



1. The first step is to make sure you have a clean installation area. Be sure to clean the concrete cone or top slab with a whisk broom or chisel. This will assure a flat seating surface free of rocks, gravel, blacktop, protruding concrete or frozen debris.



2. With the installation area now clean, measure the distance from the cone or top slab to the projected finish grade. When making this measurement, be sure to deduct the distance, or height, of the cover frame. Determine the net build-up of rings necessary to come within a 1/4 inch of the grade with the cover frame in place.



3. Now that you have your preliminary measurements, you will need to determine the best ring height combination to attain the necessary adjustment for your specific installation. In cases where grades are not flat, use slope rings to accommodate for this difference.



4. With the measurements determined and your required rings selected, dry stack the rings on the cone or top slab. Index any slope rings as necessary. With the rings dry-stacked, place the cover frame casting on top of the assembly and verify the height and slope match.



5. When the assembly is in place and you have your desired height and slope, mark the entire stack with a vertical line of spray-paint. Once you have your line, disassemble the set-up.



6. You are now ready to begin the actual installation. With all rings within arm's reach, apply a 3/16 to 1/4 inch bead of approved caulk butyl sealant or a 3/8 inch round rope ASTM C-990 to the cone or top slab following the male tongue as a guide. If the cone or top slab is extremely rough, a second bead can be added approximately in the middle of the flat. This is done to assure a complete seal. PLEASE NOTE that it may be necessary to create a flat sealable surface using mortar if the cone or top slab is too badly chipped up prior to installing the ring.



7. With the sealant applied, place the first ring down onto the cone or top slab with the male lip into the opening. Make sure to line up your paint strip. In most cases, this first ring will fit securely into the opening.*** Apply a 3/16 to 1/4 inch bead of an approved caulk butyl sealant or a 3/8 inch round rope ASTM C-990 on the bottom of the next ring following the male tongue as a guide. Be sure to apply the sealant to the male lip ensuring that it covers the entire 360 degrees of the ring



8. As before, place the second ring down onto the first with the male lip interlocking into the center of the first ring. For each ring, make sure to line up your paint strip.



9. Repeat the assembly as you did in the prior steps for each additional ring, applying the bead of sealant and placing the rings on top of one another being sure to line up the paint strip.



10. At this point, you will have all the rings stacked with the sealant applied.



11. You will now proceed to install the cover frame. Prior to setting it in place, apply a 3/16 to 1/4 inch bead of the approved caulk butyl sealant or a 3/8 inch round rope ASTM C-990 on the top of the last ring. Be sure to apply the sealant in a location so that it contacts the cover frame the full 360 degrees. If necessary, you may apply a double bead of sealant.



12. With the sealant applied, set the cover in place verifying that it is centered on the top ring.



13. At this point, the installation of your LADTECH adjustment rings is complete.



13 a. As you can see you can immediately back fill the installation area and proceed to your next installation site.



13 b INSTALLATION COMPLETE!!



****The cone or top slab may be eccentric or undersized and may not allow the ring to sit flush. In this case, the lip on the adjustment ring may be cut as necessary to allow the ring to sit flush and align on the manhole assembly**

1. First, determine the amount of lip to be removed.
2. Using a common carpenter's saw, make a perpendicular cut at each end of that distance, being careful NOT to cut into the base surface of the ring. Hold the saw flush against the lip's mounting surface and proceed to cut off the portion of the lip between the two perpendicular cuts. **CAUTION:** BE SURE NOT TO cut beyond the perpendicular cuts you have made.
3. The ring can now be installed flush to the manhole, top slab or cone assembly utilizing the approved butyl sealant.



1. El primer paso es tener un área de instalación limpia. Limpie bien el cono o la losa superior de concreto con una escobilla o espátula. Esto asegurará una superficie de asentamiento pareja, sin piedras, grava, alquitrán, concreto o restos congelados.



2. Una vez limpia el área de instalación, mida la distancia del cono o losa superior a la explanada final proyectada. Al medir, no olvide deducir la distancia o altura del marco de recubrimiento. Determine la acumulación neta de anillos necesaria para quedar a 1/4 de pulgada de la explanada con el marco de recubrimiento puesto.



3. Ya que tiene las mediciones preliminares, deberá determinar la mejor combinación de alturas de anillo para lograr el ajuste necesario para su instalación específica. Si el terreno no es plano, use anillos con declive para compensar la diferencia.



4. Una vez hechas las mediciones y escogidos los anillos necesarios, apíelos en seco en el cono o la losa superior. Coloque anillos con declive según corresponda. Con los anillos apilados en seco, coloque la pieza fundida del marco de recubrimiento sobre el conjunto y revise que la altura y el declive coincidan.



5. Cuando el conjunto esté instalado y tenga la altura y declive deseados, marque toda la pila con una línea vertical de pintura en lata. Una vez hecha la línea, desarme el conjunto.



6. Ya está todo listo para empezar la instalación real. Con los anillos al alcance del brazo, aplique una capa de 3/16 a 1/4 de pulgada de sellante de butilo aprobado o una cuerda de 3/8 de pulgada de ASTM C-990 al cono o la losa superior siguiendo la lengüeta como guía. Si el cono o losa superior es sumamente rugoso, puede agregar una segunda capa aproximadamente al medio de la superficie plana. Esto asegura un sellado completo. **TENGA PRESENTE** que tal vez se deba usar mortero para crear una superficie plana sellable, si el cono o losa superior está muy picado antes de instalar el anillo.



7. Con el sellante aplicado, coloque el primer anillo en el cono o losa superior con el reborde dentro de la abertura. No olvide alinear la línea pintada. Generalmente, este primer anillo calzará bien en la abertura.*** Aplique una capa de 3/16 a 1/4 de pulgada de sellante de butilo aprobado o una cuerda de 3/8 de pulgada de ASTM C-990 en la parte inferior del próximo anillo siguiendo la lengüeta como guía. Al aplicar el sellante en la lengüeta, asegúrese de que cubra los 360 grados del anillo.



8. Como antes, coloque el segundo anillo sobre el primero con el reborde calzando en el centro del primer anillo. No olvide alinear la línea pintada en cada anillo