

## How to Adjust a Thread Ring Gage to a Truncated Setting Plug

The best method for setting the pitch diameter of a thread ring gage is by using a high quality setting plug gage. The setting plug gage should be inspected to confirm that all thread elements are within the required specification prior to use.

The following technique can be used to adjust a thread ring gage to the proper pitch diameter setting using a truncated setting plug gage:

1. Thoroughly clean both the thread ring gage and the truncated setting plug gage with a good cleaning solution and allow to dry.
2. Visually inspect both gages to ensure that all threads are clear of debris and that there is no apparent damage such as nicks or burrs on the threads.
3. Lubricate the truncated setting plug gage with a thin film of light viscosity oil prior to insertion into the thread ring gage.
4. Turn the locking screw of the thread ring gage counter-clockwise until it is loosened, but do not remove it from the thread ring gage.
5. Turn the adjusting screw clockwise to open the thread ring gage to a larger pitch diameter than the setting plug gage



6. Gently turn the thread ring gage onto the truncated section of the truncated setting plug gage until it is completely engaged.
7. Slowly turn the adjusting screw counter-clockwise until the thread ring gage locks up on the truncated setting plug gage, then turn the adjusting screw clockwise until there is a slight drag between the thread ring gage and the truncated setting plug gage.
8. Turn the locking screw clockwise until it is tight. This locks the adjusting screw so that the pitch diameter of the thread ring gage remains fixed. During this process, it is important to ensure that the thread ring gage is round and engaging the truncated setting plug gage at all points. If the thread ring gage has an uneven feel which changes from tight to loose in each revolution, it is out of round and needs to be corrected. This can be achieved by lightly tapping the outside diameter of the thread ring gage with a rubber or plastic hammer. There should be a noticeable drag between the thread ring gage and the truncated setting plug gage.
9. Steps 7 & 8 may need to be repeated several times to obtain the proper adjustment.
10. Once proper adjustment of the thread ring gage has been obtained, gently unscrew the truncated setting plug gage from the thread ring gage.
11. Once again, screw the truncated setting plug gage into the thread ring gage approximately one and half turns, lay thread ring gage flat on a stable surface so that truncated setting plug gage is standing vertically out of the thread ring gage. Attempt to move the truncated setting plug gage from side to side while holding thread ring gage down against surface to detect shake, if shake is detected, bellmouth condition is present and ring needs to be repaired.



12. Remembering the feel at the one and a half threads engagement, continue to screw the thread ring gage over the truncated and full-form sections of the truncated setting plug gage. The drag, should remain approximately the same with perhaps a bit more drag in the full-form section because of greater flank contact.

13. Remove the truncated setting plug gage from the thread ring gage and repeat step 12 on the other side of the thread ring gage. The drag between the truncated setting plug gage and the thread ring gage should feel the same from either side of the thread ring gage ensuring a straight pitch diameter.

When the thread ring gage is set to the truncated setting plug gage with a uniform feeling over the entire length of the truncated setting plug gage, with no end play, it is correctly adjusted. However, it should be noted that because of tolerances in the manufacture of both the thread ring gage and the truncated setting plug gage, and that unless they are manufactured at the same time, or ordered to be mated with each other, allowances must be made in the assembly feel or fit to compensate for slight differences. For example, a slight difference in angle and/or lead will cause more drag at full engagement than during a partial engagement. This is not a serious condition because both the thread ring gage and the truncated setting plug gage may well be within specifications.

