This chart indicates possible sources of seal trouble on general applications. Special installations may require a more complete analysis. If advice or assistance is needed, please contact the nearest Garlock office.

Check for	Possible sources of trouble	Suggested remedy
1. Nicks, cuts or tears in sealing lip	Rough finish on shaft	Finish shaft surface from 10 - 20 microinches. AA (0.25 - 0.50 micrometers). Remove all burrs. See "Preparation of Shaft" page 20.
	Improper installation	Use mounting tool to carry sealing lip over keyways, splines and sharp shoulders. See "Mounting the Seal" page 21.
	Rough handling	Check methods of storing and handling. Seals deserve the same care as the bearings they protect.
2. Excessive wear or hardening of sealing element	Rough finish on shaft	Finish shaft surface from 10 - 20 microinches. AA (0.25 - 0.50 micrometers). See "Preparation of Shaft" page 20.
	Tight fit on shaft	Check service recommendations in catalog to see if correct KLOZURE® Oil Seal model is being used. Check sizes.
	No lubrication	Be sure adequate lubrication is present.
	Overheating	Check size of seal. Check shaft fpm speed with catalog recommendations for model KLOZURE® Oil Seal being used. Check ambient temperatures. Be sure of proper lubrication.
	Pressure	Eliminate pressure by vents or drainbacks. Be sure vents are open. Drainbacks should be provided around bearings or away from helical gearing to prevent pressure buildup at seal face.
3. Damaged spring	Improper installation	Avoid excessive spreading of sealing lip and spring. See "Mounting the Seal" page 21.
	Rough handling	Check methods of storing and handling.
4. Damaged case	Improper driving tools	Use proper tools of correct dimensions. See "Seating the Seal" page 21.
5. Excessive shaft wear	Abrasives	Be sure shaft is clean and that a slight amount of lubricant is applied when installing KLOZURE® Oil Seal.
	Soft Shaft	Use shaft material of Rockwell C 30 minimum hardness.
6. Scores in O.D. of seal	Coarse machining	Give better finish to housing bore. Check for imperfect casting.
	Sharp corners on housing bore	Chamfer housing bore.
	Bore undersize	Check housing bore diameter. See "Tolerances" page 15.
7. Excessive leakage	Light fit on shaft	Check size diameter. See "Tolerances" page 15.
		Check service recommendations in catalog to see if correct KLOZURE® Oil Seal is being used.
	Abnormal spreading of sealing element	Use mounting tools with thin wall. See "Mounting the Seal" page 21.
		Do not apply over shaft shoulder more than 1/32" (0.80 mm) larger than shaft diameter.
	Excessive use of pre-installation lubricant	Use only slight amount of lubricant to apply and start seals.
	Presence of lead, helix or spiral from grinding in a direction causing an outward pumping action	Polish shaft with crocus cloth. If possible, alter grinding technique to reduce, eliminate or reverse direction of spirals.
	Cocked seals	Install seal at right angle to shaft surface. Use proper driving tool. Properly prepare housing bore. See "Installation Instructions" page 20.
	Nicks, cuts or tears in sealing lip	See trouble tip number 1.
	Damaged spring	See trouble tip number 3.
	Damaged case	See trouble tip number 4.
	Dynamic runout	Move seal closer to bearing. Be sure wear sleeves, hubs or retaining rings are accurately machined concentrically. Avoid looseness in splines.
	Paint on shaft at back of seal	Provide suitable masks so that paint will not solidify under sealing element, forcing sealing lip away from shaft.