1) CIL ITEM : 8400-24
2) FMEA CODE : 8400
3) COMPONENT : HPOTP
4) PART NUMBER : RS007701
5) SYSTEM/SUBSYSTEM : PUMPS/8XXX
6) FAILURE MODE : FRETTING OF INTERNAL PARTS

7) PREPARED : SSME RELIABILITY
8) APPROVED :
9) DATE : 06-01-95
10) REVISION/CHANGE : -002/0
11) EFFECTIVITY : -761
12) HAZARD REFERENCE : SEE LISTINGS BELOW
13) ECBD # : ME3-01-3075

PHASE	FAILURE DESCRIPTION/EFFECT	CRITICALITY
SMC	FIRE FROM IGNITION OF INTERNAL PARTS. LOSS OF VEHICLE. REDUNDANCY SCREENS: SINGLE POINT FAILURE: N/A ----------	1 HAZARD REF: ME-C1S,M, ME-C1A,C

CIL ITEM: B400-24	DESIGN	DOCUMENT REF.
	FAILURE CAUSE A: RELATIVE MOTION OF:	
	(1) FORWARD DAMPING SEAL	(1) RS007764
	(2) PREBURNER PUMP VOLUTE	(2) RS007739
	(3) RETAINER RING	(3) RS007758
	(4) BOLTS	(4) RS007792
	(5) LOCKWASHERS	(5) RS007794
		(6) RS007701
	THE FORWARD DAMPING SEAL (1) IS PILOTED BY THE PREBURNER PUMP VOLUTE (2) AND IS RETAINED BY A RETAINER RING (3) WITH 12 BOLTS (4) AND LOCKWASHERS (5). THE SEAL IS SILVER. THE VOLUTE IS INCONEL 718. THE RING IS K-MONEL. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE BOLTS (4) AND LOCKWASHERS (5). BOLT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTERFERENCE PILOT BETWEEN THE SEAL AND VOLUTE, THE DIFFERENTIAL HARDNESS AND MATERIALS AT THE INTERFACES, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	
	(1) REAR DAMPING SEAL	(1) RS007766
	(2) SUPPORT	(2) RS007937
	(3) RETAINER RING	(3) RS007761
	(4) BOLTS	(4) RS007792
	(5) LOCKWASHERS	(5) RS007794
	(6) PRESSURE-ASSISTED SEAL	(6) RES1265
	(7) PREBURNER PUMP VOLUTE	(7) RS007739
		(8) RS007701
	THE REAR DAMPING SEAL (1) IS PILOTED BY THE SUPPORT (2) AND IS SECURED, ALONG WITH THE RETAINER RING (3), BY 9 BOLTS (4) AND LOCKWASHERS (5). THE PRESSURE-ASSISTED SEAL (6) IS RETAINED IN A CAVITY FORMED BY THE RING, SEAL, AND PREBURNER PUMP VOLUTE (7). THE PRESSURE-ASSISTED SEAL IS INCONEL X-750 AND IS SILVER PLATED (6). THE DAMPING SEAL IS SILVER. THE SUPPORT AND VOLUTE ARE INCONEL 718. THE RING IS K-MONEL. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE BOLTS (4) AND LOCKWASHERS (5). BOLT FINAL TORQUE IS SPECIFIED (8). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTERFERENCE PILOT BETWEEN THE DAMPING SEAL AND SUPPORT, THE DIFFERENTIAL HARDNESS AND MATERIAL AT THE INTERFACES, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	

CIL ITEM: 9600-26	DESIGN	DOCUMENT REF.
	(1) SUPPORT (2) PREBURNER PUMP VOLUTE (3) MAIN HOUSING (4) BOLTS (5) LOCKWASHERS THE SUPPORT (1) IS PILOTED BY THE PREBURNER PUMP VOLUTE (2) AND MAIN HOUSING (3) AND IS SECURED BY 18 STRETCH BOLTS (4), AND LOCKWASHERS (5). THE SUPPORT, VOLUTE, AND HOUSING ARE INCONEL 718. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE SUPPORT (1) AT THE HOUSING INTERFACE, AND ON THE BOLTS (4) AND LOCKWASHERS (5). BOLT FINAL TORQUE AND ELONGATION ARE SPECIFIED (6). THE COMPRESSION SUPPLIED BY THE MULTIPLE STRETCH BOLTS, THE INTERFERENCE PILOTS BETWEEN THE SUPPORT-TO-HOUSING AND VOLUTE, AND DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007937 (2) RS007739 (3) RS007729 (4) RS007793 (5) RS007878 (6) RS007701
	(1) ISOLATOR (2) THERMAL SHIELD (3) SUPPORT (4) BOLTS (5) LOCKWASHERS THE ISOLATOR (1) AND THERMAL SHIELD (2) ARE PILOTED BY THE SUPPORT (3) AND IS SECURED BY 9 BOLTS (4) AND LOCKWASHERS (5). THE ISOLATOR, SUPPORT, AND THERMAL SHIELD ARE INCONEL 718. THE BOLTS ARE A-286 CRES. THE LOCKWASHERS ARE 321 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE ISOLATOR (1), THERMAL SHIELD (2), BOLTS (4), AND LOCKWASHERS (5). BOLT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY THE MULTIPLE BOLTS, THE INTEREFERENCE PILOTS BETWEEN THE SUPPORT-TO-ISOLATOR AND SHIELD, AND DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007933 (2) RD011320 (3) RS007937 (4) RD017251 (5) RD017242 (6) RS007701
	(1) PUMP END BEARINGS (2) ISOLATOR (3) PRELOAD SPRING THE OUTER RACES OF THE PUMP END BEARINGS (1) ARE DESIGNED TO SLIDE AXIALLY IN THE ISOLATOR BORE (2). A SPRING (3) MAINTAINS PRELOAD BETWEEN THE BEARING SET. THE ISOLATOR IS INCONEL 718. THE BEARINGS ARE 440C CRES. THE SPRING IS INCOLOY 903. THE ISOLATOR BORE IS CHROME PLATED AND DRY-FILM LUBRICATED (2). THE DIFFERENTIAL HARDNESS AND MATERIALS AT THE INTERFACES AND DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007958 (2) RS007953 (3) RD012228

CIL ITEM: B400-24	DESIGN	DOCUMENT REF.
	(1) PREBURNER IMPELLER/SPLINE (2) SHAFT/SPLINE (3) BOLT (4) LOCKWASHER (5) MAIN IMPELLER NUT THE PREBURNER IMPELLER (1) IS PILOTED BY THE SHAFT (2), AND IS SECURED BY A STRETCH BOLT (3) AND LOCKWASHER (4). THE IMPELLER IS INCONEL 718. THE SHAFT IS WASPALOY. THE BOLT IS A-286 CRES. THE LOCKWASHER IS HASTELLOY B-2. THE PRELOAD SUPPLIED BY THE BOLT IS AUGMENTED BY IMPELLER FLUID FORCES WHICH SEAT THE IMPELLER AGAINST THE MAIN IMPELLER NUT (5). BOLT FINAL TORQUE AND ELONGATION ARE SPECIFIED (6). THE NUT IS INCONEL 718. DRY-FILM LUBRICATION IS UTILIZED AT THE INTERFACES OF THE IMPELLER (1), SHAFT (2), BOLT (3), LOCKWASHER (4), AND NUT (5). THE COMPRESSION SUPPLIED BY THE STRETCH BOLT AND FLUID FORCES THE INTERFERENCE PILOT BETWEEN THE SHAFT AND IMPELLER, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007723 (2) RS007737 (3) [illegible] (4) RS007728 (5) R0017249 (6) RS007701
	(1) PUMP END BEARINGS (2) PREBURNER IMPELLER (3) SPACERS (4) SPACERS (5) RETAINER NUT (6) LOCKWASHER THE PUMP END BEARING INNER RACES (1) ARE PILOTED BY THE PREBURNER IMPELLER (2) AND ARE SECURED, ALONG WITH SPACERS (3) (4), BY A RETAINER NUT (5), AND LOCKWASHER (6). THE BEARINGS ARE 440C CRES. THE SPACERS ARE A-286 CRES. THE IMPELLER AND NUT ARE INCONEL 718. THE LOCKWASHER IS 302 CRES. NUT FINAL TORQUE IS SPECIFIED (7). THE IMPELLER JOURNAL IS CHROME PLATED AND DRY-FILM LUBRICATED (2). THE NUT (5) AND LOCKWASHER (6) ARE DRY-FILM LUBRICATED. THE COMPRESSION SUPPLIED BY THE NUT, THE INTERFERENCE PILOT BETWEEN THE BEARING AND IMPELLER, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007958 (2) RS007723 (3) R0016038 (4) RS007744 (5) R0017254 (6) RS007722 (7) RS007701
	(1) MAIN IMPELLER/SPLINE (2) SHAFT/SPLINE (3) SPACERS (4) RETAINER NUT (5) LOCKWASHER THE MAIN IMPELLER (1) IS PILOTED BY THE SHAFT (2) AND IS SECURED, ALONG WITH SPACERS (3), BY A RETAINER NUT (4), AND LOCKWASHER (5). THE IMPELLER, SHIMS, AND NUT ARE INCONEL 718. THE SHAFT IS WASPALOY. THE LOCKWASHER IS 302 CRES. THE THREADS ON THE SHAFT AND NUT ARE ROLLED TO DRAWING REQUIREMENTS FOR INCREASED CLAMPING FORCE (2) (4). NUT FINAL	(1) RS007718 (2) RS007703 (3) RS007719 (4) R0017249 (5) RS007789 (6) RS007701

CIL ITEM: B400-24	DESIGN	DOCUMENT REF.
	TORQUE IS SPECIFIED (6). DRY-FILM LUBRICATION IS UTILIZED ON THE SHAFT (2), NUT (4), AND LOCKWASHER (5). THE COMPRESSION SUPPLIED BY THE NUT, THE INTEFERENCE PILOT BETWEEN THE SHAFT AND IMPELLER, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	
	(1) LEFT BALANCE PISTON RING (2) SEAL (3) MAIN HOUSING (4) TURNING VANE (5) SHIM (6) BOLTS (7) LOCKWASHERS	(1) RS007765 (2) RS007773 (3) RS007729 (4) RS007743 (5) RS007788 (6) RS007792 (7) RS007794 (8) RS007701
	THE LEFT BALANCE PISTON RING (1) IS PILOTED BY THE SEAL (2), WHICH IS PILOTED BY THE MAIN HOUSING (3), AND TURNING VANE (4). THE RING, SEAL, AND SHIM (5) ARE SECURED TO THE VANE BY 11 BOLTS (6) AND LOCKWASHERS (7). THE RING AND VANE ARE K-MONEL. THE SHIM AND MAIN HOUSING ARE INCONEL 718. THE SEAL IS SILVER. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. THE VANE, BOLTS, AND LOCKWASHERS ARE DRY-FILM LUBRICATED. BOLT FINAL TORQUE IS SPECIFIED (8). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTEREFERENCE PILOTS BETWEEN THE RING-TO-SEAL AND SEAL-TO-VANE INTERFACES, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	
	(1) LEFT TURNING VANE (2) SEAL (3) MAIN HOUSING (4) NUT (5) LOCK	(1) RS007743 (2) RS007773 (3) RS007729 (4) RS007790 (5) RS007791 (6) RS007701
	THE LEFT TURNING VANE (1) AND THE SEAL (2), ARE PILOTED BY THE MAIN HOUSING (3), AND IS SECURED BY A NUT (4), AND LOCK (5). THE VANE IS K-MONEL. THE SEAL IS SILVER. THE HOUSING AND NUT ARE INCONEL 718. THE LOCK IS 302 CRES. THE VANE (1), NUT (4), AND LOCK (5) ARE DRY-FILM LUBRICATED. NUT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY THE NUT, THE INTEREFERENCE PILOT BETWEEN THE VANE AND HOUSING, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	

CIL ITEM: 8400-24	DESIGN	DOCUMENT REF.
	(1) RIGHT BALANCE PISTON RING (2) SEAL (3) MAIN HOUSING (4) TURNING VANE (5) BOLTS (6) LOCKWASHERS THE RIGHT BALANCE PISTON RING (1) IS PILOTED BY THE SEAL (2), WHICH IS PILOTED BY THE MAIN HOUSING (3). THE RING AND SEAL IS SECURED TO THE TURNING VANE (4) BY 11 BOLTS (5) AND LOCKWASHERS (6). THE RING AND VANE ARE K-MONEL. THE SEAL IS SILVER. THE HOUSING IS INCONEL 718. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. THE VANE (4), BOLTS (5), AND LOCKWASHERS (6) ARE DRY-FILM LUBRICATED. BOLT FINAL TORQUE IS SPECIFIED (7). THE COMPRESSION SUPPLIED BY THE MULTIPLE BOLTS, THE INTERFERENCE PILOT BETWEEN THE SEAL AND HOUSING, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007780 (2) RS007727 (3) RS007729 (4) RS007741 (5) RS007792 (6) RS007794 (7) RS007701
	(1) RIGHT TURNING VANE (2) SEAL (3) MAIN HOUSING (4) BOLTS (5) LOCKWASHER THE RIGHT TURNING VANE (1), WHICH HAS THE SEAL (2) ATTACHED TO IT, IS PILOTED BY THE MAIN HOUSING (3), AND IS SECURED BY 11 BOLTS (4) AND LOCKWASHERS (5). THE VANE IS K-MONEL. THE HOUSING IS INCONEL 718. THE SEAL IS SILVER. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE VANE (1), BOLTS (4), AND LOCKWASHERS (5). BOLT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTERFERENCE PILOTS BETWEEN THE VANE-TO-HOUSING AND SEAL-TO-HOUSING INTERFACES, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007741 (2) RS007727 (3) RS007729 (4) RS007792 (5) RS007794 (6) RS007701
	(1) SUPPORT (2) CARTRIDGE (3) ANTI-VORTEX RING (4) LOK SEAL RETAINER (5) GASKET (6) MAIN HOUSING (7) BOLTS (8) LOCKWASHERS THE SUPPORT (1), CARTRIDGE (2), ANTI-VORTEX RING (3), LOK SEAL RETAINER (4), AND GASKET (5) ARE SECURED TO THE MAIN HOUSING (6) BY 18 BOLTS (7) AND LOCKWASHERS (8). THE SUPPORT AND RETAINER ARE PILOTED BY THE HOUSING. THE RING IS PILOTED BY THE CARTRIDGE, WHICH IS PILOTED BY THE SUPPORT. THE SUPPORT, CARTRIDGE, RING, RETAINER, AND HOUSING ARE	(1) RS007975 (2) RS007974 (3) RS007973 (4) RS007920 (5) RS007784 (6) RS007729 (7) RS007945 (8) R0017647 (9) RS007701

CIL ITEM: 0400-24	DESIGN	DOCUMENT REF.
	INCONEL 718. THE GASKET AND LOCKWASHERS ARE 321 CRES. THE BOLTS ARE A-286 CRES. THE CARTRIDGE IS CHROME PLATED (2) AT THE SUPPORT INTERFACE. THE GASKET IS SILVER PLATED (5). DRY-FILM LUBRICATION IS UTILIZED ON THE SUPPORT (1), CARTRIDGE (2), RING (3), AND RETAINER (4) PILOTS. THE BOLTS ARE DRY-FILM LUBRICATED (7). BOLT FINAL TORQUE IS SPECIFIED (9). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTERFERENCE PILOTS, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	
	(1) TURBINE END BEARINGS (2) CARTRIDGE (3) PRELOAD SPRINGS	(1) RS007955 (2) RS007974 (3) R0012230
	THE OUTER RACES OF THE TURBINE END BEARINGS (1) ARE RETAINED BY THE CARTRIDGE BORE (2). TWO SPRINGS (3) MAINTAIN PRELOAD BETWEEN THE BEARINGS AND THE CARTRIDGE LIP. THE CARTRIDGE IS INCONEL 718. THE BEARINGS ARE 440C CRES. THE SPRINGS ARE INCOLOY 903. THE CARTRIDGE BORE AND LIP ARE CHROME-PLATED AND DRY-FILM LUBRICATED (2). THE DIFFERENTIAL HARDNESS AND MATERIALS AT THE INTERFACES AND DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	
	(1) TURBINE END BEARINGS (2) LABYRINTH SEAL (3) MATING RING (4) THERMAL SHIELD (5) SHAFT (6) DIVERTER RING (7) SPACER (8) RETAINER NUT (9) LOCKS	(1) RS007955 (2) RS007939 (3) RS007940 (4) RS007941 (5) RS007703 (6) RS007953 (7) RS007765 (8) RS007715 (9) RS007716 (10) RS007701
	THE TURBINE END BEARINGS (1), LABYRINTH SEAL (2), MATING RING (3), AND THERMAL SHIELD (4) ARE PILOTED BY THE SHAFT (5), AND ARE SECURED, ALONG WITH THE DIVERTER RING (6) AND SPACER (7), BY A RETAINER NUT (8) AND LOCKS (9). THE DIVERTER IS PILOTED BY THE LABYRINTH SEAL. THE SHAFT IS WASPALOY. THE BEARINGS ARE 440C CRES. THE SPACER IS A-286 CRES. THE DIVERTER IS INCOLOY 903. THE SEAL AND NUT ARE K-MONEL. THE RING AND SHIELD ARE INCONEL 718. THE LOCKS ARE 302 CRES. THE SEAL (2) AND SHIELD (4) ARE SILVER PLATED. DRY-FILM LUBRICATION IS UTILIZED ON THE SHAFT (5), RING (4), NUT (8), AND LOCKS (9). THE THREADS ON THE SHAFT (5) AND NUT (8) ARE ROLLED TO DRAWING REQUIREMENTS FOR INCREASED CLAMPING FORCE. NUT FINAL TORQUE IS SPECIFIED (10). THE COMPRESSION SUPPLIED BY THE NUT, THE INTERFERENCE PILOTS, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	

CIL ITEM: B4DD-24	DESIGN	DOCUMENT REF.
	(1) OXIDIZER SEAL (2) RETAINER (3) RETAINER RING (4) BOLTS (5) LOCKWASHERS THE OXIDIZER SEAL (1) IS PILOTED BY THE RETAINER (2), AND IS SECURED, ALONG WITH A RETAINER RING (3), BY 12 BOLTS (4) AND LOCKWASHERS (5). THE SEAL IS KEL-F. THE RETAINER AND RING ARE INCONEL 718. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. DRY-FILM LUBRICATION IS UTILIZED ON THE BOLTS (4) AND LOCKWASHERS (5). BOLT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE INTERFERENCE PILOT BETWEEN THE SEAL AND RETAINER, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007921 (2) RS007920 (3) RS007918 (4) RS007792 (5) RS007794 (6) RS007701
	(1) INTERMEDIATE SEAL (2) THERMAL SHIELD (3) MAIN HOUSING (4) BOLTS (5) LOCKWASHERS THE INTERMEDIATE SEAL (1), AND THE THERMAL SHIELD (2), ARE SECURED TO THE MAIN HOUSING (3) BY 18 BOLTS (4) AND LOCKWASHERS (5). THE SEAL HOUSING AND MAIN HOUSING IS INCONEL 718. THE SHIELD IS 321 CRES. THE BOLTS AND LOCKWASHERS ARE A-286 CRES. THE INTERFACE OF THE TWO HALVES OF THE SEAL HOUSING (1) AND THE SHIELD (2) ARE SILVER PLATED. THE BOLTS ARE DRY-FILM LUBRICATED (4). BOLT FINAL TORQUE IS SPECIFIED (6). THE COMPRESSION SUPPLIED BY MULTIPLE BOLTS, THE DIFFERENTIAL HARDNESS AND MATERIALS, AND THE USE OF DRY-FILM LUBRICATION PROTECTION WILL MINIMIZE FRETTING.	(1) RS007910 (2) RS007782 (3) RS007703 (4) RS007895 (5) RS007874 (6) RS007701
	INCONEL 718, INCONEL X-750, INCOLOY 903, WASPALOY, HASTELLOY B-2, A-286 CRES, 302 CRES, 304 CRES, 321 CRES, 440C CRES, K-MONEL, SILVER, KEL-F, AND DRY-FILM LUBRICATION MEET LOX COMPATIBILITY REQUIREMENTS (1). ASSEMBLY PROCEDURES FOR LOCKING DEVICES ENSURE DEFECT-FREE INSTALLATION (2). REUSE OF PARTS DURING OVERHAUL ARE CONTROLLED BY THE REQUIREMENTS OF THE OVERHAUL SPECIFICATION (3).	(1) RSS-8578-11 (2) RL00814 (3) RL00874

CIL ITEM: 9400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
FAILURE CAUSE A:	RS007764 - SEAL, FORWARD DAMPING		RS007764
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007764
	RS007758 - RETAINER RING		RS007758
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	RS007739 - PREBURNER PUMP VOLUTE		RS007739
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007792
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007794 - WASHER		RS007794
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701

CIL ITEM: 0400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007766 - REAR DAMPING SEAL		RS007766
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007766
	RS007761 - RETAINER RING		RS007761
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	RES1265 - PRESSURE-ASSISTED SEAL		RES1265
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RES1265
	SURFACE FINISH	PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-001
	RS007937 - SUPPORT		RS007937
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007739 - PREBURNER PUMP VOLUTE		RS007739
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007792

CIL ITEM: B400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007794 - WASHER		RS007794
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701
	RS007937 - SUPPORT		RS007937
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007739 - PREBURNER PUMP VOLUTE		RS007739
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	RS007793 - BOLT		RS007793
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007793
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701

CIL ITEM: 6400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007878 - WASHER		RS007878
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007878
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007878 RS007701
	RS007933 - ISOLATOR		RS007933
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002
	RS007937 - SUPPORT		RS007937
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	R0011320 - BOLT		R0011320
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	R0011320
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	R0017251 - WASHER		R0017251
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	R0017251

CIL ITEM: 9400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R0017259 RS007701
	RS007933 - ISOLATOR		RS007933
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002
	RS007958 - PUMP BEARINGS		RS007958
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-039 RA1609-040 RA0112-003
	R0012228 - PRELOAD SPRING		R0012228
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-196
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-196
	SPRING INTEGRITY	SPRING CHARACTERISTICS ARE VERIFIED PER DRAWING REQUIREMENTS.	R0012228
	RS007723 - PREBURNER IMPELLER		RS007723
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155

CIL ITEM: B400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002
	RS007703 - SHAFT		RS007703
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RD017249 - MAIN IMPELLER NUT		RD017249
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	NUT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007726 - PREBURNER IMPELLER BOLT		RS007726
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-014
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	NUT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007728 - LOCK		RS007728
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-052
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003

CIL ITEM: B400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	LOCK DEFORMATION	LOCK DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007728 RS007701
	RS007958 - PUMP BEARING		RS007958
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-039 RA1609-060 RA0112-003
	R0016038 - SPACER		R0016038
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	R0016038
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	R0016038
	RS007744 - SPACER		RS007744
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RS007744
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007744
	RS007723 - PREBURNER IMPELLER		RS007723
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-155
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002

CIL ITEM: 6400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	(NSPECTION(S)/TEST(S)	DOCUMENT REF.
	R0017254 - PUMP BEARING RETAINER NUT		R0017254
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007722 - LOCK		RS007722
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007722
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	LOCK DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007722 RS007701
	RS007718 - MAIN IMPELLER		RS007718
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	RS007719 - SHIMS		RS007719
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	RS007703 - SHAFT		RS007703
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002

CIL ITEM: 840D-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	R0017249 - MAIN IMPELLER NUT		R0017249
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RAD112-003
	ASSEMBLY INTEGRITY	NUT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007789 - LOCK		RS007789
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007789
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RAD112-003
	ASSEMBLY INTEGRITY	LOCK DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007789 RS007701
	RS007765 - LEFT BALANCE PISTON RING		RS007765
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-051
	RS007773 - SEAL		RS007773
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007773
	RS007788 - SHIM		RS007788
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-154
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R80170-154

CIL ITEM: 0400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007743 - LEFT HAND TURNING VANE		RS007743
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RA0115-116
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007792
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007794 - WASHER		RS007794
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701

CIL ITEM: B400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007743 - LEFT HAND TURNING VANE		RS007743
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RA0115-116
	RS007773 - BALANCE PISTON SEAL		RS007773
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RS007773
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007773
	RS007790 - NUT		RS007790
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	NUT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701

CIL ITEM: B400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007791 - LOCK		RS007791
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007791
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	LOCK DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007791 RS007701
	RS007780 - RIGHT BALANCE PISTON RING		RS007780
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	RS007727 - SEAL		RS007727
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007727
	RS007741 - RIGHT HAND TURNING VANE		RS007741
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155

CIL ITEM: 8400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RB0115-116
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007792
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007794 - WASHER		RS007794
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701
	RS007741 - RIGHT HAND TURNING VANE		RS007741
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051

CIL ITEM: 8400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RA0115-116
	RS007727 - BALANCE PISTON SEAL		RS007727
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007727
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007792
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007794 - WASHER		RS007794
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003

CIL ITEM: B400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701
	RS007975 - SUPPORT		RS007975
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0140-016 RA0112-003
	RS007974 - CARTRIDGE		RS007974
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002 RA1109-001
	RS007973 - SLINGER RING		RS007973
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007920 - OXIDIZER SEAL RETAINER		

CIL ITEM: B400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007784 - GASKET		RS007784
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RB007784
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007784
	SURFACE FINISH	PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RA0115-116
	RS007945 - BOLT		RS007945
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-014
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003

CIL ITEM: 8400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	ASSEMBLY REQUIREMENTS	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	R0017647 - WASHER		R0017647
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	R0017647
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	R0017647 RS007701
	RS007974 - CARTRIDGE		RS007974
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002 RA1109-001
	RS007955 - TURBINE BEARINGS		RS007955
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-039 RA1609-060 RA0112-003
	R0012230 - PRELOAD SPRINGS		R0012230
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-196
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-196
	ASSEMBLY INTEGRITY	SPRING CHARACTERISTICS ARE VERIFIED PER DRAWING AND SPECIFICATION REQUIREMENTS.	RS007701 RL00814

CIL ITEM: 0400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007703 - SHAFT		RS007703
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-182
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003 RA1609-039 RA1609-040
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002
	RS007955 - TURBINE BEARINGS		RS007955
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-064
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007745 - SPACER		RS007745
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RS007745
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007745
	RS007939 - LABYRINTH SEAL		RS007939
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007940 - MATING RING		RS007940

CIL ITEM: 0400-24		INSPECTION AND TEST	
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-002
	RS007941 - THERMAL SHIELD		RS007941
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-154
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-154
	SURFACE FINISH	PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007715 - TURBINE BEARING RETAINER NUT		RS007715
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-051
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	NUT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007716 - LOCK		RS007716
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007716
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	LOCK DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007701 RS007716

CIL ITEM: 6400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	RS007921 - OXIDIZER SEAL		RS007921
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0130-094
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0130-094
	RS007920 - RETAINER		RS007920
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
		PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007918 - RETAINER RING		RS007918
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	RS007792 - BOLT		RS007792
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007792
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	RS007794 - WASHER		RS007794

CIL ITEM: B400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007794
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007794 RS007701
	RS007930 - INTERMEDIATE SEAL		RS007930
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153
	SURFACE FINISH	PLATING IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA1609-011
	RS007782 - THERMAL SHIELD		RS007782
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER DRAWING REQUIREMENTS.	RS007782
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007782
	RS007729 - MAIN HOUSING		RS007729
	MATERIAL INTEGRITY	MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0170-153 RB0170-154 RB0170-155 RA0611-020
	ASSEMBLY INTEGRITY	MAIN HOUSING WELDS 22 & 24 ARE MASS SPECTROMETER LEAK CHECKED PER SPECIFICATION REQUIREMENTS.	RA0115-116
	RS007895 - BOLT		RS007895

CIL ITEM: 8400-24	INSPECTION AND TEST		
POSSIBLE CAUSES	SIGNIFICANT CHARACTERISTICS	INSPECTION(S)/TEST(S)	DOCUMENT REF.
	HEAT TREAT	HEAT TREAT IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RB0160-014
	SURFACE FINISH	DRY-FILM LUBRICATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RA0112-003
	ASSEMBLY INTEGRITY	BOLT TORQUE IS VERIFIED PER ASSEMBLY DRAWING REQUIREMENTS.	RS007701
	RS007874 - WASHER		RS007874
	HEAT TREAT	HEAT TREAT IS VERIFIED PER DRAWING REQUIREMENTS.	RS007874
	ASSEMBLY INTEGRITY	WASHER DEFORMATION IS VERIFIED PER SPECIFICATION REQUIREMENTS.	RS007874 RS007701
	RS007701 - HPOTP		
	ASSEMBLY INTEGRITY	THE PUMP SUBASSEMBLIES ARE INSPECTED DURING OVERHAUL PER SPECIFICATION REQUIREMENTS. INSPECTIONS INCLUDE: VISUAL, DIMENSIONAL, PENETRANT, AND REPLACEMENT OF USAGE ITEMS AS APPLICABLE, PER OVERHAUL CLASSIFICATION.	RL00874 RA0P15-116
		FASTENER INSTALLATION, TORQUE, AND ELONGATION ARE VERIFIED PER DRAWING AND SPECIFICATION REQUIREMENTS.	RS007701 RL00814
		LOCK AND LOCKWASHER DEFORMATION IS VERIFIED PER DRAWING AND SPECIFICATION REQUIREMENTS.	RS007701 RL00814

FAILURE HISTORY: COMPREHENSIVE FAILURE HISTORY DATA IS MAINTAINED IN THE PROBLEM REPORTING DATABASE (PRAHS/PRACA).
REFERENCE: NASA LETTER SA21/88/308 AND ROCKETDYNE LETTER RRRC09761.

OPERATIONAL USE: NOT APPLICABLE.

TABLE B400. HIGH PRESSURE OXIDIZER TURBOPUMP
FMEA/CIL WELD JOINTS

COMPONENT	BASIC PART NO.	WELD NO.	WELD TYPE	CLASS	ROOT SIDE NOT ACCESS	CRITICAL INITIAL FLAW SIZE NOT DETECTABLE HCF	LCF	COMMENTS
MAIN HOUSING	RS007729	1,2	EBW	1	X	X		
MAIN HOUSING	RS007729	3	EBW	1		X		
MAIN HOUSING	RS007729	9,10	GTAW	II	X	X	X	
MAIN HOUSING	RS007729	11,12	GTAW	I		X		
MAIN HOUSING	RS007729	13	EBW	1	X	X		
MAIN HOUSING	RS007729	14-17,46	GTAW	II	X			
MAIN HOUSING	RS007729	18,19	GTAW	II	X	X	X	
MAIN HOUSING	RS007729	21,23	GTAW	II	X			
MAIN HOUSING	RS007729	22,24	GTAW	II	X			
MAIN HOUSING	RS007729	44,55-59	GTAW	I	X			
MAIN HOUSING	RS007729	45	GTAW	I	X			
MAIN HOUSING	RS007729	48	GTAW	I	X	X	X	
MAIN HOUSING	RS007729	49	GTAW	I	X			
MAIN HOUSING	RS007729	50	GTAW	I				
MAIN HOUSING	RS007729	51,52	GTAW	I	X			
MAIN HOUSING	RS007729	54	GTAW	I	X			
MAIN HOUSING	RS007729	55,56	GTAW	I	X			
MAIN HOUSING	RS007729	61	GTAW	I				
MAIN HOUSING	RS007729	62	GTAW	I	X			
MAIN HOUSING	RS007729	63	GTAW	I				
MAIN HOUSING	RS007729	64	GTAW	I	X	X		
MAIN HOUSING	RS007729	65	GTAW	1	X			
MAIN HOUSING	RS007729	66-70	GTAW	II	X			
INLET HOUSING	RS007732	4	GTAW	I		X		
INLET HOUSING	RS007732	8,9	GTAW	I		X		
VOLUTE	RS007732	10,15	GTAW	I	X	X		
VOLUTE	RS007732	20,21	GTAW	I				
VOLUTE	RS007732	22,23	GTAW	1				
VOLUTE	RS007732	24,27	GTAW	I		X	X	
VOLUTE	RS007732	25,26	GTAW	I				
FLANGE	RS007736	1,2	GTAW	II	X			
FLANGE	RS007736	3,26	GTAW	II	X			

TABLE B400. HIGH PRESSURE OXIDIZER TURBOPUMP
FMEA/CIL WELD JOINTS

COMPONENT	BASIC PART NO.	WELD NO.	WELD TYPE	CLASS	ROOT SIDE NOT ACCESS	CRITICAL INITIAL FLAW SIZE NOT DETECTABLE HCF	LCF	COMMENTS
FLANGE	R0007736	6,7	GTAW	II	X			
FLANGE	R0007736	9-12,17	GTAW	II	X			
FLANGE	R0007736	13-16	GTAW	II	X			
FLANGE	R0007736	18,20	GTAW	I	X			
FLANGE	R0007736	19,21	GTAW	II	X			
FLANGE	R0007736	22	EBW	I	X			
FLANGE	R0007736	23	GTAW	II				
FLANGE	R0007736	24	GTAW	II	X			
FLANGE	R0007736	26	GTAW	II	X			
BELLOWS	R0007740	1,2,5,9	GTAW	I		X		
BELLOWS	R0007740	3,4	EBW	I				
HOUSING	R0007746	1,2	GTAW	I	X	X	X	
HOUSING	R0007746	3	GTAW	I	X			
HOUSING	R0007746	4	GTAW	II	X			
HOUSING	R0007746	5	GTAW	II	X	X		
HOUSING	R0007746	6-17	GTAW	II	X	X		
HOUSING	R0007746	18-29	GTAW	II	X	X	X	
HOUSING	R0007746	30-41	GTAW	II		X	X	
BELLOWS	R0007748	1	EBW	I				
BELLOWS	R0007749	2	GTAW	I	X			
BELLOWS	R0007749	1-4	GTAW	I				
BELLOWS	R0007749	5,6	EBW	I				
BELLOWS	R0007749	11	EBW	I				
BELLOWS	R0007749	12	EBW	I				
BELLOWS	R0007751	3	EBW	I	X			
BELLOWS	R0007751	4	EBW	I	X	X	X	
BELLOWS	R0007751	8	GTAW	I	X	X		
SECOND STAGE NOZZLE	R0007752	1,2	EBW	I	X			
SECOND STAGE NOZZLE	R0007752	1	GTAW	I	X	X	X	
JET RING	R0007757	1	GTAW	I	X	X	X	
FAIRING	R0007774	1-12	GTAW	I		X		
FAIRING	R0007774	13-24	GTAW	I		X		

TABLE B400. HIGH PRESSURE OXIDIZER TURBOPUMP
PREA/CIL WELD JOINTS

COMPONENT	BASIC PART NO.	WELD NO.	WELD TYPE	CLASS	ROOT SIDE NOT ACCESS	CRITICAL INITIAL FLAW SIZE NOT DETECTABLE REF	LCF	COMMENTS
FAIRING	RS007774	25-36	BTAW	I		X		
FAIRING	RS007774	74	BTAW	I				
FAIRING	RS007774	75,76	BTAW	II	X			
STRUT	RS007779	23-44, 143-164	BTAW	II	X			
STRUT	RS007779	45-66, 165-186	BTAW	II	X			
STRUT	RS007779	67	BTAW	II	X			
STRUT	RS007779	69,70	EBW	II	X			
STRUT	RS007779	71	EBW	II				
STRUT	RS007779	72	EBW	II				
STRUT	RS007779	73-94	EBW	II				
STRUT	RS007779	95,96	EBW	II	X			
SHIELD	RS007781	1,11	BTAW	II				
SHIELD	RS007781	2,3,4	BTAW	II				
SEAL	RS008848	1 PLC	BTAW	I				
SEAL	RS008857	1 PLC	BTAW	I		X	X	

FIELD CONFIGURATION VARIANCES FROM CIL RATIONALE

CIL ITEMS: B400-XX		HPOTP	P/N RS007791
BASE LINE RATIONALE	VARIANCE	CHANGE RATIONALE	VARIANT DASH NUMBER
1. B400-02, B400-03 SECOND STAGE NOZZLE CASTING IS HOT ISOSTATIC PRESSED PER DRAWING REQUIREMENTS. (ECP 1A-2949)	SECOND STAGE NOZZLE CASTINGS HAVE NOT BEEN HOT ISOSTATIC PRESSED	HOT ISOSTATIC PRESS INCREASES STRUCTURAL INTEGRITY BY REDUCING CASTING MICROPOROSITY. USE AS IS RATIONALE: 1. LIFE LIMIT ON NON HOT ISOSTATIC PRESSED 2ND STAGE NOZZLES REDUCES PROBABILITY OF LOW CYCLE FATIGUE CRACKING RESULTING FROM EXCESSIVE MICROPOROSITY. (DAR 2147) 2. A PENETRANT INSPECTION INTERVAL HAS BEEN IMPOSED ON NON HOT ISOSTATIC PRESSED 2ND STAGE NOZZLES TO VERIFY NO CRACKING IN EXCESS OF ALLOWABLE LIMITS. (DAR 2147)	-121, -131, -141, -151, -161, -171, -181, -191, -201, -211, -221, -231, -241, -251, -261, -271, -291, -301, -311, -331, -351, -371, -401
2. B400-13, B400-22 PROCESSED AND INSPECTED PER SPECIFICATION REQUIREMENTS (RL00916). (ECP 909)	BEARINGS ARE PROCESSED AND INSPECTED PER SPECIFICATION REQUIREMENTS (RL00558).	LONG TERM FATIGUE LIFE OF BEARING IS ENHANCED BY REDUCING THE ALLOWABLE SIZE AND QUANTITY OF ALLOWABLE DEFECTS. USE AS IS RATIONALE: 1. WEAR LIFE LIMIT ON BEARINGS PREVENTS WEAR FROM EXCEEDING ALLOWABLE LIMITS. (DAR 2054, DAR 2082) 2. CONTINUED USE WITH ALLOWABLE DISCREPANCIES IS CONTROLLED PER THE MAINTENANCE CONTROL DOCUMENT REQUIREMENTS (RSS-8795).	-121, -131, -141, -151, -161, -171, -181, -191, -201, -211, -221, -231, -241, -251, -261, -271, -291, -301, -311, -331, -351, -371, -401, -411 -421, -431, -441, -451, -461

FIELD CONFIGURATION VARIANCES FROM CIL RATIONALE

CIL ITEMS: 8400-RK		HPOTP	P/N RS007701
BASE LINE RATIONALE	VARIANCE	CHANGE RATIONALE	VARIANT DASH NUMBER
3. 8400-21 HOUSING DETAILS ARE ULTRASONIC INSPECTED PER DRAWING AND SPECIFICATION REQUIREMENTS. (ECP 680)	HOUSING DETAILS HAVE NOT BEEN ULTRASONIC INSPECTED PER DRAWING AND SPECIFICATION REQUIREMENTS.	THE ADDED NDI PROVIDES ADDED CONFIDENCE THAT THE CRITICAL FLAW SIZE IS DETECTED IN THE PARENT MATERIAL OF THE HOUSING DETAILS. USE AS IS RATIONALE: 1. HOUSING DETAILS ARE ACCEPTABLE WITHOUT ULTRASONIC INSPECTION DUE TO A PENETRANT INSPECTION OF THE HOUSING DETAILS. THE PENETRANT INSPECTION IS ADEQUATE TO DETECT CRITICAL INITIAL FLAWS WHICH ARE THROUGH CRACKS.	-121, -131, -141, -151, -161, -171, -181, -191, -201, -211, -221, -231, -241, -251, -261, -271, -291, -301, -311, -331, -351, -371, -401, -411 -421, -431, -441, -451, -461, -471, -481, -491, -501
4. 8400-21 FITTING MATERIAL INTEGRITY IS VERIFIED PER SPECIFICATION REQUIREMENTS (INCONEL 718, #80170-153).	RS007729-059 TEE-FITTING IS MANUFACTURED FROM AIR MELT 321 CRES BAR (QQ-S-763 CL321 COND A).	INCONEL 718 MATERIAL DOES NOT EXHIBIT INCLUSION STRINGERS WHICH ARE SUSCEPTABLE TO CHEMICAL ATTACK AND MAY RESULT IN LEAKAGE. USE AS IS RATIONALE: 1. FITTINGS ARE LEAK CHECKED FOLLOWING PROOF PRESSURE TEST PER RL00587. 2. LOADS INDUCED BY FABRICATION (WELDING AND PROOF PRESSURE TESTING) ARE HIGHER THAN OPERATIONAL LOADS AND SUFFICIENT TO SCREEN -059 FITTINGS FOR LEAKAGE.	-171, -181