3.593-5.687 MODEL “B” LOCATOR SEAL NIPPLE

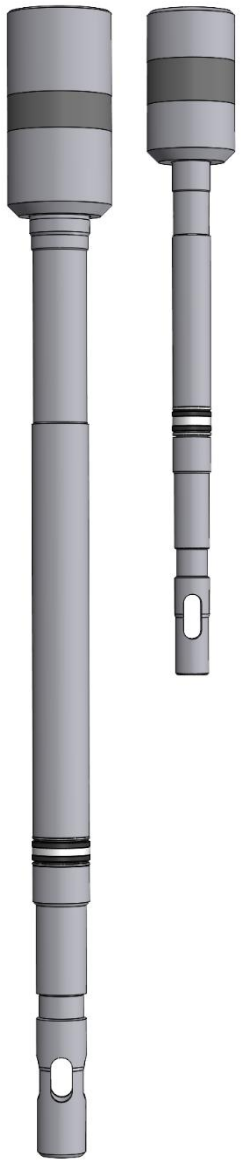
Alpha Model “B” Seal Locator Nipple is used in cementing operations and is designed to provide precise positioning into Alpha Model “B” Cement Retainers. The Seal Locator Nipple features a polished bore profile that allows a stinger equipped with a seal element to accurately locate the sliding valve within the Cement Retainer and establish a pressure-tight seal.

During cementing, the locator nipple assembly seals the stinger within the bore of the Cement Retainer, enabling the sliding valve to isolate the tubing string from the casing annulus. This configuration facilitates cement being pumped through the tubing, passing through the cement retainer, and being placed below the retainer while maintaining hydraulic isolation. The seal locator nipple ensures accurate stinger positioning, reliable sealing, and consistent engagement during multiple sting-in operations if needed.

This component is engineered to withstand the differential pressures typically encountered during cementing operations and is compatible with all Alpha Model “B” Cement Retainers. See table on page 3 for Alpha Model B Cement Retainer Compatibility.

Redress requirement.
The molded seal must remain in tolerance and *not* be cut or worn after trips. Disassembly is not required between runs on the same location, but is recommended upon returning to the shop and for redressing and installing a new molded seal. Compatibility is available from 4-1/2 to 20” casing size Cement Retainers. No moving parts and ease of operation make this tool a good addition to your line. Molded Seal can be upgraded to withstand temperature of 400 °F.

Part Number “LOCATOR SEAL NIPPLE”	Pressure Rating	Flow Area	Top Connection
017-3593-070	5,000 *psi*	.608 in^2	2-3/8” EUE BOX
017-5687-070	5,000 *psi*	1.230 in^2	2-7/8” EUE BOX



3593-5687 Model “B” Locator Seal Nipple illustration

GENERAL INFORMATION

1. Pre-Run Inspection
   - Verify the seal locator nipple internal bore and seal area are clean, free of debris, scale, or mechanical damage.
   - Inspect the polished sealing surface for scratches, corrosion, or galling that could compromise seal integrity.
2. Connection Make-Up
   - Apply appropriate thread compound to all threaded connections.
   - Torque connections according to API tubing recommended values.
3. Running in Hole
   - Run the assembly slowly through restrictions and casing collars to prevent damage to the external sealing surface.
   - Avoid excessive impact loads while running in hole.
   - Maintain proper centralization, to reduce wear on the stinger.
4. Stinging Into the Cement Retainer
   - Lower the tubing string slowly when approaching the expected landing depth.
   - Apply controlled weight to allow the stinger seals to enter the Retainer bore smoothly.
   - Avoid excessive set-down force that could damage the sliding valve inside the Retainer.
5. Pressure Testing
   - Once the stinger is landed, before opening sliding valve, conduct pressure test to verify hydraulic isolation before pumping cement.
   - Monitor pressure response to confirm sealing integrity.
6. Cementing Operation
   - Ensure differential pressure ratings for both the Cement Retainer and Locator Seal Nipple are not exceeded.
   - Once cementing begins, monitor tubing weight and pressure to prevent inadvertently closing the sliding valve prematurely.
7. Pulling Out of Hole
   - Slowly pull the stinger out of the nipple to avoid tearing or rolling the molded seal.
   - Circulate clean fluid if necessary to remove cement residue before retrieving the stinger.

MAINTENANCE AND REDRESSING

1. Post-Job Cleaning
   - Thoroughly clean the stinger assembly with fresh water or an appropriate solvent to remove cement, scale, or debris. Apply Clean Oil on all surfaces after cleaning.
   - Ensure all sealing surfaces and grooves are free from hardened cement.
2. Seal Inspection
   - Inspect molded seal for:
     - Cuts or tears
     - Extrusion damage
     - Permanent deformation or flattening
     - Chemical degradation or swelling
3. Seal Replacement
   - Replace Molded Seal showing any sign of damage or excessive wear.
   - Only install Molded Seal provided by **Alpha Oil Tools.**
4. Stinger Inspection
   - Inspect the stinger for burrs, corrosion, or sharp edges that could damage or compromise the pressure test during sting in operation.
5. Lubrication
   - Apply compatible seal lubricant or assembly grease prior to installing new molded seals.

- Anti-galling compound should be used on all threads. Downhole grease should be used on all O-rings. To avoid damage to parts, use a soft jaw vise and strap wrenches when tightening connections. Wrench on knurled areas or utilize spanner holes. File away wrench marks.
- Ensure lubricant is compatible with the elastomer material and anticipated well fluids.

6. Dimensional Verification
   - Verify the stinger OD and seal stack dimensions remain within design tolerances to ensure proper sealing engagement with the Cement Retainer.
7. Storage
   - Store redressed stingers in a clean, dry environment.
   - Protect seals from direct sunlight, ozone exposure, and extreme temperatures.
8. Documentation
   - Record the number of runs, seal replacements, and inspection findings as part of maintenance tracking.

CEMENT RETAINERS COMPATIBILITY

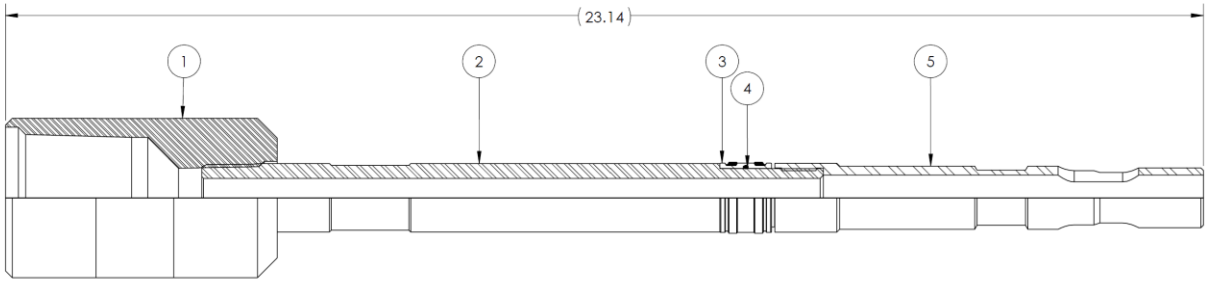
017-3593-070 LOCATOR SEAL NIPPLE	3593 “B” CEMENT RETAINER 3937 “B” CEMENT RETAINER 4312 “B” CEMENT RETAINER
017-5687-070 LOCATOR SEAL NIPPLE	5375 “B” CEMENT RETAINER 5687 “B” CEMENT RETAINER 6312 “B” CEMENT RETAINER 7125 “B” CEMENT RETAINER 8125 “B” CEMENT RETAINER 8690 “B” CEMENT RETAINER 9000 “B” CEMENT RETAINER 9437 “B” CEMENT RETAINER 9500 “B” CEMENT RETAINER 9937 “B” CEMENT RETAINER 1200 “B” CEMENT RETAINER 1425 “B” CEMENT RETAINER 1725 “B” CEMENT RETAINER

ASSEMBLY INSTRUCTIONS FOR LOCATOR SEAL NIPPLE

Anti-galling compound should be used on all threads. Downhole grease should be used on all O-rings. To avoid damage to parts, use a soft jaw vise and strap wrenches when tightening connections. Wrench on knurled areas or utilize spanner holes. File away wrench marks.

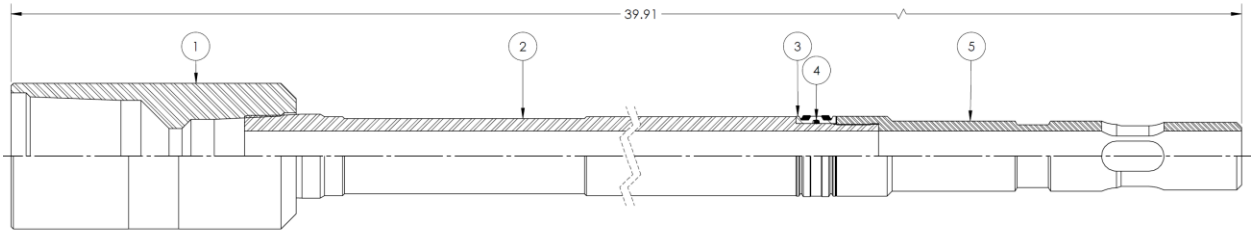
NOTE: Wrench tight means using no larger than 24” pipe wrench without cheater or extension handle. Screwdriver tight means hand tight with a medium blade 6” long screwdriver.

3.593 MODEL “B” LOCATOR SEAL NIPPLE ILLUSTRATION



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	016-3500-076	TOP COUPLING	1
2	017-3593-077	SUB LOCATOR SEAL	1
3	016-3500-033	MOLDED SEAL	1
4	000-024N-090	024 O-RING	1
5	017-3593-034	SUB SHIFTER	1

5.687 MODEL “B” LOCATOR SEAL NIPPLE ILLUSTRATION



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	016-5610-076	TOP COUPLING	1
2	016-5610-077	SUB LOCATOR SEAL	1
3	016-5610-033	MOLDED SEAL	1
4	000-130N-090	130 O-RING	1
5	017-5687-034	SUB SHIFTER	1

ASSEMBLY STEPS

1. Grease all threads and O-ring surfaces.
2. Place and secure Top Coupling (item 1) on Vise and grip it by the knurled area.
3. Locate the lower ID on the Top Coupling (item 1) and screw in the Sub Locator Seal (item 2) by the end with the tapered thread. (Wrench tight)
4. Place O-ring (item 4) inside the molded seal (item 3).
5. Slide on the molded seal with the O-ring onto the Sub Locator Seal (item 2).
6. Screw on the Shifter Sub (item 5) onto the Sub Locator Seal (Item 2). (Wrench tight)

DISASSEMBLY STEPS

1. Follow the assembly steps in reverse order.

REDRESSING STEPS

1. Place the assembly on the Vise and grip it by the Knurled area of the Top Coupling (item 1).
2. Remove Shifter Sub (item 5) by unscrewing it from Sub Locator Seal (item 2).
3. Remove Molded Seal (item 3) with O-ring (item 4) from Sub Locator Seal (item 2).
4. Place new O-ring (item 4) inside the new Molded Seal (item 3).
5. Slide on the molded seal with the O-ring onto the Sub Locator Seal (item 2).
6. Screw on the Shifter Sub (item 5) onto the Sub Locator Seal (Item 2). (Wrench tight)

3.593-5.687 LOCATOR SEAL NIPPLE DIMENSIONAL DATA

Part Number "LOCATOR SEAL NIPPLE"	LENGTH (*in*)	TOP COUPLING DIAMETER (*in*)
017-3593-070	23.14	3.063
017-5687-070	39.91	3.630

Molded Seal/O-ring Compatibility Guideline Table:

Elastomer Type	Nitrile (NBR)	Hydrogenated Nitrile (HNBR / HSN)	Viton / Fluoroelastomer (FKM)	Aflas (TFE/P)
Low Temp Resistance, °F	-4	-4	5	100
Maximum Heat Resistance, °F	250	300	350	400
H_2S	Very Poor (<0.5%)	Poor (<1%)	Fair (<2%)	Very Good (<20%)
CO_2	Poor (<1%)	Fair (<2%)	Very Good (Unrestricted)	Very Good (Unrestricted)
Amine Inhibitors	Very Poor (Not Recommended)	Very Poor (Not Recommended)	Very Poor (Not Recommended)	Very Good (Unrestricted)
Zn & Ca Bromides	Very Poor (Not Recommended)	Very Poor (Not Recommended)	Very Good (Unrestricted)	Good
Xylene	Very Poor (Not Recommended)	Very Poor (Not Recommended)	Fair	Very Poor (Not Recommended)
HCl & HF Acid	Very Poor (Not Recommended)	Very Poor (Not Recommended)	Fair	Good
Toluene	Very Poor (Not Recommended)	Poor	Fair	Very Poor (Not Recommended)
Sulfuric Acid	Very Poor (Not Recommended)	Poor	Good	Good
Steam	Very Poor (Not Recommended)	Poor	Poor	Poor
Crude Oil	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)
Methane	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)
KCl & Salt Water	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)	Very Good (Unrestricted)