

## ROTOR RETENTION

The SRU range of pumps uses two distinct methods of rotor retention. SRU1 to SRU5 pumps employ a Flanged Hexagon Nut, see *figure six*, and SRU6 rotors are retained by Torque Locking Assemblies (TLA), see *figure seven*. In some cases Flanged hexagon nuts, or TLA rotor retention are available, though this is only to special order. Both methods permit the pumps to be run in either direction when tightened to the recommended torque values, see *tables four and five*.

### Flanged Nut Rotor Retention

All of the pumps using flanged nut rotor retention are fitted with o-rings which seal the rotors. This arrangement is detailed in *figure six*.

When removing and replacing the rotor nuts, the o-rings should be inspected for damage and replaced if necessary. When refitting, the rotor nuts should be tightened to the correct torque value as shown in *table four*.

### Torque Locking Assembly (TLA) Rotor Retention

SRU6 pumps always use TLA rotor retention. The cavity in which the TLA is situated is sealed with flanged nut and o-ring. Where SRU4 and SRU5 pumps use TLA retention, this cavity is sealed with a rotor cap, two o-rings, and a screw. See *figure eight*. The following sections on TLA's are applicable to both.

### Torque Locking Assemblies (TLA) - Mounting Instructions

When fitting a TLA it is recommended that:

1. The TLA is lightly oiled on all surfaces to assist in achieving the correct torque value. This will also aid its release when removing.
2. Once installed into its working position, and before tightening, a temporary clamp, supplied with the pump, should be used to ensure that the rotor with TLA is positively abutted against the shaft shoulder. This will ensure that the clearances on both the front and rear faces of the rotor are maintained.  
*Figure nine* shows the rotor clamp in use. With the rotor correctly positioned on the shaft and the TLA in place, special clamp nut is put through the center hole in the clamp and tightened onto the end of the shaft. This will hold the rotor in place, and the TLA screws may now be tightened through the access slots in the clamp.
3. With the rotor clamp secured in place, the TLA screws can be torqued up to the correct settings, see *table six*. To obtain best results it is recommended that the screws are tightened in a diametrically opposed pattern, repeating until correctly set.

### Torque Locking Assemblies (TLA) - Release Instructions

1. **SRU6 ONLY:** Using a 36 mm socket spanner, remove the flanged rotor nut, ensuring the sealing o-ring is not lost (see *figure seven*).  
**SRU 4 and SRU5 ONLY:** Loosen the socket head cap screw, and remove the rotor cap, ensuring that the two sealing o-rings are not lost. See *figure eight*. If the rotor cap does not release easily, it can be removed by gently screwing a suitable screw into the thread in the center hole of the rotor cap.
2. Loosen the TLA in several stages and in a diametrically opposite sequence. The loosened TLA can now be removed.
3. To extract the TLA from the rotor, only remove the two screws which are fitted with washers. Carefully screw 8 mm x 50 mm bolts into the holes (these holes have only 3-5 threads, do not tighten) and pull out the TLA.

Figure Six

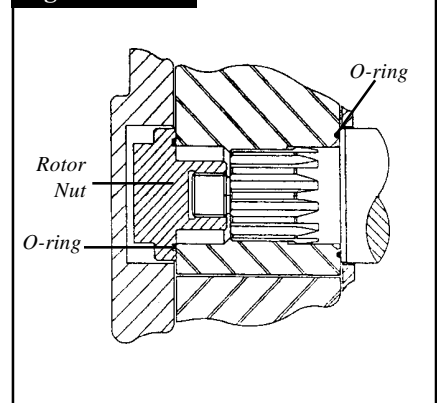


Figure Seven

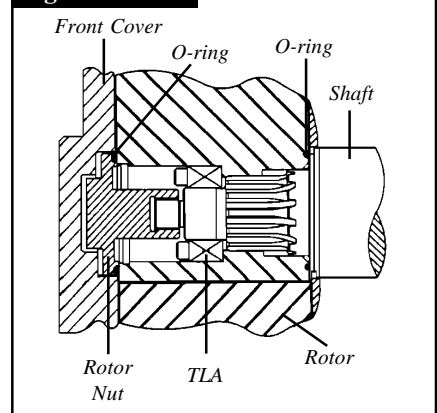


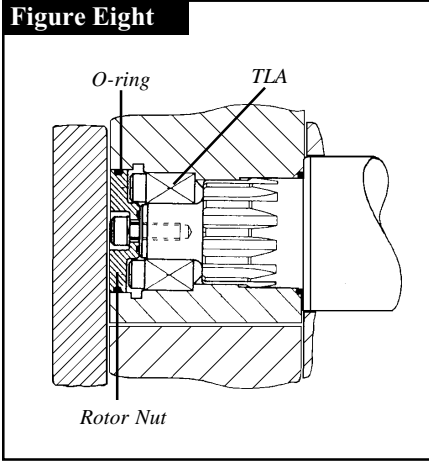
Table Four

Rotor Retention			
Model Code	Torque (ftlb)	Torque (Nm)	Wrench Size (mm)
SRU1	10	14	17
SRU2	57	77	24
SRU3	89	120	24
SRU4 to 6	119	160	36

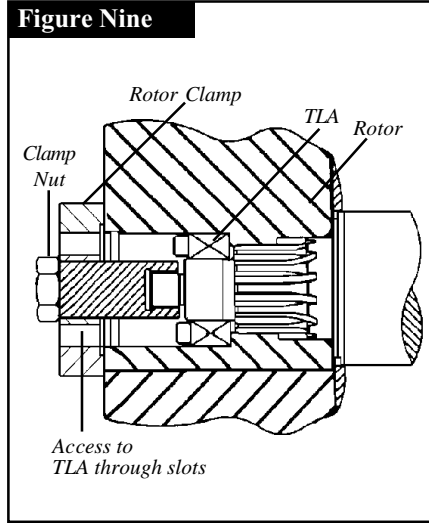
Table Five

Model Code	Type of Rotor Retention	Shaft Spine Sealing
SRU1	Hex Nut	O-Rings
SRU2	Hex Nut	O-Rings
SRU3	Hex Nut	O-Rings
SRU4	Hex Nut or TLA	O-Rings
SRU5	Hex Nut or TLA	O-Rings
SRU6	TLA	O-Rings

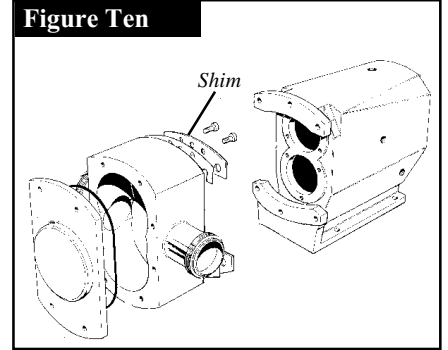
**Figure Eight**



**Figure Nine**



**Figure Ten**



**Table Six**

Model Code	Torque		Rotor TLA		
	(ftlb)	(Nm)	Key (mm)	Rotor Cap Type	Retention Torque
SRU4	3.0	4.1	3	M5 screw	n/a
SRU5	6.3	8.5	4	M6 screw	n/a
SRU6	10.3	14.0	5	36mm hex nut	118 ftlb