless material is listed in para. 8 Government Furnished Materials.

6. **CERTIFICATE OF COMPLIANCE.**

PSNS&IMF –or- Contractor is responsible for quality assurance.

6.1 The following Certification records shall be supplied to PSNS & IMF for approval and certification review. Certification/Data Report documentation shall be attached in the Wide Area Workflow (WAWF) e-BusinessSuite. Upon submission in WAWF send email notifications to: PSNS.WAWFQACertification.FCM@navy.mil. Certificate of Compliance shall verify the following:

- a. NDT requirements have been met for all weld joints on the components. NDT shall be performed per requirements in Reference (2) Table X for Class A-2 complete penetration welds and Table IX for a P-1 Piping Class as applicable.
- b. Verification that components have been manufactured within tolerances as specified in References (1), (2), (3) and (5). Note: Only the fabrication notes in Reference (5) shall be adhered to.

7. **HYDROSTATIC PRESSURE TESTING:**

Each Lock Assembly shall be Hydrostatically pressure tested as outlined in Enclosure (1). A record of production testing parameters with test results shall be recorded. A copy of the Hydraulic test results for each Lock Assembly shall be supplied to the customer.

7.1 Test the cylinder for strength, porosity and tightness of seals with the cylinder completely assembled. Apply pressurized MIL-PRF-17672, Symbol 2075-T-H hydraulic oil to each port one at a time with the remaining ports open. For each test maintain the pressure for 10 minutes and inspect the cylinder the cylinder and open ports for leakage. No internal or external leakage, in accordance with Reference (1). No permanent deformation allowed. See enclosure 1 for testing procedure and datasheet.

8. **GOVERNMENT FURNISHED MATERIALS.**

See Enclosure (2)

9. **SECURITY REQUIREMENTS.**

All references and deliverable items associated with this task are unclassified for release to DOD and DOD contractors only. There are no other known requirements for access to restricted areas or information connected with the performance of this task.

10. **SHIPPING ADDRESS.** Shipping address of acquisition materials for direct delivery to DOD installation shall be to the following location:

Puget Sound Naval Shipyard
Receiving Officer, Building 514
1400 Farragut Ave Bldg. 514
Bremerton WA 98314

11. **TECHNICAL POINT of CONTACT.**

Primary: Ben Rogge C/120x.T1 360-627-5104 benjamin.l.rogge.civ@us.navy.mil

Secondary: Matthew Wojnoski C/120X.1 360-627-4207
matthew.l.wojnoski.civ@us.navy.mil

12. **GOVERNMENT SURVEILLANCE OFFICER.**

Any items concerning contractual requirements or funding must be addressed to the Contracting Officer as well as the Surveillance Officer.

Primary: Wayne M. Booher, C/127.2 360-627-5249
Wayne.m.Booher.civ@us.navy.mil

Enclosure 1

B434-2650 A1 CYLINDER HYDROSTATIC TEST PROCEDURE

Test Requirements: Test the cylinder for strength, porosity and tightness of seals with the cylinder completely assembled. Apply pressurized MIL-PRF-17672, Symbol 2075-T-H hydraulic oil to each port one at a time with the remaining ports open to atmosphere as shown in below table. For each test maintain the pressure for a minimum of 10 minutes (plus duration of inspection) and inspect the cylinder and open ports for signs of internal leakage.

Pressurized Port	Open Ports (atmosphere)	Test Pressure	Minimum Duration
C1	C2 & LO	4500 +50/0 PSI	10 minutes
C2	C1 & LO	4500 +50/0 PSI	10 minutes
LO	C1 & C2	4500 +50/0 PSI	10 minutes

Acceptance Criteria: No internal or external leakage is allowed. No permanent deformation allowed.

B434-2650 A1 Cylinder # 1 Hydrostatic Strength Test Data Sheet

Unit Serial Number:									
Cylinder Port	Required Pressure	Start Pressure	End Pressure	Required Hold Time	Start Time	Stop Time	Total Hold Time	Allowable Leakage	Actual Leakage
C1	4500 +50/0 PSI			10 minutes				None	
C2	4500 +50/0 PSI			10 minutes				None	
LO	4500 +50/0 PSI			10 minutes				None	
Post Test Inspection Notes:									
Post Test Assembly Inspection (no permanent deformation allowed):					SAT / UNSAT	Initials		Date	
Leakage Test Results (no internal or external leakage allowed):					SAT / UNSAT	Initials		Date	
Printed Name:					Signature:			Date:	

B434-2650 A1 Cylinder # 2 Hydrostatic Strength Test Data Sheet

Unit Serial Number:									
Cylinder Port	Required Pressure	Start Pressure	End Pressure	Required Hold Time	Start Time	Stop Time	Total Hold Time	Allowable Leakage	Actual Leakage
C1	4500 +50/0 PSI			10 minutes				None	
C2	4500 +50/0 PSI			10 minutes				None	
LO	4500 +50/0 PSI			10 minutes				None	
Post Test Inspection Notes:									
Post Test Assembly Inspection (no permanent deformation allowed):					SAT / UNSAT	Initials		Date	
Leakage Test Results (no internal or external leakage allowed):					SAT / UNSAT	Initials		Date	
Printed Name:					Signature:			Date:	

Enclosure 2

Government Furnished Material (GFM)

1. Supplied Raw GFM for manufacture

PART NAME/DESCRIPTION	For manufacture of Ref (1), Pc #	Quantity/Size (minimum supplied)	NIIN
NICU Plate 5.50" QQ-N-281 CL A Form 6 Cond-HF (AR)	1	32" x 24"	
NICU, Plate QQ-N-281 CL-A FM 6 AR, 1.50" thick	2	24" x 24"	
Sheet, Cold Rolled QQ-N-281 CL-A FM 4 ANL, .125" thick (modified per Ref 5)	3	120" x 42"	
Rod, Round ASTM-B150 UNSC63200	5	6" DIA x 10"	00-095-5677L1
Rod, QQ-N-286, Round 1.5" DIA FM 2, COND-ANL, AH FIN-B	7	1.5" DIA x 100"	00-512-2366L1
Rod, QQ-N-286 Round 1.5" DIA Form- 2, COND-ANL, AH FIN-B	8	1.5" DIA x 30"	00-512-2366L1
Plate, QQ-N-286, Plate 2" thick Form- 6, COND-HR, ANL, FIN-A	9	24" x 24"	N/A
Plate, 1" thick Delrin 100AF COND- Annealed	10	12" x 12"	N/A
Plate, QQ-N-281 CL-A FM 6(Plate) As Rolled, .187" thick	12	4" x 8"	00-234-2177
Plate, 1" THICK DELRIN 100AF COND- ANNEALED	16	12" x 12"	N/A
Plate, QQ-N-286 3.500" thick Form-6 COND-HR, ANL AH FIN-A	17	12" x 24"	N/A
Plate, 3.00" thick QQ-N-281, CL-A, Form-6 AR	27	24" x 24"	N/A
Tube, NICU, .840D x .187NOM, MIL-T- 1369 CL-A (Seamless, Cold Drawn, Annealed)	32, 33, 34, 35, 36	96"	N/A

2. Supplied GFM ready for Installation

PART NAME/DESCRIPTION	Ref (1). PC#	Minimum QTY supplied	NIIN
Screw, Cap SLFLKG Hex HD .375-16UNC-2Ax.750 1222 TY 1, 18240, 286	4	14	01-443-8483
Bushing, Guide Plastic Rod Delrin AF DE588	6	8	01-561-1875
Screw, Cap SLFLKG SCH FLH 82, FF-S-86 TY 4, 18240, MS18116 .375-16UNRC-3Ax1.250"	11	16	01-563-5763
Nut, Jam Hex NICU .375"-16UNC-2B 1222 TY 2 STY A or B	13	8	00-272-5698
Screw, Cap SLFLKG SCH CYL, 286, 1222 TY 2, 18240 .500"-13UNC-3A1.250	14	12	01-486-3892
Setscrew Half Dog PT Hex SOC SLFLKG ANSI-B18.3 for dim, FF-S-200, 286 .375"-16UNC-3A.625	15	8	01-456-2079
Piston, Rod B150 Temp-TQ50, FM Rod, UNSC63200	18	2	01-560-9200
Nut, SLFLKG Hex NICU, .750"-10UNC-3B, MS17828-12C	19	12	00-006-2250
Retainer, Packing MS27595-327	20	13	01-347-9861
Packing, Preformed, 4327-514VN	21	3	01-560-5570
Retainer, Packing MS27595-216	22	9	01-066-3936
Packing, Preformed, 4327-514VN	23	5	01-560-5570
Packing, Preformed, M83248/1-327	24	5	01-005-3213

PART NAME/DESCRIPTION	Ref (1). PC#	Minimum QTY supplied	NIIN
O-ring, M83248/1-211	25	3	01-549-1833
Retainer, Packing MS27595-211	26	5	00-395-2873
Tee, .500NPS SW, 281ANSI-B16.11	30	2	
Elbow .500NPS 90 SW ANSI-B16.11	31	4	
Wiper Ring SHD-1125, 1.125IDx1.500ODx.305 thick	37	3	01-560-5597
Fitting Lub, 90 degree elbow	38	2	00-172-0047
Screw, SHLDR SCH .750-10UNC-3A, 1.00DIA x 3.00L 286, MIL-S-21472, (MS18116, 1222 supersedes MS18116)	40	2	
Nut, SLFLKG Hex NICU, .750"-10UNC-3B, MS17828-12C	41	2	00-006-2250
Washer, Lock, Tab .375 nut size	43	4	01-339-6526