

Setup And Transfer Fixture Instructions

The Adamas SAT™ fixture has several parts which you should be able to identify before you can understand an explanation of how to use it: The largest part we call the Block. It has a 90 degree Channel down the center which contacts the dops placed in it on two areas. You secure the dop in the fixture by tightening a M6 knurled nut on an L-clamp over the dop. You adjust the tightness of the L-clamp to either secure the dop in place, or to hold it against the Channel in order to slide a dop to contact a gemstone. The open space on the Channel side of the fixture we call the Gap and the square cross-sectional space in the Block we call the Chamber.

Each Block contains two M6 studs projecting from the Channel side. For Adamas 3/8 inch (9.5 mm.) diameter dops, each stud has a spring around it capped with a washer. You would use the SAT™ fixture with the L-clamps placed over the washer, secured down by the knurled nut, knurled side down. The short section of the L-clamp points downward off one side of the fixture. For conventional 1/4 inch (6.4 mm.) dops, remove the springs and washers, storing those in a small container. Bear in mind that dops must be at least 2 inches (50 mm.) in length for use within the purview of these instructions.

In a setup operation, you have a gemstone already faceted or a preform that you want to adhere to a particular dop. You use another dop to help center and brace it during the adhesion process. In a transfer operation, you have a gemstone already dopped that you want to adhere to a second dop while retaining concentricity, then break the adhesion bond on the first dop.

You can use the SAT™ fixture in the horizontal position where the base rests on the table top, or in the vertical position where the square end rests on the table top. In a setup operation, the vertical position has the advantage of gravity holding an unbonded gemstone in place on the lower dop. In a transfer operation, the horizontal position has advantages of visibility and finer control when making a bond to the second dop, but vertical position has the advantage loosening the L-clamp on the first dop in the lower position, so with heating, it can drop away from the gemstone under force of gravity. Using the SAT™ fixture in the horizontal position also has the advantage of catching a loose gemstone that falls into the Gap. You retrieve it by tilting up one end of the fixture to dump the gemstone out of the Chamber.

Adamas designed the SAT™ fixture without rails, as non-concentricity can arise from play through pitch, yaw, and/or lateral displacement with a rail system. You secure the first dop in place on one side of the SAT™ fixture with a tight L-clamp, and on the other side, with the L-clamp tightened only to the extent that it has no play but you can still slide the second dop towards the gemstone with your index or middle finger. So, you produce a coaxial motion of one dop towards another by pushing the second dop towards the first along the Channel with your index or middle finger. You can use your thumb to hold the L-clamp in place if necessary. You tighten down the L-clamp over the second dop to fix it in place after it contacts the gemstone.

Please do not apply any oil, grease or dry lubricants on any part of the SAT™ fixture. Neither the stainless steel stud threads nor the sapphire-lined Channel ever require lubrication or rust protection. Dry lubricants may contaminate the bonding areas of the dop, greatly reducing adhesion properties. Only clean the SAT™ fixture using rubbing alcohol or water with a couple drops of liquid detergent. Do not clean it with abrasive materials.