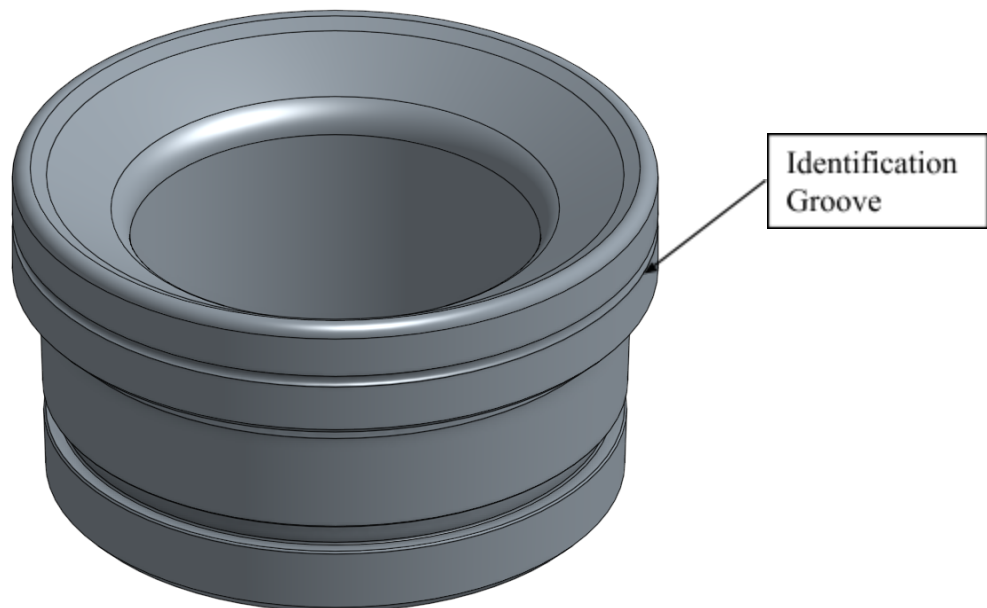




## P2 Pump Valve Seat Improvements

MSI Technical Bulletin 077

As of November 2016, MSI improved the P2 size valve seats for use in MSI well service pumps. The new seats are designed to ensure full seating in the fluid end, increasing seat life by giving proper support under the head of the seat. Additionally, the new seats require less force to both install and remove. The new seats are easily identified by a groove on the large OD at the top of the seat.



New valve seats should be installed using the same procedure recommended for previous versions:

1. Thoroughly clean each new valve seat OD taper before installing. Do not use any grease, sealer, etc. as the valve seat must be installed clean and dry.
2. After hand tight installation of the valve seat, press the valve seat into the taper using a heavy steel bar with a Teflon or wood pad, then hammer the valve seat into the taper.
3. Final seating of the valves requires operating the pump as described in the appendix.

*Note: For more details, please reference the MSI Hybrid pump manual.*

You may contact an MSI representative at [sales@diwmsi.com](mailto:sales@diwmsi.com) or [engineering@diwmsi.com](mailto:engineering@diwmsi.com) for additional information.

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## Appendix

If the valve seats were replaced in the field, the following procedure must be followed to set the valve seats:

1. The tapered valve seats must be fully seated to allow optimum flow area between the valve and the seat. Washout may also occur between the valve and the fluid end if the valves are not fully seated.
2. Connect a 3/4" to 1" orifice test choke to the discharge circuit and adjust it to full open. Shift the transmission to first gear, and increase the throttle setting to achieve 50-100 crank RPM. Slowly increase discharge pressure using the test choke until a series of audible popping noises are heard. This indicates the seats have properly set in the taper. The approximate seating pressure for each fluid end plunger size is as follows:

<b>Plunger Diameter</b>	<b>Seating Pressure</b>
2.75"	14,320 PSI
3.00"	12,030 PSI
3.25"	8,840 PSI
3.50"	8,840 PSI
4.00"	6,765 PSI
4.50"	5,345 PSI