Trouble shooting guide

DPR/PSR Problem	Probable cause	Suggested solution
Leak	Insufficiently tightened, shallow bite	Tighten the nut according to correct number of turns, direct assembly only for maintanance/repair
		Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings, use of recommended pre-assembly machines
		Mark nut and body to indicate correct assembly
		Use recommended lubrication
		Use of pre-assembly machines e.g. EO-KARRYMAT, EOMAT ECO, EOMAT UNI
		Pre-assemble joints away from installation to ensure proper bite
		Check visible collar
	Tube not bottomed into fitting shoulder	Cut tube to correct length
		Observe min. straight length before tube bend
		Use hacksaw and guide not a plumbing – style tube cutter
		Carefully deburr tube end – no heavy chamfers
		Push tube firmly into cone
		Check visible collar
		Make sure tube is lubricated at assembly
	Damaged fitting	Check for damage, replace damaged parts
		Handle all components carefully
	Contamination between sealing surfaces	Keep all components clean
	Hidden crack	Check for cracks, replace if necessary
	Mismatch of components	Select all components according to system application and product specification
		Use genuine Parker components
	Phantom leak, from assembly lubricant	Carefully identify proper source of leak
		Don't over use lubricant
Tube fractured behind the nut	Fatigue failure of tube under vibration	Review final tightening process, undertightening reduces vibration resistance
		Stress free installation
		Proper use of clamps
		Bulkhead connection and hose to isolate joints from vibration
		Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks …) do not exceed fitting performance
Crack	Insufficiently tightened, shallow bite	Tighten the nut according to correct number of turns
		Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings
		Mark nut and body to indicate correct assembly
		Use recommended lubrication
		Pre-assemble joints away from installation to ensure proper bite
		Check visible collar

DPR/PSR Problem	Probable cause	Suggested solution
Crack	Severe working conditions	Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks, …) do not exceed fitting performance
Tube blow out	Standpipe fitting, improper final assembly	Use swivel nut fitting
	Cold welded threads on stainless steel fittings	Use “EODUR” stainless steel fittings from Parker (with silver plated nut threads) and always lubricate threads with EO Niromont fluid (not hydraulic oil)
	Use of worn or unsuitable pre-assembly tools	Check tools regularly and replace worn tools
		Keep tooling clean and oiled plus check cone regularly with “KONU” cone templates every 50 assemblies
	Tube not bottomed into fitting shoulder	Cut tube to correct length
		Observe min. straight length before tube bend
		Use hacksaw and guide not a plumbing – style tube cutter
		Carefully deburr tube end – no heavy chamfers
		Push tube firmly into cone
	Severe working conditions	Check visible collar
		Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks, flow rate, …) do not exceed fitting performance
		Check visible collar
	Ring installed in wrong direction	Install ring in proper orientation
		Use pre-assembled fitting or EO-2
		Always check assembly before final installation
	Steel ring used on stainless steel tube	Use stainless steel bite rings for stainless steel tube, **preassembly necessary**
	Stainless steel fitting not pre-assembled	Pre-assemble joint away from installation
		Use specified preassembly tools/machines
	Fitting body used as preassembly tool	Use specified preassembly tools, machine preset preferred
Short tube end fracture	Fatigue failure	Use swivel nut adapter (GZ …)

EO-2 Problem	Probable cause	Suggested solution
Leak	Insufficiently tightened, shallow bite	Use of pre-assembly machines e. g. EO-KARRYMAT, EOMAT ECO, EOMAT UNI
	Insufficiently tightened	Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings
		Use recommended lubrication
		Pre-assemble joints away from installation to ensure proper bite
		Use original EO pre-assembly tools
		Check closed gap
	Tube not bottomed into fitting shoulder	Cut tube to correct length
		Observe min. straight length before tube bend

EO-2 Problem	Probable cause	Suggested solution
Leak	Tube not bottomed into fitting shoulder	Use hacksaw and guide not a plumbing – style tube cutter
		Use EO-2 MOK for big sizes
		Carefully deburr tube end – no heavy chamfers
		Push tube firmly into cone
	Damaged fitting	Check for damage
		Handle all components carefully
	Damage to fitting cone	Make sure tube is bottomed at assembly
	Contamination between sealing surfaces	Keep all components clean
	Hidden crack	Check for cracks, replace if necessary
	Mismatch of components	Select all components) according to system application and product specification
		Use genuine Parker components
	Phantom leak from assembly lubricant	Carefully identify proper source of leak
		Don't over use lubricant
	Sealing ring (DOZ) missing	Use plugs for transport of preassembled tubes. Check assembly before final installation
Tube fractured behind the nut	Fatigue failure of tube under vibration	Stress free installation
		Proper use of clamps
		Bulkhead connection and hose to isolate joints from vibration
	Severe working conditions	Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks…) do not exceed fitting performance
Crack	Insufficiently tightened	Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings
		Use recommended lubrication
		Pre-assemble joints away from installation to ensure proper bite
		Use original EO preassembly tools
		Check closed gap
Tube blow out	Cold welded threads on stainless steel fittings	Use "EODUR" stainless fittings from Parker (with silver plated nut threads) and always lubricate threads with EO Niromont fluid (not hydraulic oil)
	Tube not bottomed into fitting shoulder	Cut tube to correct length
		Observe min. straight length before tube bend
		Use hacksaw and guide not a plumbing – style tube cutter
		Carefully deburr tube end – no heavy chamfers
		Push tube firmly into cone
		Use EO-2 MOK for big sizes
	Severe working conditions	Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks, flow rate…) do not exceed fitting performance
	Fitting undertightened	Tighten the nut until cap between retaining and sealing ring is closed
		Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings

EO-2 Problem	Probable cause	Suggested solution
Tube blow out	Fitting undertightened	Mark nut and body to indicate correct assembly
		Use recommended lubrication
		Pre-assemble joints away from installation to assure proper bite
	FM … steel is used	Use exclusively FM stainless steel with stainless steel on stainless steel tube, for combination of steel fitting/ stainless steel tube use FM…SSA nut
Short tube end fracture	Fatigue failure	Use swivel nut adapter (GZ…)

EO-2-FORM Problem	Probable cause	Suggested solution
Leak	Insufficiently tightened, shallow bite	Use correct spanners and spanner extensions especially for larger sizes and stainless steel fittings
	Damaged fitting	Check for damage
		Handle all components carefully
	Damage of fitting cone	Make sure tube is bottomed at assembly
	Contamination between sealing surfaces	Keep all components clean
	Hidden crack	Check for cracks, replace if necessary
	Mismatch of components	Select all components according to system application and product specification
		Use genuine Parker components
	Phantom leak from assembly lubricant	Carefully identify proper source of leak
		Don't over use lubricant
	Sealing ring (DOZ) missing	Use plugs for transport of preassembled tubes. Check assembly before final installation
	Incorrect tube forming	Check assembly before installation
		Use correct tool according to tube diameter, wall thickness and material
		Regularly check tools for wear and damage
		Replace damaged tooling
		Use specified lubricant LUBSS on forming process
	Misalignment	Stress free installation. Flanged tube end needs contact to stud ends before final tightening. Check length and bends of tubing to ensure this
Crack	Fatigue failure of tube under vibration	Stress free installation
		Proper use of clamps
		Bulkhead connection and hose to isolate joints from vibration
	Severe working conditions	Make sure that operating conditions (pressure, corrosion, temperature, pressure peaks…) do not exceed fitting performance