

# LOCATOR® Multi-Unit Abutment Instructions

## For Nobel Biocare Multi-Unit Abutment used in the All-on-4 Procedure

**IMPORTANT:** This document contains the most current instructions for use. Please read and retain.

**CLASSIFICATION:** Universal hinge, resilient attachment for connection to the Nobel Biocare All-on-4 system.

### CONTRAINDICATIONS

Not appropriate where a totally rigid connection is required. The use of Nobel Biocare Narrow Platform 3.5 implants in the posterior region is not recommended.

### CAUTION

Federal (U.S.A.) law restricts this device to sale by or on the order of a licensed dentist.

### STERILIZATION

All components and instruments are supplied NON-STERILE. Titanium abutments may be sterilized by Autoclave or Dry Heat sterilization using the following parameters:

- Autoclave sterilize using 121°C (250°F), (15-20 psig at sea level), for 20 minutes minimum.
- Dry Heat sterilize using 170°C (340°F) for 2 hours. (Minimum)

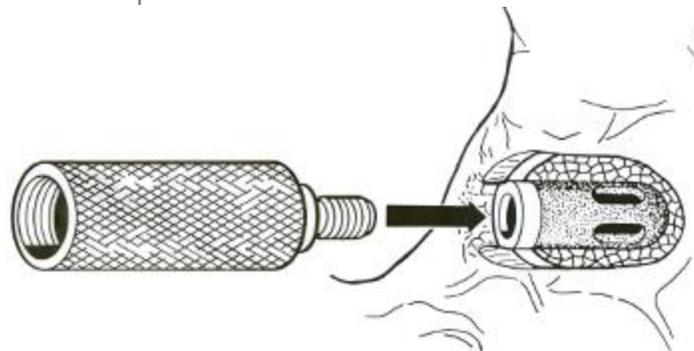
### FEATURES

1. **FREE-STANDING ABUTMENTS:** Use of Free-Standing Locator Abutments eliminates the cost of a cast bar and reduces the vertical height of restoration.
2. **EASY MAINTENANCE:** Patient oral hygiene is easier to maintain with individual Locator Abutments than with the complex structure of a cast bar.
3. **LOCATING DESIGN:** The self-locating design of the Locator easily directs the patient into the accurate seating of their overdenture.
4. **RETENTION INSIDE AND OUT:** The patented Dual Retention innovation provides the Locator Attachment with greater retention surface area, ensuring long lasting performance.
5. **BAR-SPLINTED OPTION:** When it is necessary to splint implants together with a bar due to poor bone quality, a castable Delrin Collar is available to accommodate the Locator Abutment within the cast bar restoration.

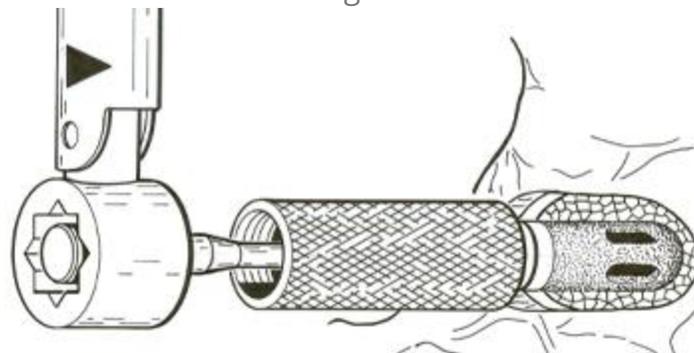
### FREE-STANDING PLACEMENT OF LOCATOR IMPLANT ABUTMENTS FOR THE ANGLED POSTERIOR SITES

1. The proper tissue cuff height of Nobel Biocare 17° Multi-Unit Abutment or 30° Multi-Unit Abutment must be placed according to Nobel Biocare All-on-4 step-by-step Clinical Procedures prior to placing the Locator Abutment.
2. The Free-Standing Locator Implant Abutment for the All-on-4 Nobel Biocare 17° Multi-Unit Abutment and 30° Multi-Unit Abutment is a two piece part that contains a Titanium Collar and the Locator Abutment (No. 8909).
3. Place the Titanium Collar over the angled Multi-Unit Abutment. A special gold plated Abutment Driver (end piece of the Locator Core Tool, No. 8393) is designed to engage the inside diameter of the Locator Abutment to place it through the Titanium Collar and thread it into the internal thread of the angled Multi-Unit Abutment (see Fig 1).
4. Hand-tighten the Locator Abutment and then use a 20N-cm Locator Torque Wrench Driver (No. 4391) for final torque tightening of the Locator Abutment to prevent screw loosening.  
**WARNING:** Use of higher torque values than the maximum recommended 20N-cm could cause fracture of the angled Multi-Unit Abutment.

NOTE: Various connection types of Locator Torque Wrench Drivers (including Latch Type and Square Drive connection) are available that fit into commonly used implant torque wrenches to allow direct torque tightening of the Locator Implant Abutment.



*Abutment Driver*  
 LOCATOR Core Tool (8393)  
 Fig 1



*Hex Driver 0.50 (1.25mm)*  
 Fig 2

**FREE-STANDING PLACEMENT OF LOCATOR IMPLANT ABUTMENTS FOR THE PARALLEL ANTERIOR SITES (Placed directly into the implant without use of a Multi-Unit Abutment)**

1. To select the proper Locator Implant Abutment, determine the type of implant and the diameter being used. Then measure the tissue thickness from the apical rim of the implant body to the crest of the gingiva at the highest side of the implant site.
2. Choose the corresponding abutment tissue cuff height that exactly equals the tissue measurement or is the next closest higher size available. The exact tissue cuff height of Locator Abutment will position the proper 1.5mm of working attachment above the surrounding gingival level (which should not be submerged below the tissue).
3. After the secondary gingival healing period is complete, remove the healing cuff according to instructions provided by the manufacturer of the implant system being used.
4. It is imperative that all bone and soft tissue be removed from the superior aspect of the implant body to guarantee complete seating of the Locator Implant Abutment.
5. A special gold plated Abutment Driver (end piece of the Locator Core Tool, No. 8393) is designed to engage the inside diameter of the Locator Abutment and thread it into the implant (see Fig 1).
6. Final torque tightening of the Locator Abutment to prevent screw loosening is achieved using the 30N-cm Torque Wrench Kit (No. 9020). The 15mm length Square Drive Torque Wrench Driver (included in Kit 9020) is used when interocclusal space is limited and if needed a 21mm length is available separately (No. 8927).

NOTE: Various connection types of Locator Torque Wrench Drivers are available that fit into commonly used implant torque wrenches to allow direct torque tightening of the Locator Implant Abutment. In addition, the use of any Torque Wrench with a .050 (1.25mm) Hex Torque Wrench Driver Tip (see Fig 2) will fit into the backside of the Locator Abutment Driver. Use your own Torque Wrench with either of these options to achieve the optimum seating force of 30N-cm that will help prevent screw loosening of the Locator Implant Abutment.

#### **BAR-SPLINTED PLACEMENT OF LOCATOR IMPLANT ABUTMENTS ON MULTI-UNIT ABUTMENTS**

- The proper tissue cuff height of Nobel Biocare 17° Multi-Unit Abutments or 30° Multi-Unit Abutments (posterior sites) and straight Multi-Unit Abutments (anterior sites) must be placed according to Nobel Biocare All-on-4 step-by-step Clinical Procedures. Use the Clinical Procedures to take an impression with Nobel Biocare Multi-Unit Impression Copings.
- Follow the Nobel Biocare All-on-4 step-by-step Laboratory Procedures to create a master model using Nobel Biocare Multi-Unit Abutment Replicas.
- The Bar-Splinted Locator Implant Abutment for the All-on-4 Nobel Biocare 17° Multi-Unit Abutment and 30° Multi-Unit Abutment is a two piece part that contains a castable plastic Delrin Collar and the Locator Abutment (No. 8917).
- On the master model place a Delrin Collar on one of the four Multi-Unit Abutments. A special gold plated Abutment Driver (end piece of the Locator Core Tool, No. 8393) is designed to engage the inside diameter of the Locator Abutment to place it through the Delrin Collar and thread it into the internal thread of the Multi-Unit Abutment. Repeat this process for all four sites.

- Wax the four Delrin Collars directly into the bar pattern.
- Remove the Locator Abutments and cast the waxed bar pattern according to standard dental laboratory procedures.
- After polishing the cast bar, place the bar and Locator Abutments back onto the master model to check for proper fit.
- Deliver the finished bar and Locator Abutments to the dental office.
- In the dental operator, a special gold plated Abutment Driver (end piece of the Locator Core Tool, No. 8393) is designed to engage the inside diameter of the Locator Abutment to place it through the cast bar and thread it into the internal thread of the angled Multi-Unit Abutment.
- Hand-tighten the Locator Abutments and then use a 20N-cm Locator Torque Wrench Driver (No. 4391) for final torque tightening of the Locator Abutments to prevent screw loosening.  
WARNING: Use of higher torque values than the maximum recommended 20N-cm could cause fracture of the Multi-Unit Abutment.

#### **LOCATOR MALE PLACEMENT BY THE DENTIST**

1. Insertion of the proper Locator Implant Abutment at tissue level must be completed (see Section A-1) before beginning the procedure for placement of the Locator Denture Cap Male Processing assembly.

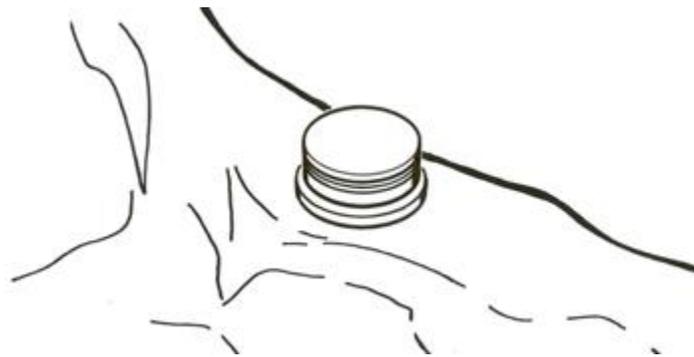
2. Place a White Block-Out Spacer (No.8514, included in Male Processing Packs 8519 and 8028) over the head of each Locator Abutment (see Fig 3). The spacer is used to block out the area immediately surrounding the abutment. The space created will allow the full resilient function of the pivoting metal denture cap over the Locator Nylon Male.

Note: If the White Block-out Spacer does not completely fill the space between the tissue and the metal denture cap, it is necessary to block out any remaining undercuts to prevent the added acrylic resin from locking the denture onto the abutment. This can be accomplished by stacking more Block-Out Spacers.



*Block-Out Spacer (No. 8514)*

Fig 3



*Metal Denture Cap with Processing Male*

Fig 4

3. Insert a Locator Denture Cap with Processing Male (No. 8519 with Black Processing Male for Free-Standing Placement) or (No. 8028 with Yellow Processing Male for Bar-Splinted Placement) onto each Locator Implant Abutment, leaving the White Block-Out spacer beneath it (see Fig 4). The Black Processing Male is designed to maintain the overdenture in the upper limit of its vertical resiliency during the processing procedure and the Yellow Processing Male is designed to maintain the overdenture in the lower limit of its vertical resiliency.

4. Prepare a recess in the denture to accommodate the Locator Denture Cap Male. There must be no contact between the denture and the titanium cap. Any contact will may cause excess pressure on the implant. Passive placement is essential.

5. Use the chairside Lightcure Acrylic Resin Syringe Kit (No. 9403) to light cure bond the Locator Denture Cap Male into the denture, or mix a permanent self-curing acrylic and place a small amount in the recess of the denture and around the metal cap of the Denture Cap Processing Male.

6. Insert the denture into position in the oral cavity. Guide the patient into occlusion, maintaining a proper relationship with the opposing arch.

Note: Maintain the denture in a passive condition, without compression of the soft tissue, while the acrylic sets. Excessive occlusal pressure during the setting time may cause tissue recoil against the denture base and could contribute to dislodging and wear of the nylon males.

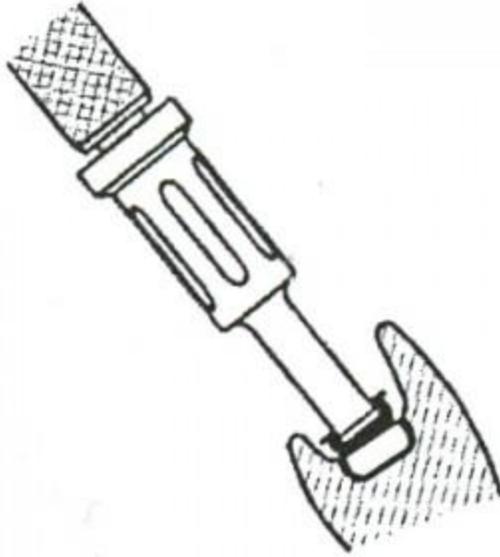
7. After the acrylic resin has cured, remove the denture and discard the white spacers. Use a bur to remove excess acrylic, and polish the denture base before changing to the final male.

8. Use the Locator Male Removal Tool (Tip End of the Locator Core Tool, No. 8393) to remove the Processing Male from the metal Denture Cap (see Fig 5).

First loosen the Tip End (Male Removal Tool) a full 3 turns counter clockwise (you will see a visible gap). To remove a LOCATOR nylon male from the titanium metal housing; simply insert the tip into the cap/male assembly and push straight in to the bottom of the nylon male. The sharp circular edge on the end of the removal tool should be wedged tightly down into the very bottom of the plastic male so that it will catch the inside of the plastic insert (see Fig 5). Then tilt the tool so that the sharp edge of the tip will grab hold of the male and pull it out of the cap.

To discard the nylon male; point the tool down and away from you and tighten the Male Removal Tool clockwise back onto the Core Tool. This will activate the removal pin and dislodge the nylon male from the Tip End of the Male Removal Tool (see Fig 6).

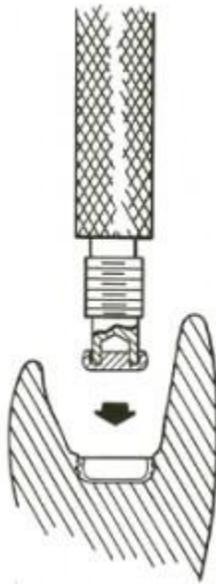
Next separate and remove the Male Removal Tool (Tip End) from the LOCATOR Core Tool and use the Male Seating Tool (Middle Section) to place a new nylon male into the empty Denture Cap.



*Locator Core Tool*  
Removal Tip - Tip End  
Fig 5



*Locator Core Tool*  
Removal Pin  
Fig 6



*Seating Tool – Middle Section*

Fig 7

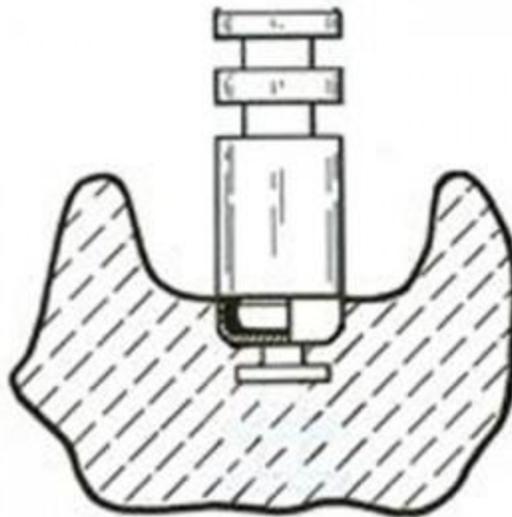
9. The Locator Male Seating Tool (Middle Section of the Locator Core Tool, No. 8393) is used to firmly push a Locator Replacement Male into the metal Denture Cap (see Fig 7). The replacement male must seat securely into place, level with the rim of the cap.

Note: The Replacement Male will not stay on the tool when it is turned upside down due to the varying sizes of males available. It is best to hold the denture with the base side down and snap the male into the metal denture cap.

10. Instruct the patient in the path of insertion. Have the patient insert and remove the appliance several times.

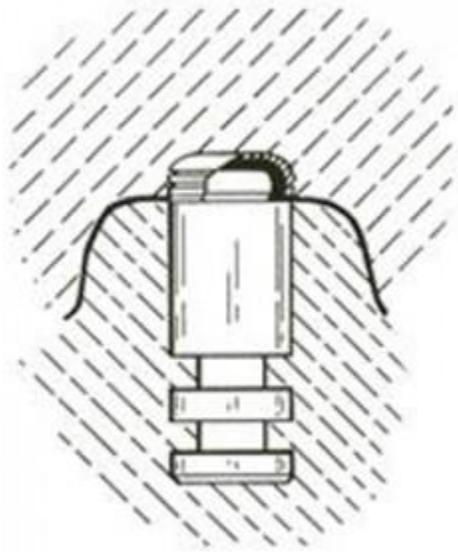
#### LOCATOR MALE PLACEMENT BY THE LABORATORY

In the Operatory:



*Locator Analog & Impression Coping*

Fig 8



*Locator Analog & Denture Cap*  
Existing Denture  
Fig 9

1. Insertion of the proper Locator Implant Abutment at tissue level must be completed (see Section A-1) before beginning the following impression procedure.
  2. Place a Locator Impression Coping with Black Processing Male (No. 8505) onto each Locator Abutment.
  3. Take an impression using a firm body impression material, exercising caution not to compress the soft tissue. The Locator Impression Coping is designed with minimum retention to be picked up with the impression material.
  4. Snap a Locator Female Analog (No. 8530 for 4mm or No. 8516 for 5mm) onto each Impression Coping in the impression (see Fig 8). The analog female must not fall off when turned upside-down with vibration.
- NOTE: An Alternative reline impression technique using the patient's prosthesis (existing denture) is possible with the use of the Locator Processing Cap Male No. 8519 (Black for Free-Standing Placement) or No. 8028 (Yellow for Bar-Splinted Placement) when the impression is withdrawn, the Processing Cap Male will remain on the abutment. Remove the Processing Cap Male from each abutment and snap it onto a Locator Female Analog. Reposition this assembly back into the impression making sure it is fully seated (see Fig 9).
5. Pour the master cast. Upon separation, The Locator Female Analog is a part of the master cast replicating the position of the Locator Implant Abutment in the oral cavity.
  6. Before waxing and processing the appliance, place a Locator Cap with Processing Male No. 8519 (Black for Free-Standing Placement) or No. 8028 (Yellow for Bar-Splinted Placement) into each Female Analog in the master cast. Make sure the male is fully seated.

7. Set the Teeth and wax the appliance. Proceed with the processing technique of your choice through the boil-out step.

8. After the boil-out, remove the Processing Cap Male. Place a White Block-out Spacer over the head of each Female Analog. The spacer is used to block out the immediate area surrounding the Locator Implant Abutment. The space created will allow the full resilient function of the pivoting metal denture cap over the Locator Male.

9. Re-insert the Locator Processing Cap Male onto each Female Analog, leaving the White Block-Out Spacer beneath it. The Black Processing Male will maintain the overdenture in the upper limit of its vertical resiliency during the processing procedure. The Yellow Processing Male will maintain the overdenture in the lower limit of its vertical resiliency.

10. Complete the processing and discard the white spacer. Avoid damage to the final male by polishing the denture base before changing to the final male.

11. Use the Locator Male Removal Tool attached to the Locator Core Tool to remove the Processing Male from the metal denture cap. The sharp circular edge on the end of the removal tool should be wedged tightly down into the very bottom of the plastic insert so that it will catch the inside of the black plastic insert and pull it at an angle out of the metal housing.

12. The Locator Male Seating Tool is used to firmly push a Locator Replacement Male into the empty metal denture cap. The replacement male must seat securely into place, level with the rim of the cap. Note: The Replacement Male will not stay on the tool when it is turned upside down due to the varying sizes of males available. It is best to hold the denture with the base side down and snap the male into the metal denture cap.

#### **HOW TO CHANGE THE LOCATOR MALE**

1. The Locator Core Tool (No. 8393) contains a Locator Male Removal Tool (End Tip) and Locator Male Seating Tool (Middle Section) which are used to remove the nylon male from the metal denture cap and replace it with another Locator Replacement Male.

2. Use the Male Removal Tool attached to the Locator Core Tool to remove the nylon male from the metal denture cap. The sharp circular edge on the end of the removal tool should be wedged tightly down into the very bottom of the plastic male so that it will catch the inside of the plastic insert and pull it at an angle out of the metal housing.

3. The Male Seating Tool is used to firmly push a Locator Replacement Male into the empty metal denture cap. The replacement male must seat securely into place, level with the rim of the cap. Use of multiple Locator attachments (3 or more) in the same dental arch may require use of the 1.5lbs. (extra light retention) Replacement Male No. 8529 (blue) for easier removal of the prosthesis by the patient.

*NOTE:* The Replacement Male will not stay on the tool when it is turned upside down due to the varying sizes of males available. It is best to hold the denture with the base side down and snap the male into the metal denture cap.

## RELINE AND REBASE

1. Remove each existing nylon male from its metal denture cap following the steps in HOW TO CHANGE THE LOCATOR MALE (Section F). Replace them with Processing Replacement Males No. 8515 (Black for Free-Standing Placement) or No. 8026 (Yellow for Bar-Splinted Placement). The built-in spacer of the Black Processing Male will maintain the overdenture in its upper level of vertical resiliency during the reline process. The Yellow Processing Male will maintain the overdenture in the lower limit of its vertical resiliency.
2. Take a reline impression using the existing overdenture as a tray. The Black Processing Males will engage the Locator Implant Abutments and hold the prosthesis in place while the impression material sets.
3. When the impression is withdrawn, the Processing Replacement Males will remain in the metal denture caps.
4. Snap a Locator Female Analog (No. 8530-4mm or No. 8516-5mm) onto each Processing Cap Male and pour a master model.
5. After processing the reline and polishing the denture base, replace the Processing Males with the final Locator Replacement Males.

### PATIENT CARE

Good oral hygiene is vital to implant success. The Locator Implant Abutments must be thoroughly cleaned each day to prevent wear of the abutments due to a buildup of abrasive plaque in the socket of the abutment. The use of a soft nylon bristle or end-tufted toothbrush and superfloss to polish the abutments should be taught. A non-abrasive gel toothpaste and an irrigation system is recommended to keep the socket of the Locator Abutment clean.

Patients should maintain a three to four month recall for cleaning and implant evaluation. The inside of the Locator Abutment and the sulcus area around the implant abutment are the primary areas of concern. Use plastic instruments for scaling the abutments. Do not use metal instruments which may create scratches on the abutment surface. Examine patients for signs of inflammation around the implant abutments and for implant mobility. Use the appropriate Torque Wrench (20N-cm or 30N-cm) to make sure the Locator Implant Abutment is tight before dismissal.

For more information, contact Preat at 1-800-232-7732 or visit [preat.com](http://preat.com)