

MAIN LANDING GEAR LEG

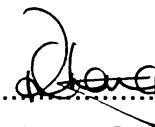
PART NUMBER

**201587001, 201587002
201587003, 201587004
201587005, 201587006
201587007, 201587008**

COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

STATEMENT OF INITIAL CERTIFICATION

This manual complies with British Civil Airworthiness Requirements, Section A, Chapter A5-3.

Signed 
Date 18.3.98

CAA Approval No. DAI/1018/39

NOTE: The above certification does not apply to revisions or amendments made after the date of initial certification by other Approved Organisations. Revisions or Amendments made by other Approved Organisations must each be separately certified and recorded on separate record sheets.

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SAFRAN LANDING SYSTEMS 2016 (AND SUBSEQUENT REVISION PAGE DATES)

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SAFRAN LANDING SYSTEMS UK Ltd

CAGE: K0654

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

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| 32-12-22

РУКОВОДСТВО ПО ТЕХНИЧЕСКОМУ ОБСЛУЖИВАНИЮ КОМПОНЕНТА 32-12-22

ОСНОВНАЯ СТОЙКА ШАССИ

СОПРОВОДИТЕЛЬНОЕ ПИСЬМО К РЕВИЗИИ № 69

1. ПОСТОЯННЫЕ РЕВИЗИИ

А. Убедиться, что ревизия № 68 внесена в руководство и зарегистрирована как вставленная..

2. NEW/REVISED PAGES

Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Record of Revisions	1	1	Mar 18/2025	Updated revision status
Unit Identification Chart	1 to 4	1 to 8	Mar 18/2025	Added Ref. Codes 2253 and 2255 details
List of Effective Pages	1 to 14	1 to 16	Mar 18/2025	Updated pages
Table of Contents	1 to 12	1 to 14	Mar 18/2025	Added content. Updated page numbers. Updated figure numbers
Disassembly	314 to 316	314 to 316	Mar 18/2025	Added para 2.P.(31)
Check	504, 507 to 512	504, 507 to 514	Mar 18/2025	Updated tables 501 and 502
Repair	606 to 684	606 to 698.2	Mar 18/2025	Updated table 601. Updated caution at para 3.C. Updated figure titles. Deleted figures 626, 627, 649, 650, 653 and 654. Updated figure 626. Added figures 642 648. Updated table 602. Updated figure numbers
Repair No. 9-1	601 and 602	601 and 602	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-2	601 to 603	601 to 603	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems

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Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Repair No. 9-4	601 and 602	601 and 602	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-5	601	601	Mar 18/2025	Added fig-item (18-80A) in paras 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-6	601 and 602	601 and 602	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-7	601 and 602	601 and 602	Mar 18/2025	Added fig-item (18-80A) in paras 1. and 1.A.(2)
Repair No. 9-8	601 to 603 and 605	601 to 603 and 605	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems. Updated conversion value in figure 602
Repair No. 9-9	601 and 602	601 and 602	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-10	601 to 606	601 to 608	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 9-11	601, 602 and 605	601, 602 and 605	Mar 18/2025	Added fig-item (18-80A) in para 1. Updated material specification in para 1.D.(1). Updated Messier-Dowty Limited to Safran Landing System. Updated figure 603

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Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Repair No. 11-1	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-2	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-3	601 to 603	601 to 603	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-4	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-5	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-6	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-7	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-8	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems

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Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Repair No. 11-9	601 to 603	601 to 603	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-11	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-12	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-13	601 to 603	601 to 603	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-14	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-17	601	601	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-18	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1
Repair No. 11-19	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1
Repair No. 11-20	601	601	Mar 18/2025	Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-21	601	601	Mar 18/2025	Updated fig-items in para 1

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Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Repair No. 11-22	601	601	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-23	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Added caution at para 1.E. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-24	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-25	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-27	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-28	601 and 602	601 and 602	Mar 18/2025	Updated fig-items in para 1. Updated Messier-Dowty Limited to Safran Landing Systems
Repair No. 11-31	-	601 to 604	Mar 18/2025	Added repair no. 11-31
Repair No. 11-32	-	601 to 606	Mar 18/2025	Added repair no. 11-32
Repair No. 11-33	-	601 to 606	Mar 18/2025	Added repair no. 11-33
Repair No. 11-34	-	601 to 606	Mar 18/2025	Added repair no. 11-34
Repair No. 11-35	-	601 to 606	Mar 18/2025	Added repair no. 11-35
Repair No. 11-36	-	601 to 604	Mar 18/2025	Added repair no. 11-36
Repair No. 11-37	-	601 to 606	Mar 18/2025	Added repair no. 11-37
Repair No. 14-4	-	601 to 606	Mar 18/2025	Added repair no. 14-4

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Subject Reference	Remove and Destroy Pages	Insert New/Revised		Reason for Change
		Pages	Dated	
Repair No. 17-1	601 and 602	601 and 602	Mar 18/2025	Updated Messier-Dowty Limited to Safran Landing Systems. Updated table 601
Repair No. 18-8	-	601 to 604	Mar 18/2025	Added repair no. 18-8
Repair No. 21-1	601	601	Mar 18/2025	Updated fig-item (2-340) only in para 1
Repair No. 21-2	601	601	Mar 18/2025	Updated fig-item (2-340) only in para 1
Repair No. 21-3	601	601	Mar 18/2025	Updated fig-item (2-340) only in para 1
Repair No. 21-4	601	601	Mar 18/2025	Updated fig-item (2-350) only in para 1
Repair No. 21-5	601	601	Mar 18/2025	Updated fig-item (2-350) only in para 1
Repair No. 21-6	601	601	Mar 18/2025	Updated fig-item (2-350) only in para 1
Assembly (Including Storage)	701, 702, 704 to 709 and 729 to 798.6	701, 702, 704 to 709 and 729 to 798.12	Mar 18/2025	Updated paras 1.H.(1), 1.I.(1), 2.E, 2.F, 2.G, 2.H, 2.J, 2.K, 2.M, 2.N and 2.O. Added paras 2.I and 2.L. Added figure 713. Updated figures 705, 706, 707, 708 and 710. Updated figure numbers
Fits and Clearances	836 to 868	836 to 872	Mar 18/2025	Updated figure 815. Updated tables 813, 814, 818 and 823
Special Tools, Fixtures and Equipment	901 to 906	901 to 906	Mar 18/2025	Updated para 1.A
Illustrated Parts List	1020 to 1098.36	1020 to 1098.48	Mar 18/2025	Updated IPL figs 13 to 18 to include Ref. Codes: 2253 and 2255. Updated IPL fig 15.

COMPONENT MAINTENANCE MANUAL 32-12-22
MAIN LANDING GEAR LEG3. REVISION RECORD

- A. Record the issue date and insertion date of this revision in the Record of Revisions and retain this Letter of Transmittal.

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COMPONENT MAINTENANCE MANUAL 32-12-22
MAIN LANDING GEAR LEG

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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG
RECORD OF REVISIONS

REV NO.	ISSUE DATE	INSERTION DATE	BY	REV NO.	ISSUE DATE	INSERTION DATE	BY
1-15		INCORPORATED	M-D	46	Jun 17/2016	Jun 17/2016	M-D
16	Aug 1/2006	Aug 1/2006	M-D	47	Sep 16/2016	Sep 16/2016	SAFRAN
17	Apr 2/2007	Apr 2/2007	M-D	48	Dec 9/2016	Dec 9/2016	SAFRAN
18	Oct 1/2007	Oct 1/2007	M-D	49	Mar 24/2017	Mar 24/2017	SAFRAN
19	Jan 1/2008	Jan 1/2008	M-D	50	Jun 23/2017	Jun 23/2017	SAFRAN
20	Jul 1/2008	Jul 1/2008	M-D	51	Dec 8/2017	Dec 8/2017	SAFRAN
21	Jan 1/2009	Jan 1/2009	M-D	52	Mar 23/2018	Mar 23/2018	SAFRAN
22	Feb 1/2009	Feb 1/2009	M-D	53	Dec 21/2018	Dec 21/2018	SAFRAN
23	Jul 1/2009	Jul 1/2009	M-D	54	May 31/2019	May 31/2019	SAFRAN
24	Oct 1/2009	Oct 1/2009	M-D	55	Dec 6/2019	Dec 6/2019	SAFRAN
25	Jan 1/2010	Jan 1/2010	M-D	56	Mar 20/2020	Mar 20/2020	SAFRAN
26	Jul 1/2010	Jul 1/2010	M-D	57	Sep 18/2020	Sep 18/2020	SAFRAN
27	Oct 1/2010	Oct 1/2010	M-D	58	Dec 4/2020	Dec 4/2020	SAFRAN
28	Jan 1/2011	Jan 1/2011	M-D	59	Mar 19/2021	Mar 19/2021	SAFRAN
29	Mar 31/2011	Mar 31/2011	M-D	60	Jun 18/2021	Jun 18/2021	SAFRAN
30	Jul 1/2011	Jul 1/2011	M-D	61	Sep 17/2021	Sep 17/2021	SAFRAN
31	Jul 8/2011	Jul 8/2011	M-D	62	Mar 18/2022	Mar 18/2022	SAFRAN
32	Oct 1/2011	Oct 1/2011	M-D	63	Jun 17/2022	Jun 17/2022	SAFRAN
33	Apr 2/2012	Apr 2/2012	M-D	64	Dec 9/2022	Dec 9/2022	SAFRAN
34	Oct 1/2012	Oct 1/2012	M-D	65	Dec 23/2022	Dec 23/2022	SAFRAN
35	Jun 28/2013	Jun 28/2013	M-D	66	Jun 16/2023	Jun 16/2023	SAFRAN
36	Dec 24/2013	Dec 24/2013	M-D	67	Aug 11/2023	Aug 11/2023	SAFRAN
37	Mar 28/2014	Mar 28/2014	M-D	68	Mar 15/2024	Mar 15/2024	SAFRAN
38	May 14/2014	May 14/2014	M-D	69	Mar 18/2025	Mar 18/2025	SAFRAN
39	Sep 26/2014	Sep 26/2014	M-D				
40	Oct 10/2014	Oct 10/2014	M-D				
41	Oct 14/2014	Oct 14/2014	M-D				
42	Mar 20/2015	Mar 20/2015	M-D				
43	Jun 19/2015	Jun 19/2015	M-D				
44	Sep 18/2015	Sep 18/2015	M-D				
45	Dec 11/2015	Dec 11/2015	M-D				

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Mar 18/2025

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RECORD OF TEMPORARY REVISIONS

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG
LIST OF SERVICE BULLETINS**

SB NUMBER	SB TITLE	SB REVISION NUMBER	DATE INCORPORATED INTO MANUAL	COVER SB NO.
201-32-22	MLG - Installation of stub bolt subassembly for the forward pintle pin in place of the cross bolt.	Initial Issue	Aug 1/2000	A320-32-1213
		1	No effect	
201-32-24	MLG - To allow an increase in aircraft maximum take-off weight to 93 tonne.	Initial Issue	Aug 1/2000	-
201-32-29	MLG -To add tracking numbers to parts listed in Airbus Airworthiness Limitations Section (ALS).	Initial Issue	Apr 2/2007	-
		1	No effect	
201-32-31	MLG - Installation of a 201585 series MLG Leg and Dressings where a 201387 MLG Leg and Dressings has been installed.	Initial Issue	Apr 2/2007	-
201-32-39	MLG -To add tracking numbers to parts listed in Airbus Maintenance Planning Document, Section 9-1. (Torque link apex pin nut)	Initial Issue	Nov 1/2004	A320-32-1265
		1	No effect	
201-32-49	MLG - Introduction of a new lower bearing subassembly.	Initial Issue	Jan 1/2009	A320-32-1340
		1	No effect	
201-32-53	MLG - Introduction of new charging labels	Initial Issue	Apr 2/2012	-
201-32-54	MLG - Introduction of new 1M and 2M Axle harnesses	Initial Issue	Mar 28/2014	A320-32-1395
		1	No effect	
		2	No effect	
201-32-55	MLG - Introduction of new 1M and 2M Leg Harness and of new 1M and 2M Axle Harnesses	Initial Issue	Jan 1/2011	-

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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LIST OF SERVICE BULLETINS (Continued)

SB NUMBER	SB TITLE	SB REVISION NUMBER	DATE INCORPORATED INTO MANUAL	COVER SB NO.
201-32-58	MLG Leg-Introduction of new retaining pins and a new lower bearing subassembly with a new self lubricating liner	Initial Issue	Oct 1/2011	A320-32-1374 A320-32-1386
201-32-59	MLG Leg - Introduction of new retaining pins for the lower bearing subassembly	Initial Issue	Dec 24/2013	-
201-32-60	MLG Leg - Introduction of a new lower bearing subassembly with a new low friction inner liner	Initial Issue	May 14/2014	A320-32-1414
201-32-62	MLG Leg - Barkhausen Noise Inspection of Main Landing Gear Sliding Tube Axles.	Initial Issue	No effect	-
201-32-65	MLG Leg - Introduction of a new Main Fitting	Initial Issue	Mar 20/2015	A320-32-1428
201-32-70	MLG Leg - Introduction of a new torque link damper unit	1	Dec 21/2018	A320-32-1446
201-32-72	MLG Leg - Introduction of a new main fitting subassembly and related parts	Initial Issue	Mar 20/2020	A320-32-1488
201-32-76	MLG - Introduction of a new upper pivot bracket	Initial Issue	Dec 4/2020	
201-32-77	MLG - Introduction of a new changeover valve stem and housing	Initial Issue	Dec 4/2020	-
201-32-80	MLG Complete - Modification of the transfer block subassembly	Initial Issue	Dec 4/2020	A320-32-1494 A320-32-1495

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LIST OF SERVICE BULLETINS (Continued)

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

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РУКОВОДСТВО ПО ТЕХНИЧЕСКОМУ ОБСЛУЖИВАНИЮ КОМПОНЕНТА
ОСНОВНАЯ СТОЙКА ШАССИ

ТАБЛИЦА ИДЕНТИФИКАЦИИ АГРЕГАТА

PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587001	-	-	-	-
201587002	-			-
201587001	-	EDES2-0005-2542	-	-
201587002	-			-
■ 201587001	-	EDES2-0005-2253	-	-
■ 201587002	-			-
■ 201587001	-	EDES2-0005-2255	-	-
■ 201587002	-			-
■ 201587001	010	(c)AC12221	201-32-22	-
201587002	010			-
■ 201587001	010	EDES2-0005-2253	-	-
■ 201587002	010			-
■ 201587001	010	EDES2-0005-2255	-	-
■ 201587002	010			-
■ 201587001	020	(c)AC12454	201-32-29	-
201587002	020			-
■ 201587001	020	EDES2-0005-2253	-	-
■ 201587002	020			-
■ 201587001	020	EDES2-0005-2255	-	-
■ 201587002	020			-
■ 201587001	030	(c)AC12492	201-32-39	-
201587002	030			-
■ 201587001	030	(c)AC12636	201-32-49	-
201587002	030			-
■ 201587001	030	MAF1-0005-2157	201-32-55	-
201587002	030			-

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UNIT IDENTIFICATION CHART (Continued)

PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587001	030	MAF1-0005-2156	201-32-53	-
201587002	030			-
201587001	030	MAF1-0005-2155	201-32-54	-
201587002	030			-
201587001	030	MAF1-0005-2161	201-32-59	-
201587002	030			-
201587001	030	MAF1-0005-2164	201-32-60	-
201587002	030			-
201587001	030	MAF1-0005-2162	-	-
201587002	030			-
201587001	030	MAF1-0005-2180	201-32-65	-
201587002	030			-
201587001	030	MAF1-0005-2207	201-32-70	-
201587002	030			-
201587001	030	EDES2-0005-2253	-	-
201587002	030			-
201587001	030	EDES2-0005-2255	-	-
201587002	030			-
201587003	-	(c)AC12229	201-32-24	-
201587004	-			-
201587003	-	EDES2-0005-2542	-	-
201587004	-			-
201587003	-	EDES2-0005-2253	-	-
201587004	-			-

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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UNIT IDENTIFICATION CHART (Continued)

PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587003	-	EDES2-0005-2255	-	-
201587004	-			-
201587003	010	(c)AC12454	201-32-29	-
201587004	010			-
201587003	010	EDES2-0005-2253	-	-
201587004	010			-
201587003	010	EDES2-0005-2255	-	-
201587004	010			-
201587003	020	(c)AC12492	201-32-39	-
201587004	020			-
201587003	020	EDES2-0005-2253	-	-
201587004	020			-
201587003	020	EDES2-0005-2255	-	-
201587004	020			-
201587003	030	(c)AC12636	201-32-49	-
201587004	030			-
201587003	030	MAF1-0005-2155	201-32-54	-
201587004	030			-
201587003	030	EDES2-0005-2253	-	-
201587004	030			-
201587003	030	EDES2-0005-2255	-	-
201587004	030			-
201587003	040	MAF1-0005-2157	201-32-55	-
201587004	040			-
201587003	040	MAF1-0005-2160	201-32-58	-
201587004	040			-

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UNIT IDENTIFICATION CHART (Continued)

PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587003	040	EDES2-0005-2253	-	-
201587004	040			-
201587003	040	EDES2-0005-2255	-	-
201587004	040			-
201587003	050	MAF1-0005-2156	201-32-53	-
201587004	050			-
201587003	050	EDES2-0005-2253	-	-
201587004	050			-
201587003	050	EDES2-0005-2255	-	-
201587004	050			-
201587003	060	MAF1-0005-2161	201-32-59	-
201587004	060			-
201587003	060	EDES2-0005-2253	-	-
201587004	060			-
201587003	060	EDES2-0005-2255	-	-
201587004	060			-
201587003	070	MAF1-0005-2162	-	-
201587004	070			-
201587003	070	EDES2-0005-2253	-	-
201587004	070			-
201587003	070	EDES2-0005-2255	-	-
201587004	070			-
201587003	080	MAF1-0005-2180	201-32-65	-
201587004	080			-
201587003	080	MAF1-0005-2207	201-32-70	-
201587004	080			-

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UNIT IDENTIFICATION CHART (Continued)

PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587003	080	EDES2-0005-2253	-	-
201587004	080			-
201587003	080	EDES2-0005-2255	-	-
201587004	080			-
201587005	-	(c)AC12332	201-32-31	-
201587006	-			-
201587005	-	EDES2-0005-2253	-	-
201587006	-			-
201587005	-	EDES2-0005-2255	-	-
201587006	-			-
201587005	010	(c)AC12454	201-32-29	-
201587006	010			-
201587005	010	EDES2-0005-2253	-	-
201587006	010			-
201587005	010	EDES2-0005-2255	-	-
201587006	010			-
201587005	020	(c)AC12492	201-32-39	-
201587006	020			-
201587005	020	(c)AC12636	201-32-49	-
201587006	020			-
201587005	020	MAF1-0005-2157	201-32-55	-
201587006	020			-
201587005	020	MAF1-0005-2156	201-32-53	-
201587006	020			-

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PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587005	020	MAF1-0005-2155	201-32-54	-
201587006	020			-
201587005	020	MAF1-0005-2161	201-32-59	-
201587006	020			-
201587005	020	MAF1-0005-2164	201-32-60	-
201587006	020			-
201587005	020	MAF1-0005-2162	-	-
201587006	020			-
201587005	020	MAF1-0005-2180	201-32-65	-
201587006	020			-
201587005	020	MAF1-0005-2207	201-32-70	-
201587006	020			-
201587005	020	EDES2-0005-2253	-	-
201587006	020			-
201587005	020	EDES2-0005-2255	-	-
201587006	020			-
201587007	-	MAF1-0005-2160	201-32-58	-
201587008	-			-
201587007	-	EDES2-0005-2542	-	-
201587008	-			-
201587007	-	EDES2-0005-2253	-	-
201587008	-			-
201587007	-	EDES2-0005-2255	-	-
201587008	-			-

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PART NUMBER	DASH NO.	SAFRAN LANDING SYSTEMS MODIFICATION NUMBER	SAFRAN LANDING SYSTEMS SERVICE BULLETIN NUMBER	MOD. STRIKE NO.
201587007	010	MAF1-0005-2156	201-32-53	-
201587008	010			-
■ 201587007	010	EDES2-0005-2253	-	-
■ 201587008	010			-
■ 201587007	010	EDES2-0005-2255	-	-
■ 201587008	010			-
201587007	020	MAF1-0005-2162	-	-
201587008	020			-
201587007	020	MAF1-0005-2180	201-32-65	-
201587008	020			-
201587007	020	MAF1-0005-2207	201-32-70	-
201587008	020			-
■ 201587007	020	EDES2-0005-2253	-	-
■ 201587008	020			-
■ 201587007	020	EDES2-0005-2255	-	-
■ 201587008	020			-
■ 201587007	030	EDES2-0005-2253	-	-
■ 201587008	030			-
■ 201587007	030	EDES2-0005-2255	-	-
■ 201587008	030			-

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	2	Blank		14	Mar 18/2025
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Record of Revisions	1	Mar 18/2025		16	Mar 18/2025
	2	Blank	Table of Contents	1	Mar 18/2025
Record of Temporary Revisions	1	Dec 6/2019		2	Mar 18/2025
	2	Blank		3	Mar 18/2025
				4	Mar 18/2025
List of Service Bulletins	1	Dec 6/2019		5	Mar 18/2025
	2	Dec 4/2020		6	Mar 18/2025
	3	Mar 19/2021		7	Mar 18/2025
	4	Blank		8	Mar 18/2025
				9	Mar 18/2025
Unit Identification Chart	1	Mar 18/2025		10	Mar 18/2025
	2	Mar 18/2025		11	Mar 18/2025
	3	Mar 18/2025		12	Mar 18/2025
	4	Mar 18/2025		13	Mar 18/2025
	5	Mar 18/2025		14	Blank
	6	Mar 18/2025	Introduction	1	Mar 18/2022
	7	Mar 18/2025		2	Blank
	8	Blank			
List of Effective Pages	1	Mar 18/2025	Description and Operation	1	Dec 6/2019
	2	Mar 18/2025		2	Dec 6/2019
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	5	Mar 18/2025	Testing and Fault Isolation	101	Dec 6/2019
	6	Mar 18/2025		102	Dec 6/2019
	7	Mar 18/2025		103	Dec 6/2019
	8	Mar 18/2025		104	Dec 6/2019
	9	Mar 18/2025		105	Dec 6/2019
	10	Mar 18/2025		106	Dec 6/2019
	11	Mar 18/2025		107	Dec 6/2019
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	110	Blank		514	Blank
Disassembly	301	Dec 6/2019	Repair	601	Dec 6/2019
	302	Mar 15/2024		602	Dec 6/2019
	303	Mar 15/2024		603	Mar 19/2021
	304	Mar 20/2020		604	Mar 15/2024
	305	Mar 20/2020		605	Mar 15/2024
	306	Mar 20/2020		606	Mar 18/2025
	307	Mar 19/2021		607	Mar 18/2025
	308	Mar 19/2021		608	Mar 18/2025
	309	Mar 20/2020		609	Mar 18/2025
	310	Mar 20/2020		610	Mar 18/2025
	311	Mar 20/2020		611	Mar 18/2025
	312	Mar 20/2020		612	Mar 18/2025
	313	Mar 15/2024		613	Mar 18/2025
	314	Mar 18/2025		614	Mar 18/2025
	315	Mar 18/2025		615	Mar 18/2025
	316	Mar 18/2025		616	Mar 18/2025
				617	Mar 18/2025
Cleaning	401	Dec 6/2019		618	Mar 18/2025
	402	Blank		619	Mar 18/2025
				620	Mar 18/2025
Check	501	Sep 18/2020		621	Mar 18/2025
	502	Mar 18/2022		622	Mar 18/2025
	503	Mar 19/2021		623	Mar 18/2025
	504	Mar 18/2025		624	Mar 18/2025
	505	Mar 19/2021		625	Mar 18/2025
	506	Mar 19/2021		626	Mar 18/2025
	507	Mar 18/2025		627	Mar 18/2025
	508	Mar 18/2025		628	Mar 18/2025
	509	Mar 18/2025		629	Mar 18/2025
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	633	Mar 18/2025		668	Mar 18/2025
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	635	Mar 18/2025		670	Mar 18/2025
	636	Mar 18/2025		671	Mar 18/2025
	637	Mar 18/2025		672	Mar 18/2025
	638	Mar 18/2025		673	Mar 18/2025
	639	Mar 18/2025		674	Mar 18/2025
	640	Mar 18/2025		675	Mar 18/2025
	641	Mar 18/2025		676	Mar 18/2025
	642	Mar 18/2025		677	Mar 18/2025
	643	Mar 18/2025		678	Mar 18/2025
	644	Mar 18/2025		679	Mar 18/2025
	645	Mar 18/2025		680	Mar 18/2025
	646	Mar 18/2025		681	Mar 18/2025
	647	Mar 18/2025		682	Mar 18/2025
	648	Mar 18/2025		683	Mar 18/2025
	649	Mar 18/2025		684	Mar 18/2025
	650	Mar 18/2025		685	Mar 18/2025
	651	Mar 18/2025		686	Mar 18/2025
	652	Mar 18/2025		687	Mar 18/2025
	653	Mar 18/2025		688	Mar 18/2025
	654	Mar 18/2025		689	Mar 18/2025
	655	Mar 18/2025		690	Mar 18/2025
	656	Mar 18/2025		691	Mar 18/2025
	657	Mar 18/2025		692	Mar 18/2025
	658	Mar 18/2025		693	Mar 18/2025
	659	Mar 18/2025		694	Mar 18/2025
	660	Mar 18/2025		695	Mar 18/2025
	661	Mar 18/2025		696	Mar 18/2025
	662	Mar 18/2025		697	Mar 18/2025
	663	Mar 18/2025		698	Mar 18/2025
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Repair No. 1-1	601	Dec 6/2019	(Continued)	602	Dec 6/2019
	602	Dec 6/2019		603	Dec 6/2019
	603	Dec 6/2019		604	Blank
	604	Dec 6/2019			
Repair No. 1-2			Repair No. 7-1	601	Dec 6/2019
	601	Dec 6/2019		602	Dec 6/2019
	602	Dec 6/2019		603	Dec 6/2019
	603	Dec 6/2019		604	Blank
Repair No. 2-1	604	Dec 6/2019	Repair No. 7-2	601	Dec 6/2019
				602	Dec 6/2019
	601	Dec 6/2019		603	Dec 6/2019
	602	Dec 6/2019		604	Blank
Repair No. 3-1			Repair No. 8-1	601	Dec 6/2019
	601	May 31/2019		602	Dec 6/2019
	602	May 31/2019		603	Dec 6/2019
	603	Dec 8/2017		604	Dec 6/2019
Repair No. 4-1	604	Blank		601	Blank
				602	
	601	Dec 6/2019	Repair No. 8-2	601	Dec 6/2019
	602	Dec 6/2019		602	Dec 6/2019
Repair No. 5-1	601	Dec 9/2016		603	Dec 6/2019
	602	Dec 9/2016		604	Blank
Repair No. 6-1			Repair No. 9-1	601	Mar 18/2025
	601	Dec 6/2019		602	Mar 18/2025
	602	Dec 6/2019		603	Dec 6/2019
	603	Dec 6/2019		604	Dec 6/2019
Repair No. 6-2	604	Blank		601	Mar 18/2025
				602	Mar 18/2025
	601	Dec 6/2019	Repair No. 9-2	603	Mar 18/2025
	602	Dec 6/2019		604	Dec 9/2016
Repair No. 6-3	603	Dec 6/2019		601	Mar 18/2025
	604	Blank		602	Mar 18/2025
				603	Mar 18/2025
				604	Dec 9/2016
Repair No. 6-3	601	Dec 6/2019	Repair No. 9-3	601	Dec 6/2019

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				605	Mar 18/2025
Repair No. 9-4	601	Mar 18/2025		606	Mar 18/2025
	602	Mar 18/2025		607	Mar 18/2025
	603	Aug 11/2023		608	Blank
	604	Aug 11/2023	Repair No. 9-11	601	Mar 18/2025
Repair No. 9-5	601	Mar 18/2025		602	Mar 18/2025
	602	Dec 6/2019		603	Dec 6/2019
				604	Aug 11/2023
Repair No. 9-6	601	Mar 18/2025		605	Mar 18/2025
	602	Mar 18/2025		606	Blank
	603	Dec 6/2019	Repair No. 10-1	601	Dec 6/2019
	604	Blank		602	Dec 6/2019
Repair No. 9-7	601	Mar 18/2025		603	Dec 6/2019
	602	Mar 18/2025		604	Blank
	603	Dec 6/2019	Repair No. 11-1	601	Mar 18/2025
	604	Dec 6/2019		602	Mar 18/2025
Repair No. 9-8	601	Mar 18/2025		603	Dec 6/2019
	602	Mar 18/2025		604	Dec 6/2019
	603	Mar 18/2025	Repair No. 11-2	601	Mar 18/2025
	604	Aug 11/2023		602	Mar 18/2025
	605	Mar 18/2025		603	Dec 6/2019
	606	Blank		604	Dec 6/2019
Repair No. 9-9	601	Mar 18/2025	Repair No. 11-3	601	Mar 18/2025
	602	Mar 18/2025		602	Mar 18/2025
	603	Dec 6/2019		603	Mar 18/2025
	604	Dec 6/2019		604	Dec 6/2019
Repair No. 9-10	601	Mar 18/2025		605	Dec 6/2019
	602	Mar 18/2025		606	Dec 6/2019

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Repair No. 11-4	601	Mar 18/2025	Repair No. 11-10 (Continued)	602	Blank
	602	Mar 18/2025			
	603	Dec 6/2019			
	604	Dec 6/2019	Repair No. 11-11	601	Mar 18/2025
Repair No. 11-5	601	Mar 18/2025		602	Mar 18/2025
	602	Mar 18/2025		603	Dec 6/2019
	603	Dec 6/2019		604	Dec 6/2019
	604	Dec 6/2019	Repair No. 11-12	601	Mar 18/2025
Repair No. 11-6	601	Mar 18/2025		602	Mar 18/2025
	602	Mar 18/2025		603	Dec 6/2019
	603	Dec 6/2019		604	Dec 6/2019
	604	Dec 6/2019	Repair No. 11-13	601	Mar 18/2025
Repair No. 11-7	601	Mar 18/2025		602	Mar 18/2025
	602	Mar 18/2025		603	Mar 18/2025
	603	Dec 6/2019		604	Dec 8/2017
	604	Dec 6/2019		605	Dec 8/2017
	605	Dec 6/2019		606	Blank
	606	Blank	Repair No. 11-14	601	Mar 18/2025
Repair No. 11-8	601	Mar 18/2025		602	Mar 18/2025
	602	Mar 18/2025		603	Dec 6/2019
	603	May 31/2019		604	Blank
	604	May 31/2019	Repair No. 11-15	601	Dec 4/2020
Repair No. 11-9	601	Mar 18/2025		602	Dec 6/2019
	602	Mar 18/2025		603	Dec 6/2019
	603	Mar 18/2025		604	Dec 6/2019
	604	Dec 6/2019		605	Dec 6/2019
	605	Dec 6/2019		606	Blank
	606	Dec 6/2019	Repair No. 11-16	601	Dec 4/2020
Repair No. 11-10	601	Dec 4/2020		602	Dec 6/2019

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	602	May 31/2019		602	Mar 18/2025
				603	Dec 6/2019
Repair No. 11-18	601	Mar 18/2025		604	Blank
	602	Mar 18/2025			
	603	Dec 6/2019	Repair No. 11-26	601	Dec 4/2020
	604	Dec 6/2019		602	Mar 15/2024
				603	Mar 15/2024
Repair No. 11-19	601	Mar 18/2025		604	Dec 6/2019
	602	Mar 18/2025		605	Mar 15/2024
	603	Dec 6/2019		606	Mar 15/2024
	604	Dec 6/2019			
			Repair No. 11-27	601	Mar 18/2025
Repair No. 11-20	601	Mar 18/2025		602	Mar 18/2025
	602	Blank		603	Mar 24/2017
				604	Mar 24/2017
Repair No. 11-21	601	Mar 18/2025			
	602	Dec 6/2019	Repair No. 11-28	601	Mar 18/2025
	603	Dec 6/2019		602	Mar 18/2025
	604	Dec 6/2019		603	Dec 6/2019
				604	Dec 6/2019
Repair No. 11-22	601	Mar 18/2025		605	Dec 6/2019
	602	Mar 24/2017		606	Dec 6/2019
Repair No. 11-23	601	Mar 18/2025	Repair No. 11-29	601	Dec 23/2022
	602	Mar 18/2025		602	Dec 23/2022
	603	Dec 6/2019		603	Dec 6/2019
	604	Dec 6/2019		604	Dec 23/2022
	605	Dec 6/2019		605	Dec 23/2022
	606	Blank		606	Dec 23/2022
				607	Dec 23/2022
Repair No. 11-24	601	Mar 18/2025		608	Dec 9/2022
	602	Mar 18/2025			
	603	Dec 6/2019	Repair No. 11-30	601	Dec 4/2020
	604	Dec 6/2019		602	Dec 6/2019

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Repair No. 11-31	601 602 603 604	Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025	Repair No. 11-36	601 602	Mar 18/2025 Mar 18/2025
Repair No. 11-32	601 602 603 604 605 606	Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025	Repair No. 11-37	601 602 603 604 605 606	Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025
Repair No. 11-33	601 602 603 604 605 606	Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025	Repair No. 12-1	601 602 603 604	Dec 6/2019 Dec 6/2019 Dec 6/2019 Dec 6/2019
Repair No. 11-34	601 602 603 604 605 606	Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Mar 18/2025 Blank	Repair No. 12-2	601 602 603	Dec 6/2019 Dec 6/2019 Dec 6/2019
Repair No. 11-35	601 602	Mar 18/2025 Mar 18/2025	Repair No. 12-3	601 602 603	Dec 6/2019 Dec 6/2019 Dec 6/2019

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	603	Dec 6/2019		604	Dec 6/2019
	604	Dec 6/2019		605	Dec 6/2019
				606	Blank
Repair No. 12-5	601	Dec 6/2019			
	602	Dec 6/2019	Repair No. 14-4	601	Mar 18/2025
	603	Dec 6/2019		602	Mar 18/2025
	604	Dec 6/2019		603	Mar 18/2025
				604	Mar 18/2025
Repair No. 13-1	601	Dec 6/2019		605	Mar 18/2025
	602	Dec 6/2019		606	Mar 18/2025
	603	Dec 6/2019			
	604	Dec 6/2019	Repair No. 15-1	601	Dec 6/2019
	605	Dec 6/2019		602	Dec 6/2019
	606	Dec 9/2022		603	Dec 6/2019
				604	Dec 6/2019
Repair No. 13-2	601	Dec 6/2019			
	602	Dec 6/2019	Repair No. 15-2	601	Dec 6/2019
	603	Dec 6/2019		602	Dec 6/2019
	604	Dec 6/2019		603	Dec 6/2019
				604	Dec 6/2019
Repair No. 14-1	601	May 31/2019			
	602	Jun 23/2017	Repair No. 16-1	601	Dec 6/2019
	603	Jun 23/2017		602	Mar 20/2020
	604	Jun 23/2017		603	Dec 6/2019
				604	Mar 20/2020
Repair No. 14-2	601	May 31/2019			
	602	May 31/2019	Repair No. 17-1	601	Mar 18/2025
	603	May 31/2019		602	Mar 18/2025
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				604	May 31/2019
Repair No. 18-2	601	Dec 6/2019		605	May 31/2019
	602	Dec 6/2019		606	Blank
	603	Dec 6/2019			
	604	Dec 6/2019	Repair No. 19-2	601	Dec 6/2019
				602	Dec 6/2019
Repair No. 18-3	601	Dec 6/2019		603	Dec 6/2019
	602	Blank		604	Dec 6/2019
Repair No. 18-4	601	Dec 6/2019	Repair No. 20-1	601	Dec 6/2019
	602	Dec 6/2019		602	Dec 6/2019
				603	Dec 6/2019
Repair No. 18-5	601	Dec 6/2019		604	Blank
	602	Dec 6/2019			
	603	Dec 6/2019	Repair No. 21-1	601	Mar 18/2025
	604	Blank		602	Dec 6/2019
				603	Dec 6/2019
Repair No. 18-6	601	Dec 6/2019		604	Dec 6/2019
	602	Dec 6/2019			
	603	Dec 6/2019	Repair No. 21-2	601	Mar 18/2025
	604	Blank		602	Mar 20/2020
				603	Mar 20/2020
Repair No. 18-7	601	Dec 6/2019		604	Dec 6/2019
	602	Dec 6/2019			
			Repair No. 21-3	601	Mar 18/2025
Repair No. 18-8	601	Mar 18/2025		602	Sep 16/2016
	602	Mar 18/2025		603	Sep 16/2016
	603	Mar 18/2025		604	Sep 16/2016
	604	Mar 18/2025	Repair No. 21-4	601	Mar 18/2025
Repair No. 19-1	601	May 31/2019		602	Dec 6/2019
				603	Dec 6/2019
				604	Dec 6/2019

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	603	Dec 6/2019			
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	602	Dec 6/2019		703	Mar 20/2020
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				705	Mar 18/2025
Repair No. 23-1	601	Dec 9/2016		706	Mar 18/2025
	602	Dec 9/2016		707	Mar 18/2025
	603	Dec 9/2016		708	Mar 18/2025
	604	Blank		709	Mar 18/2025
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	602	Dec 6/2019		711	Mar 20/2020
	603	Dec 6/2019		712	Mar 20/2020
	604	Dec 6/2019		713	Mar 20/2020
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	603	Dec 6/2019		717	Sep 17/2021
	604	Dec 6/2019		718	Sep 17/2021
				719	Sep 17/2021
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	602	Dec 6/2019		721	Mar 15/2024
	603	Dec 6/2019		722	Sep 17/2021
	604	Blank		723	Sep 17/2021
				724	Sep 17/2021
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	737	Mar 18/2025		772	Mar 18/2025
	738	Mar 18/2025		773	Mar 18/2025
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	741	Mar 18/2025		776	Mar 18/2025
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	743	Mar 18/2025		778	Mar 18/2025
	744	Mar 18/2025		779	Mar 18/2025
	745	Mar 18/2025		780	Mar 18/2025
	746	Mar 18/2025		781	Mar 18/2025
	747	Mar 18/2025		782	Mar 18/2025
	748	Mar 18/2025		783	Mar 18/2025
	749	Mar 18/2025		784	Mar 18/2025
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	755	Mar 18/2025		790	Mar 18/2025
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	805	Dec 6/2019		840	Mar 18/2025
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	908	Blank		1034	Mar 18/2025
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	1003	Dec 6/2019		1038	Mar 18/2025
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	1050	Mar 18/2025		1085	Mar 18/2025
	1051	Mar 18/2025		1086	Mar 18/2025
	1052	Mar 18/2025		1087	Mar 18/2025
	1053	Blank		1088	Mar 18/2025
	1054	Mar 18/2025		1089	Blank
	1055	Mar 18/2025		1090	Mar 18/2025
	1056	Mar 18/2025		1091	Mar 18/2025
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	1061	Mar 18/2025		1096	Mar 18/2025
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MAIN LANDING GEAR LEG
INTRODUCTION

1. General

- A. AECMA Simplified English to PSC-85-16598 is used in this manual.
- B. This manual contains Description, Operation, Maintenance procedures and an Illustrated Parts List (IPL). IPL Figure and Item numbers in parentheses follow the part name to identify them.
- C. A Unit Identification Chart is included to show the modification status of the unit. The modification status is related to the unit part number by the dash number: the dash number is marked on the unit name plate adjacent to the part number.
- D. All references in this manual are to the left configuration of the unit unless the instructions tell you differently.
- E. All dimensions and quantities in this manual are in SI units with Imperial units in parentheses. A comma shows a decimal part of an SI unit. A full point shows a decimal part of an Imperial unit.
- F. This manual refers to Process Specifications (M-DLPS and PCS) and Non-destructive Tests (M-DLNNT). These are available within the Safran Landing Systems Technical Publications on-line service.
- G. All the materials in this manual have a Ref. Item identification. This is the reference item number of the material in the Aircraft Manufacturer's Consumable Materials List.
- H. Use approved persons and good aircraft engineering practice for all procedures in this manual.
- I. The repairs in this CMM have been approved under Airbus' EASA Design Organisation Approval No. EASA.21J.031.
- J. On occasion a REF. CODE can be identified in the NOMENCLATURE column in the DETAILED PARTS LIST. This is a Safran Landing Systems reference code and is used for cross-reference purposes only.
- K. The accuracy and the adequacy of the instructions in this CMM have been technically verified by shop verification (performed or simulated) or by similarity with manufacturing instructions or with component maintenance manuals instructions from other programs that have been verified in shop.

2. Reference Publications

- A. Safran Landing Systems UK Ltd Component Maintenance Manual, Main Landing Gear Leg and Dressings, [32-12-21](#).
- B. Safran Landing Systems UK Ltd Component Maintenance Manual, Axle Harness 1M and 2M, [32-12-29](#).
- C. Safran Landing Systems UK Ltd Component Maintenance Manual, Damper, [32-11-93](#).
- D. Safran Landing Systems UK Ltd Component Maintenance Manual, Damper, [32-12-85](#).

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MAIN LANDING GEAR LEG
DESCRIPTION AND OPERATION

1. General

A. The main landing gear leg is a two stage, telescopic shock absorber.

2. Description (Refer to [Figures 1 and 2](#))

- A. The main landing gear leg has a sliding tube subassembly that operates in a main fitting subassembly. The sliding tube subassembly operates through a lower bearing subassembly. The lower bearing subassembly also seals the sliding tube subassembly in the main fitting subassembly.
- B. An upper torque link subassembly attaches to the main fitting subassembly. A lower torque link subassembly attaches to the sliding tube subassembly. A damper attaches to the upper torque link subassembly. A pin installs through the damper and connects the upper and lower torque link subassemblies.
- C. A slave link subassembly and a lower slave link subassembly attach opposite the upper and lower torque link subassemblies.
- D. A rod and a cylinder install in the sliding tube subassembly. A piston installs in the cylinder. An upper diaphragm tube subassembly installs in the main fitting subassembly. A baffle, a compression orifice plate and a diaphragm subassembly install in the upper diaphragm tube subassembly. The rod goes through the baffle.
- E. An upper bearing housing installs between the top of the sliding tube subassembly and the main fitting subassembly. A recoil orifice plate operates in the upper bearing housing.

3. Operation ([Refer to Figure 2](#))

A. Compression

- (1) The sliding tube subassembly moves into the main fitting subassembly. The subsequent decrease in volume causes hydraulic fluid to flow through the upper bearing housing: the recoil orifice plate moves and slows the flow of hydraulic fluid. The decrease in volume also causes hydraulic fluid to move through the diaphragm and lift the compression orifice plate: the hydraulic fluid flows through the baffle and into the upper diaphragm tube subassembly. This slows the speed of the compression.
- (2) Hydraulic fluid that moves into the upper diaphragm tube compresses the nitrogen in the main fitting subassembly and the upper diaphragm tube subassembly. As the pressure of the nitrogen increases, the hydraulic fluid in the rod moves against the piston. The piston is pushed into the cylinder and compresses the nitrogen in it. This slows the speed of the compression more.

B. Recoil

- (1) After compression, the nitrogen pressure in the cylinder pushes the piston to the end of the cylinder: hydraulic fluid moves out of the cylinder and into the rod. The nitrogen pressure in the main fitting subassembly and the upper diaphragm subassembly pushes the hydraulic fluid through the baffle: the compression orifice plate is pushed against the diaphragm subassembly and limits the flow of hydraulic fluid through it. This slows the speed of the recoil. The sliding tube subassembly moves out of the main fitting subassembly.

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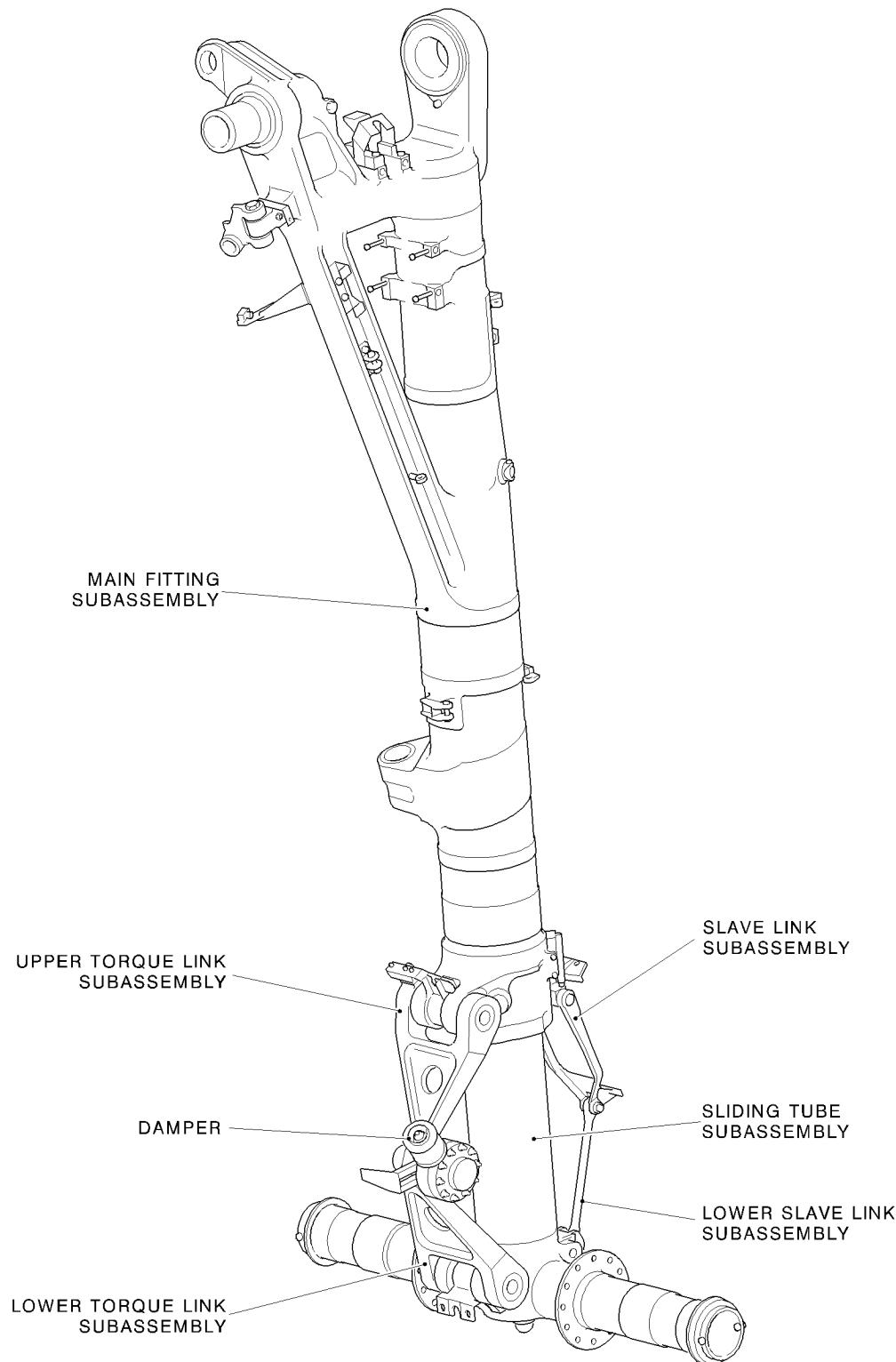
C. The Upper and Lower Torque Link Subassemblies

- (1) The upper and lower torque link subassemblies prevent the sliding tube subassembly from turning in the main fitting subassembly.
- (2) The damper controls the movement of the upper and lower torque link subassemblies.

4. Data

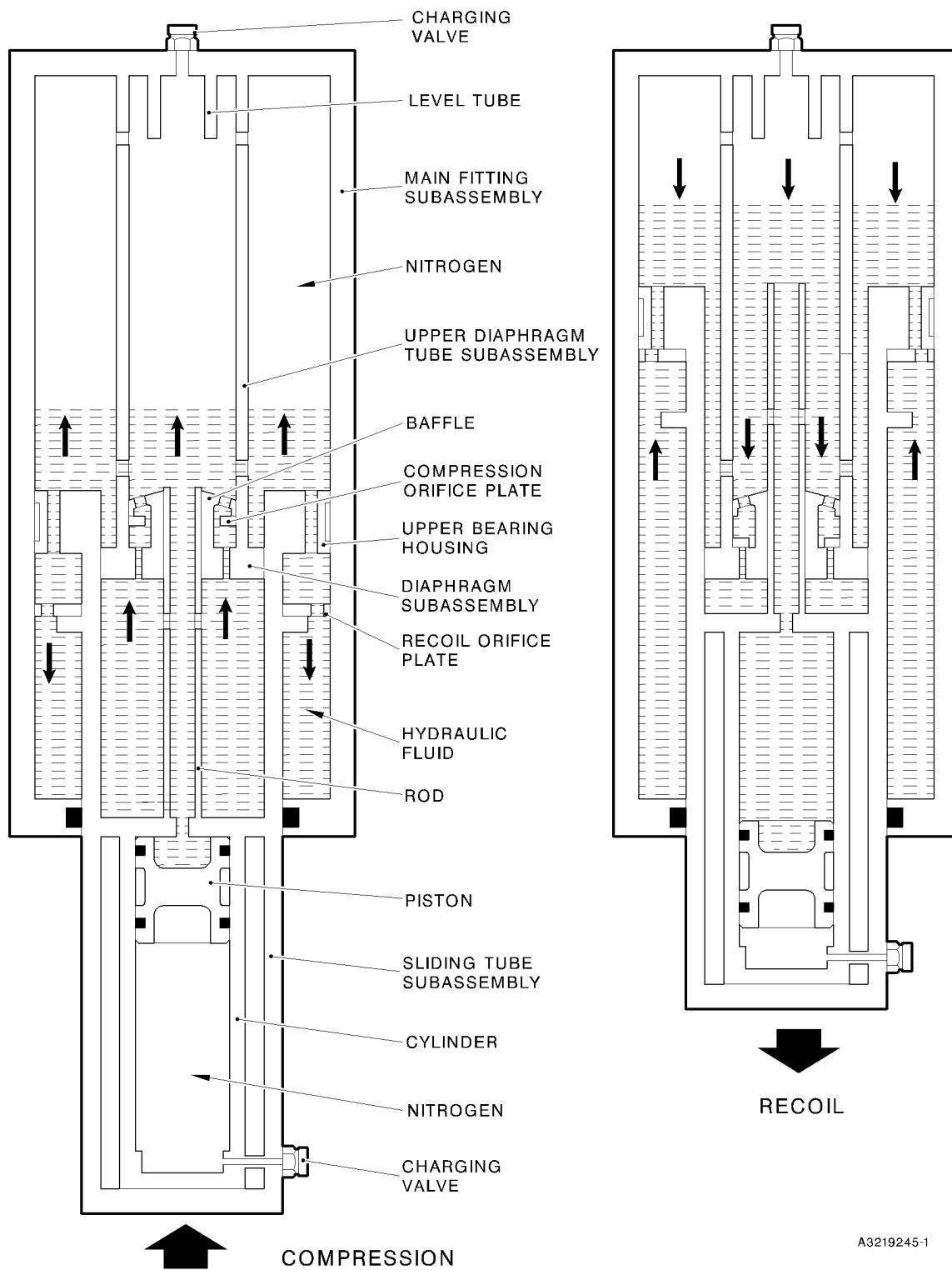
Weight with hydraulic fluid	522 kg (1151 lb) approximately
Weight without hydraulic fluid	505 kg (1113 lb) approximately
Hydraulic fluid	Material Ref. Item 02-501

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Main Landing Gear Leg
Figure 1

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A3219245-1

Diagram of Operation
Figure 2

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MAIN LANDING GEAR LEG
TESTING AND FAULT ISOLATION**

1. Equipment and Materials

A. Equipment

- (1) This equipment is necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Equipment	Function
-	Hydraulic Test Rig	
-	Nitrogen Supply	Main landing gear leg (1-1) tests
-	Loading Press	
-	Milliohmmeter Megger, Type BT51	Electrical bonding resistance tests
-	28 VDC Power Supply	Proximity switch and target tests
T14218	Turner Inflation Equipment	Main landing gear leg (1-1) tests
T14500	Crowfoot Wrench	Close the charging valves (13-60 and 17-20)
460002502	Charging Adapter	Main landing gear leg (1-1) tests
460005842	Lampbox	Proximity switch and target tests
460006231	Holding Fixture	
460006232	Load Cell and Adapter	
460006233	Press Adapter	Main landing gear leg (1-1) tests
460006234	Offset Adapter	
460007260	Bottom Press Adapter	

B. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Nitrogen
02-501	Hydraulic fluid

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WARNING: DO NOT GET HYDRAULIC FLUID ON YOUR SKIN OR IN YOUR EYES. DO NOT BREATHE THE FUMES. ONLY USE IN A LOCATION THAT HAS A CONTINUOUS FLOW OF CLEAN AIR. HYDRAULIC FLUID IS POISONOUS AND DANGEROUS.

A. General

- (1) The hydraulic test rig must have a hand pump and a power pump. The power pump must have a controlled flow of not less than 4,5 l/min (4.62 in³/sec).
- (2) The inflation equipment must be to MIL-G-8348.
- (3) The temperature of the test fluid must be between 20 and 40 °C (68 and 104 °F).
- (4) The test fluid must be clean: refer to M-DLPS910-1.
- (5) During all hydraulic tests, the unit and the test circuit must be hydraulically full.
- (6) Examine the unit for damage before you start the tests.
- (7) During the proximity switch tests the ambient temperature must be between 15 and 25 °C (59 and 77 °F).

3. Procedure

A. Piston (17-200) Leakage Tests

- (1) Use the Charging Adapter 460002502 and the Turner Inflation Equipment T14218: connect the charging valve (17-20) to the nitrogen supply. Open the charging valve (17-20).
- (2) Slowly increase the nitrogen pressure to between 9,32 and 10,68 bar (135 and 155 lbf/in²). Make a record of the pressure. Close the charging valve (17-20) and hold the nitrogen pressure for 15 minutes.
- (3) Open the charging valve (17-20) and measure the nitrogen pressure: it must be the same as the record in para (2). Leakage must not occur.
- (4) Release the nitrogen pressure.
- (5) Disconnect the nitrogen supply and remove the Turner Inflation Equipment T14218 and the Charging Adapter 460002502.
- (6) Make sure that all of the nitrogen pressure has been released: remove the charging valve (17-20).
- (7) **Refer to ASSEMBLY:** install the charging valve (17-20) and complete the assembly procedure.

B. Main Landing Gear Leg (1-1) Tests

(1) Initial Operations

- (a) Use these special tools to install the main landing gear leg (1-1) vertically in the loading press:
 - 1 The Holding Fixture 460006231.
 - 2 The Press Adapter 460006233.

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3 The Bottom Press Adapter 460007260.

- (b) Assemble the Load Cell and Adapter 460006232 and the Offset Adapter 460006234 to the main landing gear leg ([1-1](#)).
- (2) Procedure to Fill and Pressurize the Main Landing Gear Leg ([1-1](#))

CAUTION: DO NOT PUT AN END LOAD OF MORE THAN 5,08 TONNES (5 TONS) ON THE MAIN LANDING GEAR LEG (1-1).

- (a) Make sure that there is no pressure in the main landing gear leg ([1-1](#)): open the charging valves ([13-60](#) and [17-20](#)).
- (b) Use the Charging Adapter 460002502 to connect the hydraulic test rig to the charging valve ([13-60](#)).
- (c) Slowly increase the hydraulic pressure to between 13,11 and 14,48 bar (190 and 210 lbf/in²) and let the unit extend fully.
- (d) Release the hydraulic pressure and fully close the unit.
- (e) Do para (c) and (d) until the hydraulic fluid that comes out of the unit does not have air in it.
- (f) Fully close the unit and disconnect the hydraulic test rig.
- (g) Use the Charging Adapter 460002502 and the Turner Inflation Equipment T14218 to connect the nitrogen supply to the charging valve ([13-60](#)).

CAUTION: DO NOT USE A PRESSURE OF MORE THAN 7,58 BAR (110 LBF/IN²).

- (h) Slowly increase the nitrogen pressure until the unit starts to extend. Hold the pressure and fully extend the unit. The pressure must not be more than 7,58 bar (110 lbf/in²).

NOTE: The charging valve (17-20) must be open to let the unit extend fully.

- (i) Refer to [Figure 101](#) and measure the dimension X: it must be between 483,05 and 487,85 mm (19.017 and 19.207 in).
- (j) Disconnect the nitrogen supply and remove the Turner Inflation Equipment T14218 and the Charging Adapter 460002502.
- (k) Open the charging valve ([13-60](#)) and release the nitrogen pressure. Do not close the charging valve ([13-60](#)).
- (l) Use the Charging Adapter 460002502 and the Turner Inflation Equipment T14218 to connect the charging valve ([17-20](#)) to the nitrogen supply.
- (m) Slowly increase the nitrogen pressure to between 13,11 and 14,48 bar (190 and 210 lbf/in²).

NOTE: Nitrogen will be released through the charging valve (13-60) as the piston (17-200) moves.

- (n) Slowly increase the nitrogen pressure to between 67,59 and 70,34 bar (980 and 1020 lbf/in²).

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- (o) Close the charging valve (17-20); use the Crowfoot Wrench T14500 to torque it to between 5,7 and 7,9 N m (50 and 70 lbf in).
 - (p) Disconnect the nitrogen supply and remove the Turner Inflation Equipment T14218 and the Charging Adapter 460002502.
 - (q) Use the Turner Inflation Equipment T14218 and the Charging Adapter 460002502 to connect the nitrogen supply to the charging valve (13-60).
 - (r) Slowly increase the nitrogen pressure to between 6,90 and 8,27 bar (100 and 120 lbf/in²).
 - (s) Close the charging valve (13-60); use the Crowfoot Wrench T14500 to torque it to between 5,7 and 7,9 N m (50 and 70 lbf in).
 - (t) Disconnect the nitrogen supply and remove the Turner Inflation Equipment T14218 and the Charging Adapter 460002502.
- (3) Leakage Tests
- (a) Make a record of the nitrogen pressure at the charging valve (13-60), (P1A) and the charging valve (17-20), (P1B).
 - (b) Make a record of the ambient temperature, (T1).
 - (c) Keep the unit in this condition for a minimum of six hours.
 - (d) Measure the nitrogen pressure at the charging valve (13-60), (P2A) and the charging valve (17-20), (P2B).
 - (e) Measure the ambient temperature, (T2).
 - (f) Compare the pressures P1A and P2A and compare the pressures P1B and P2B. The pressures P1A and P2A must be the same and the pressures P1B and P2B must be the same, unless:
 - 1 There is a difference between the temperatures T1 and T2
 - 2 There is an error because of the pressure gauge capacity.
 - (g) If there is a difference between the temperatures T1 and T2, calculate the correct value for the nitrogen pressures (these will be P3A and P3B) and adjust the pressures to the corrected values. Use the formula:

$$P3A = \frac{(P2A + Z) \times (T1 + K)}{(T2 + K)} - Z$$

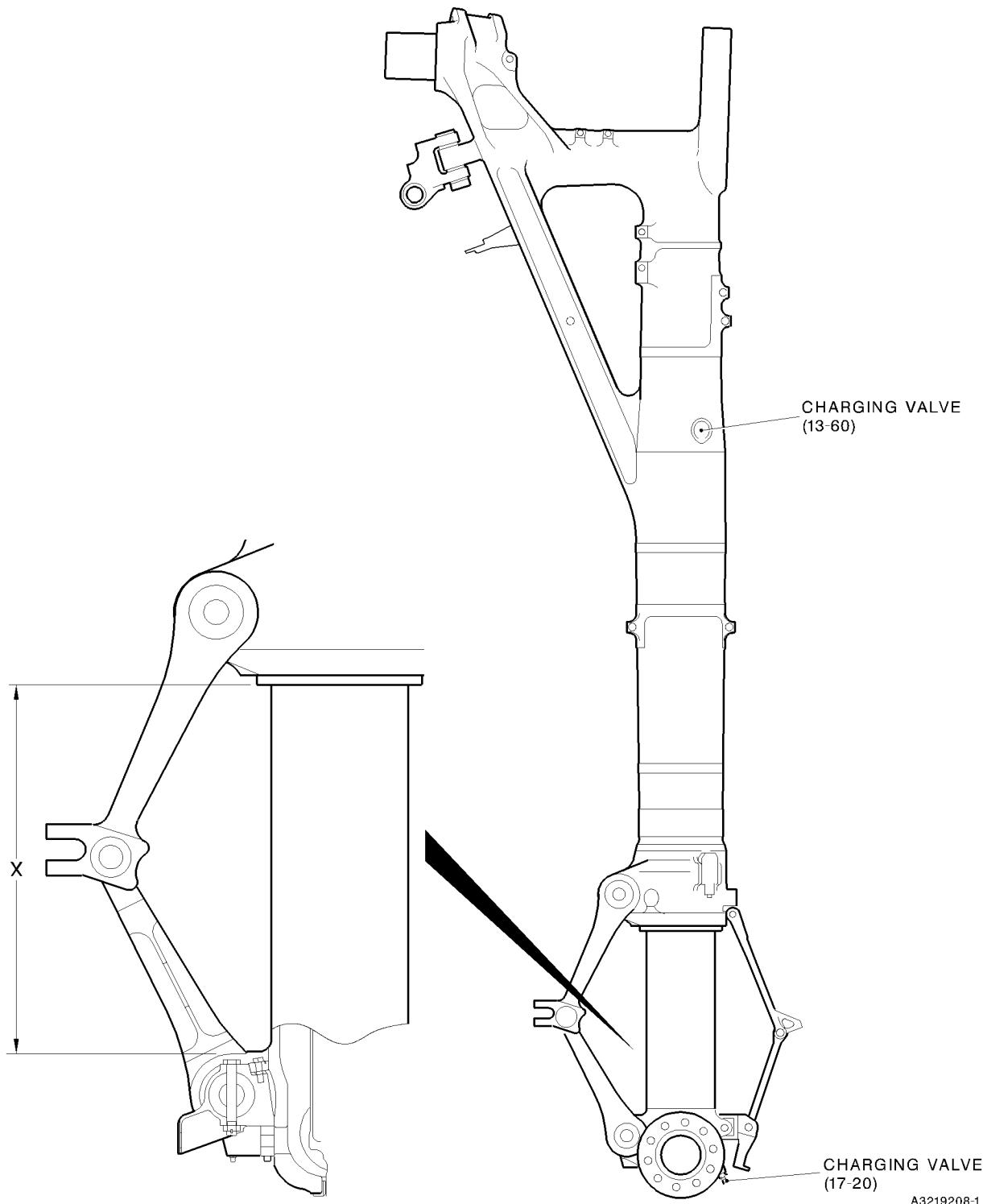
OR

$$P3B = \frac{(P2B + Z) \times (T1 + K)}{(T2 + K)} - Z$$

Where K = 273 for temperatures in °C
 (459 for temperatures in °F)

Z = 1 for pressures in bar
 (15 for pressures in lbf/in²)

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Main Landing Gear Leg (1-1)
Figure 101

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- (h) If there is an error because of the gauge capacity:

- 1 Close the charging valve (13-60).
- 2 Release the pressure in the gauge.
- 3 Open the charging valve (13-60) and measure the nitrogen pressure, (P4A).
- 4 Close the charging valve (13-60).
- 5 Close the charging valve (17-20).
- 6 Release the pressure in the gauge.
- 7 Open the charging valve (17-20) and measure the nitrogen pressure, (P4B).
- 8 Calculate the correct values for the nitrogen pressures (these will be P5A and P5B) and adjust the pressures to the corrected values. Use the formula:

$$P5A = P1A + (P2A - P4A)$$

OR

$$P5B = P1B + (P2B - P4B)$$

- (4) Prepare for Transport and Storage

- (a) Open the charging valve (13-60) and reduce the nitrogen pressure to between 3,45 and 4,82 bar (50 and 70 lbf/in²).
- (b) Close the charging valve (13-60); use the Crowfoot Wrench T14500 to torque it to between 5,7 and 7,9 N m (50 and 70 lbf in).
- (c) Open the charging valve (17-20) and reduce the nitrogen pressure to between 3,45 and 4,82 bar (50 and 70 lbf/in²).
- (d) Close the charging valve (17-20); use the Crowfoot Wrench T14500 to torque it to between 5,7 and 7,9 N m (50 and 70 lbf in).
- (e) Write this data on a label and attach it to the unit: THE GEAR MUST BE INFLATED TO THE APPROPRIATE PRESSURES BEFORE BEING PLACED IN SERVICE.

- (5) Complete the torque procedure for the retaining pins (13-10): refer to ASSEMBLY.

C. Proximity Switches (7-40 and 7-230) Adjustments and Tests

- (1) Use the loading press: set the dimension between the pins (10-80 and 11-130) to between 632,80 and 636,95 mm (24.9134 and 25.0767 in).
- (2) Adjust the spacers (6-140, 7-50, 7-190 and 7-240) or laminated shims (6-140A, 7-50A, 7-90A and 7-240A): refer to ASSEMBLY.

NOTE: If the calculated gap is in the tolerance, the spacers (6-140, 7-50, 7-190 and 7-240) or laminated shims (6-140A, 7-50A, 7-90A and 7-240A) are not necessary.

- (3) Connect the 28 VDC power supply, the Lampbox 460005842 and the main landing gear leg (1-1).

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- (4) Use the loading press to fully extend the main landing gear leg (1-1).
- (5) Use the loading press to slowly close the main landing gear leg (1-1):
 - (a) The proximity switch (7-230) must operate before the main landing gear leg (1-1) has closed by 26,00 mm (1.0236 in).
 - (b) The proximity switch (7-40) must operate before the main landing gear leg (1-1) has closed by 29,30 mm (1.1535 in).
- (6) Do para (4) and (5) again.
- (7) Disconnect the 28 VDC supply and the Lampbox 460005842.
- (8) Remove the main landing gear leg (1-1) from the loading press.

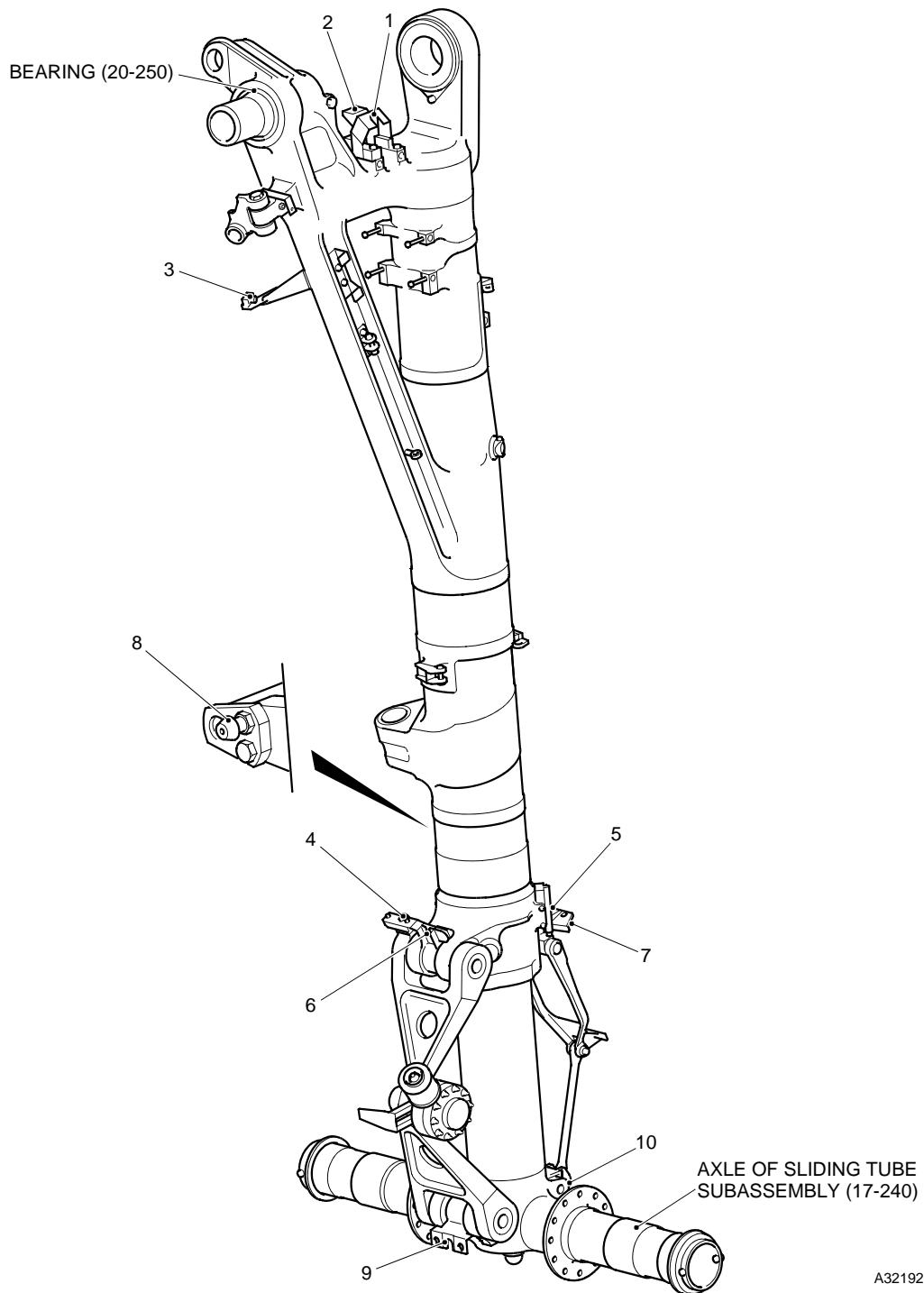
D. Electrical Bonding Resistance Tests ([Refer to Figure 102](#))

CAUTION: DO NOT CAUSE DAMAGE TO THE PAINT FINISH.

NOTE: Make sure that the main landing gear leg (1-1) is electrically isolated from the equipment that is used to hold it.

- (1) Use the Milliohmometer Megger, Type BT51, to measure the electrical bonding resistance.
 - (a) Measure between the bearing (20-250) and the test points given in Table 101. The electrical bonding resistance must not be more than the limit given in Table 101.
 - (b) Measure between the axle of the sliding tube subassembly (17-240) and the test points given in Table 102. The electrical bonding resistance must not be more than the limit given in Table 102.

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Electrical Bonding Resistance Test Points (Tables 101 and 102)
Figure 102

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 MAIN LANDING GEAR LEG
 Electrical Bonding Resistance Tests
 Table 101 ([Refer to Figure 102](#))

TEST POINT	IPL FIGURE AND ITEM No.	NAME	LIMIT VALUE MILLIOHMS
1	2-80	Bracket	10
2	2-120	Bracket	10
3	4-100	Proximity switch connector shell	20
4	7-230	Proximity switch connector shell	20
5	7-100	Harness support bracket	20
6	10-160	Upper pivot bracket	20
7	7-40	Proximity switch connector shell	20
8	5-390	Static discharge connector	10

Electrical Bonding Resistance Tests
 Table 102 ([Refer to Figure 102](#))

TEST POINT	IPL FIGURE AND ITEM No.	NAME	LIMIT VALUE MILLIOHMS
9	11-140	Harness support bracket	20
10	8-170	Bracket	20

4. Fault Isolation

- A. To be given subsequently.

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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG
DISASSEMBLY

1. General

WARNING: DO NOT GET HYDRAULIC FLUID ON YOUR SKIN OR IN YOUR EYES. DO NOT BREATHE THE FUMES. ONLY USE IN A LOCATION THAT HAS A CONTINUOUS FLOW OF CLEAN AIR. HYDRAULIC FLUID IS POISONOUS AND DANGEROUS.

NOTE: Refer to **TESTING AND FAULT ISOLATION** to find the necessary level of disassembly. This will give the condition of the component or the possible cause of its malfunction.

- A. Make sure that the work area, the tools and the equipment are clean.
- B. Discard parts that you must not use again. These include:

IPL Fig/Item No.	Part Name
1-10	Split pin
1-41	Heat shrink sleeve
1-43	Ferrule
1-45	Bowden cable
1-80	Tab washers
2-70	Tab washers
2-150	Tab washer
2-180	Tab washers
2-200	Tab washer
2-230	Split pins
3-20	Split pin
3-180	Split pin
4-20	Split pin
4-110	Split pins
4-170	Tab washers
4-200	Tab washers
4-220	Split pin
4-270	Split pins
5-170	Split pin
5-320	Split pins
5-360	Split pin
6-60	Split pin
6-240	Split pin
7-60	Split pins
8-40	Split pins

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IPL Fig/Item No.	Part Name
8-100	Split pins
9-10	Split pin
10-20	Tab washers
10-40	Split pin
10-100	Tab washers
10-150	O-ring seals
11-70	Tab washers
11-90	Split pin
12-10	Split pins
12-50	Split pins
12-100	O-ring seal
12-110	Backing ring
12-130	O-ring seals
12-140	Backing rings
12-150	O-ring seals
12-160	Backing rings
13-67	O-ring seal
13-120	O-ring seal
13-140	Split pin
14-20	Split pins
15-80	Locking plate
15-90	Screws
15-100	Tab washers
15-120	Pin
15-170	Tab washers
15-250	O-ring seal
15-260	Backing rings
15-280	Seal
15-290	Seal
15-310	O-ring seal
15-320	Split pin
16-20	O-ring seal
16-30	Backing rings
16-40	O-ring seal
16-50	Backing rings
16-60	Seal

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IPL Fig/Item No.	Part Name
16-70	Seal
16-80	Joint seal
16-90	Sealing ring
16-100	Wiper ring
16A-117	Inner liner
17-27	O-ring seal
17-60	O-ring seal
17-70	Backing ring
17-90	Lock washer
17-110	Tab washers
17-190	Seal
17-210	O-ring seal
17-220	Backing ring
19-10	Split pin

C. Wire Thread Inserts

- (1) If necessary, remove the wire thread inserts:
 - (a) Bend the outer coil of the wire thread insert to the centre of the hole.
 - (b) Remove the wire thread insert. Make sure that broken pieces do not stay in the hole.

D. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
MT1025	Bench Clamp	Use with MT1026/63 and 460006406
MT1026/63	Holding Blocks	Hold the cylinder (17-230)
T14500	Crowfoot Wrench	Remove the charging valves (13-60 and 17-20)
T14544	Torque Adapter	Remove the nut (9-50)
460001355	Extractor	Remove the lubrication adapters (18-60), (20-130), (20-160), (20-190) and (20-220)
460004331/1	Drift	Use with 460006151/47
460004331/7	Drift	Use with 460006151/24, 460006151/25, 460006151/26 and 460006151/51

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Part No.	Special Tool	Function
460004331/8	Drift	Use with 460006151/7, 460006151/20, 460006151/30 and 460006151/31
460004331/9	Drift	Use with 460006151/47, 460006151/87 and 460006151/88
460004331/20	Drift	Use with 460006151/21 and 460006151/22
460004331/21	Drift	Use with 460006151/9, 460006151/10 and 460007259
460004680	Extraction Tube	Remove the forward pintle bush (20-250A)
460006151/7	Extractor	Remove the bushes (18-30)
460006151/9	Extractor	Remove the bushes (20-340) and (20-350)
460006151/10	Extractor	Remove the bushes (10-250 , 11-230 , 18-40 and 20-330)
460006151/20	Extractor	Remove the bushes (18-20)
460006151/21	Extractor	Remove the bush (15-370)
460006151/22	Extractor	Remove the bush (15-380)
460006151/24	Extractor	Remove the bearings (5-280 and 5-290) and the bushes (20-380)
460006151/25	Extractor	Remove the bearing (4-340) and the bush (20-360)
460006151/26	Extractor	Remove the bearing (4-350)
460006151/30	Extractor	Remove the bush (6-210 and 8-160)
460006151/31	Extractor	Remove the bush (6-220 and 8-150)
460006151/47	Extractor	Remove the bearings (20-230 , 20-240 and 20-290)
460006151/48	Extractor	Remove the bearing (20-290)
460006151/51	Extractor	Remove the bushes (20-390)
460006151/86	Extractor	Remove the bushes (20-320)
460006151/87	Extractor	Remove the bearing (20-270)
460006151/88	Extractor	Remove the bearing (20-260)
460006208	Lifting Bar Assembly	Hold the main landing gear leg (1-1), use with 460007281 and 460007282
460006211	Lifting Tackle	Lift the sliding tube subassembly (17-240) and related parts

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Part No.	Special Tool	Function
460006213	Transport and Build Trolley	
460006215	Support Arms	
460006216	Towing Frame	Hold the main landing gear leg (1-1)
460006223	Jacking Dome Adapter	
460006237	Adapter	
460006232	Extraction Pad	Remove the bearing (20-300)
460006253	Extractor	Remove the bearing (20-280)
460006261	Extraction Pad	Remove the bearing (20-310)
460006262	Extraction Bar	Use with 460006232, 460006263 and 460006261
460006263	Extraction Pad	Remove the bearing (20-300)
460006267	Press Pad Assembly	Remove drag arm sleeve (20-370A)
460006404	Torque Adapter	Remove the jacking dome (17-80)
460006406	Holding Blocks	Hold the upper diaphragm tube (15-390)
460006410	Assembly/Extraction Tool	Remove the level tube (15-300)
460006413	Extractor	Remove the bushes (7-130)
460006415	Extractor Pad and Drawbolt	Remove the bush (2-310)
460006416	Extractor	Remove the bush (2-320)
460006497	Hydraulic-Pneumatic Pump Set	To remove the forward pintle bush (2-250A)
460006498/7	Bolt	
460006499/25	Press Pad	
460007230	Torque Adapter	Remove the nuts (14-60)
460007231	Spacer	Use with 460007282
460007232	Torque Adapter	Remove the locking nut (19-52)
460007234	Location Frame	Hold the main landing gear leg (1-1) (left configuration)
OR 460007235	Location Frame	Hold the main landing gear leg (1-2) (right configuration)
460007240	Build Trolley	Hold the sliding tube subassembly (17-240) and related parts

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Part No.	Special Tool	Function
460007242	Torque Reaction Adapter	Hold the pin (9-70)
460007254	Extractor	Remove the bush (18-50)
460007259	Extractor Plate	Remove the bushes (20-340 and 20-350)
460007278	Torque Reactor	Use with 460006406
460007279	Pin Spanner	Remove the upper bearing housing (15-40)
460007281	Pintle Location Assembly	Hold the main landing gear leg (1-1), use with 460006208
460007282	Spherical Bearing Locator	
460007283	Torque Adapter	Remove the diaphragm subassembly (15-190)
460007284	Pin Spanner	Remove the nut subassembly (17-130)

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MAIN LANDING GEAR LEG2. Procedure (Refer to IPL Figures 1 to 20)

A. Initial Operations

- (1) Use these special tools as necessary during the procedure to lift and to hold the unit:
 - (a) The Lifting Bar Assembly 460006208
 - (b) The Spherical Bearing Locator 460007282
 - (c) The Pintle Location Assembly 460007281
 - (d) The Transport and Build Trolley 460006213
 - (e) The Support Arms 460006215
 - (f) The Towing Frame 460006216
 - (g) The Jacking Dome Adapter 460006223
 - (h) The Adapter 460006237
 - (i) The Spacer 460007231
 - (j) The Location Frame 460007234 (for left configuration units)
 - (k) The Location Frame 460007235 (for right configuration units).

B. Pintle Pin (1-60)

- (1) Pre SB 201-32-22: remove the split pin (1-10), the nut (1-20), the washer (1-30), the bolt (1-40) and the washer (1-50).
- (2) Post SB 201-32-22: remove the split pins (1-10A), the nuts (1-20A), the spacers (1-25), the washers (1-30A), the shims (1-35), the bolt subassembly (1-40A) and the washers (1-50A).
- (3) Post SB 201-32-22: cut the Bowden cable (1-45) and remove the cross bolts (1-47 and 1-49).
- (4) Remove the pintle pin (1-60).
- (5) Remove the bolts (1-70), tab washers (1-80), nuts (1-90) and retainers (1-100).
- (6) Remove the wiring diagram plate (1-110).

C. PRE SB 201-32-81: Transfer Block Subassembly (2-290 and 2-290A)

- (1) Remove the bolt (2-10), the washer (2-20), the pin (2-30), the spacer (2-40) and the threaded insert (2-50).
- (2) Release the tab washers (2-70). Remove the bolts (2-60), the tab washers (2-70) and the bracket (2-80).
- (3) Remove the bolts (2-100), the washers (2-110) and the bracket (2-120).
- (4) Release the tab washer (2-150). Remove the bolt (2-140), the tab washer (2-150) and the bonding cable (2-160).
- (5) Release the tab washers (2-180 and 2-200). Remove the bolts (2-170 and 2-190) and the tab washers (2-180 and 2-200).

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- (6) Remove the nuts (2-210) and retainers (2-220).
 - (7) Remove the split pins (2-230), the nuts (2-240), the washers (2-250), the bolts (2-260) and the bracket (2-270).
 - (8) Remove the transfer block subassembly (2-290 and 2-290A).
 - (9) Use the Extractor Pad and Drawbolt 460006415 to remove the bush (2-310) and the Extractor 460006416 to remove the bush (2-320) from the transfer block (2-340 and 2-340A).
- D. POST SB 201-32-81: Transfer Block Subassembly (2-290B)
- (1) Remove the bolt (2-10), the washer (2-20), the pin (2-30), the spacer (2-40) and the threaded insert (2-50).
 - (2) Release the tab washer (2-150). Remove the bolt (2-140), the tab washer (2-150) and the bonding cable (2-160).
 - (3) Release the tab washers (2-180 and 2-200). Remove the bolts (2-170 and 2-190A) and the tab washers (2-180 and 2-200).
 - (4) Remove the nuts (2-210) and retainers (2-220).
 - (5) Remove the transfer block subassembly (2-290B).
 - (6) Use the Extractor Pad and Drawbolt 460006415 to remove the bush (2-310) and the Extractor 460006416 to remove the bush (2-320) from the transfer block (2-340B).
- E. Cardan Assembly (3-10)
- (1) Remove the split pin (3-20), the nut (3-30), the washer (3-40), the pin (3-50), the spacers (3-60 and 3-70) and the cardan assembly (3-10).
 - (2) Remove the lubrication fittings (3-80, 3-100 and 3-120) and the identification washers (3-90, 3-110 and 3-130) from the lock stay cardan subassembly (3-140).
 - (3) Remove the bushes (3-150 and 3-160) from the lock stay cardan (3-170).
 - (4) Remove the split pin (3-180), the nut (3-190), the washer (3-200), the bolt (3-210) and the bracket (3-220).
- F. Rod End Assembly (4-10), Proximity Switch (4-100) and Bracket Subassembly (4-330)
- (1) Remove the split pin (4-20), the nut (4-30), the washer (4-40) and the rod end assembly (4-10).
 - (2) Remove the spherical bearing (4-50) from the rod end (4-60).
 - (3) Remove the nuts (4-70), the washers (4-80), the cap screws (4-90) and the proximity switch (4-100).
 - (4) Remove the split pins (4-110), the nuts (4-120), the washers (4-130) and the bracket (4-140).
 - (5) Release the tab washers (4-170 and 4-200). Remove the nuts (4-160), the tab washers (4-170), the spacer (4-180), the bolts (4-190), the tab washers (4-200) and the bracket (4-210).
 - (6) Remove the split pin (4-220), the nut (4-230), the washer (4-240), the bolt (4-250) and the sleeve (4-260).

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- (7) Remove the split pins (4-270), the nuts (4-280), the washers (4-290) and the bolts (4-300).
 - (8) Remove the bonding cable (4-310) and the washer (4-320).
 - (9) Remove the bracket subassembly (4-330).
 - (10) Use the Drift 460004331/7 and the Extractor 460006151/25 to remove the bearing (4-340) from the bracket (4-360).
 - (11) Use the Drift 460004331/7 and the Extractor 460006151/26 to remove the bearing (4-350) from the bracket (4-360).
- G. Bracket Assembly (5-10), Bracket Subassemblies (5-90 and 5-270) and Uplock Pin (5-400)
- (1) Remove the bolts (5-20 and 5-40), the washers (5-30 and 5-50), the nut (5-60) and the bracket assembly (5-10).
 - (2) Remove the spherical bearing (5-70) from the bracket (5-80): refer to M-DLPS1014-2.
 - (3) Remove the bolts (5-100 and 5-120), the washers (5-110 and 5-130), the nut (5-140) and the bracket subassembly (5-90).
 - (4) Remove the spherical bearing (5-150) from the bracket (5-160): refer to M-DLPS1014-2.
 - (5) Remove the split pin (5-170), the nut (5-180), the washer (5-190), the bolt (5-200) and the sleeve (5-210).
 - (6) Remove the bolt (5-220), the washer (5-230) and the bonding cable (5-240).
 - (7) Remove the bolt (5-250), the washer (5-260), the bracket subassembly (5-270) and the nut (5-310).
 - (8) Use the Drift 460004331/7 and the Extractor 460006151/24 to remove the bearings (5-280 and 5-290) from the bracket (5-300).
 - (9) PRE SB 201-32-72:
 - (a) Remove the split pins (5-320), the nuts (5-330), the washers (5-340) and the bolts (5-350).
 - (b) Remove the split pin (5-360), the nut (5-370), the washer (5-380), the static discharge connector (5-390) and the uplock pin (5-400).
 - (10) POST SB 201-32-72:
 - (a) Remove the split pins (5-320A), the nuts (5-330A), the washers (5-340B) and the bolts (5-350A).
 - (b) Remove the ground stud subassembly (5-390A), the washer (5-380B), the bolt (5-395) and the uplock pin (5-400A).
- H. Slave Link Subassembly (6-190) and Lower Slave Link Subassembly (6-290)
- (1) Remove the split pin (6-10), the nut (6-20), the washer (6-30), the bolt (6-40) and the spacer (6-50).
 - (2) Remove the split pin (6-60), the slotted nut (6-70), the washer (6-80) and the pivot pin (6-90).
 - (3) Remove the slave link subassembly (6-190) and its attached parts.

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- (4) Remove the nuts (6-100), the washers (6-110), the cap screws (6-120), the target (6-130) and the spacers (6-140) or the laminated shim (6-140A).

NOTE: If the calculated gap is in the tolerance, the spacers (6-140) or the laminated shim (6-140A) is not installed.

- (5) Remove the bolts (6-150), the washers (6-160) and the bracket (6-170).
- (6) Remove the bushes (6-200) from the slave link (6-230).
- (7) Use the Drift 460004331/8 and the Extractor 460006151/30 to remove the bush (6-210) from the slave link (6-230).
- (8) Use the Drift 460004331/8 and the Extractor 460006151/31 to remove the bush (6-220) from the slave link (6-230).
- (9) Remove the split pin (6-240), the nut (6-250), the washer (6-260), the bolt (6-270) and the spacer (6-280): remove the lower slave link subassembly (6-290).
- (10) Remove the grooved spherical bearing (6-300) or the self lubricating bearing (6-300A) from the lower slave link (6-310).

I. Proximity Switches (7-40 and 7-230) and Harness Support Bracket (7-100)

- (1) Remove the nuts (7-10), the washers (7-20), the cap screws (7-30), the proximity switch (7-40) and the spacer (7-50) or the laminated shim (7-50A).

NOTE: If the calculated gap is in the tolerance, the spacer (7-50) or the laminated shim (7-50A) is not installed.

- (2) Remove the split pins (7-60), the nuts (7-70), the washers (7-80), the bolts (7-90) and the harness support bracket (7-100).
- (3) Remove the pivot bracket subassembly (7-120).
- (4) Use the Extractor 460006413 to remove the bushes (7-130) from the pivot bracket (7-140).
- (5) Remove the nuts (7-150), the washers (7-160), the cap screws (7-170), the target (7-180) and the spacer (7-190) or the laminated shim (7-190A).

NOTE: If the calculated gap is in the tolerance, the spacer (7-190) or the laminated shim (7-190A) is not installed.

- (6) Remove the nuts (7-200), the washers (7-210), the cap screws (7-220), the proximity switch (7-230) and the spacer (7-240) or the laminated shim (7-240A).

J. Bracket Subassembly (8-90)

- (1) Remove the nuts (8-10), the washers (8-20) and the bolts (8-30).
- (2) Remove the split pins (8-40), the nuts (8-50), the washers (8-60), the bolts (8-70) and the bracket (8-80).
- (3) Remove the split pin (8-100), the nut (8-110), the washer (8-120), the sleeves (8-130) and the bolt (8-140). Remove the bracket subassembly (8-90).
- (4) Use the Extractor 460006151/31 and the Drift 460004331/8 to remove the bush (8-150).
- (5) Use the Extractor 460006151/30 and the Drift 460004331/8 to remove the bush (8-160).

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K. Damper (9-160)

- (1) Remove the split pin (9-10), the nut (9-20), the washer(s) (9-30) and the bolt (9-40).
- (2) Remove the clamp (9-165) and the dust cap (9-170).
- (3) Use the Torque Reaction Adapter 460007242 to hold the pin (9-70) and use the Torque Adapter T14544 to remove the nut (9-50). Remove the spacer (9-60), the pin (9-70), the spacer (9-80) and the sleeve (9-90).
- (4) Remove the bolts (9-100), the washers (9-110), the bolts (9-120), the washers (9-130), the bolts (9-140), the washers (9-145) and the bracket (9-150).
- (5) Remove the damper (9-160), the spacers (9-180 and 9-190) and the sleeve (9-200).

L. Upper Torque Link Subassembly (10-170)

- (1) Release the tab washers (10-20). Remove the bolts (10-10), the tab washers (10-20) and the wedge (10-30).
- (2) Remove the split pin (10-40), the nut (10-50), the washers (10-60), the bolt (10-70) and the pin (10-80).
- (3) Remove the upper torque link subassembly (10-170), the upper pivot bracket (10-160) and the spacers (10-270).
- (4) Remove the lubrication shaft subassembly (10-90) from the pin (10-80).
- (5) Remove the O-ring seals (10-150) from the lubrication shaft subassembly (10-90).
- (6) Remove the lubrication fittings (10-120) and the identification washers (10-130).
- (7) Release the tab washers (10-100). Remove the lubrication adapters (10-110) and the tab washers (10-100).
- (8) Remove the lubrication fittings (10-180 and 10-210) and the identification washers (10-190 and 10-220). Remove the lubrication adapters (10-200 and 10-230).
- (9) Remove the bushes (10-240).
- (10) Use the Extractor 460006151/10 to remove the bushes (10-250) from the upper torque link (10-260).

M. 1M Electrical Axle Harness (11-40) and 2M Electrical Axle Harness (11-50)

- (1) Remove the cap screws (11-10), the washers (11-20) and the harness support (11-30).
- (2) Remove the 2M electrical axle harness (11-50).
- (3) Remove the 1M electrical axle harness (11-40).

N. Lower Torque Link Subassembly (11-150)

- (1) Release the tab washers (11-70).
- (2) Remove the bolts (11-60), the tab washers (11-70) and the wedge (11-80).
- (3) Remove the split pin (11-90), the nut (11-100), the washer (11-110) and the bolt (11-120).
- (4) Remove the pin (11-130), the harness support bracket (11-140), the lower torque link subassembly (11-150) and the spacers (11-250).

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- (5) Remove the lubrication fittings (11-160 and 11-190) and the identification washers (11-170 and 11-200). Remove the lubrication adapters (11-180 and 11-210).
- (6) Remove the bushes (11-220).
- (7) Use the Extractor 460006151/10 to remove the bushes (11-230) from the lower torque link (11-240).

O. Housing (12-170)

- (1) Remove the split pins (12-10), the nuts (12-20), the washers (12-30) and the bolts (12-40).
- (2) Remove the housing (12-170) and its related parts.
- (3) Remove the split pins (12-50), the washers (12-60), the pin (12-70) and the cap screw (1).
- (4) Remove the valve stem (12-90).
- (5) Remove the O-ring seal (12-100) and the backing ring (12-110).
- (6) Remove the transfer dowels (12-120).
- (7) Remove the O-ring seals (12-130 and 12-150) and the backing rings (12-140 and 12-160).

P. Shock Absorber Subassembly (13-50) and Related Parts

- (1) Remove the split pins (14-20), the nuts (14-30), the washers (14-40) and the bolts (14-50).
- (2) Use the Torque Adapter 460007230 to remove the nuts (14-60).
- (3) Remove the stop rings (14-70).

WARNING: RELEASE ALL NITROGEN PRESSURE BEFORE YOU REMOVE THE CHARGING VALVES (13-60 AND 17-20).

- (4) Slowly open the charging valve (17-20) and release all of the second stage nitrogen pressure.
- (5) Slowly open the charging valve (13-60) and release all of the first stage nitrogen pressure.
- (6) Release the cup washers (13-20).
- (7) Remove the retaining pins (13-10) and the cup washers (13-20).
- (8) Remove the lubrication fittings (13-30) and the identification washers (13-40).
- (9) Use the Crowfoot Wrench T14500 to remove the charging valve (13-60). Remove the O-ring seal (13-67) from the charging valve (13-60).
- (10) Remove the bolts (13-70), the spacers (13-80) and the inflation valve subassembly (13-90).
- (11) Remove the plate (13-100) from the inflation valve (13-110).
- (12) Remove the O-ring seal (13-120) and the backing rings (13-130).
- (13) Remove the split pin (13-140), the nut (13-150), the washers (13-160), the bolt (13-170) and the stop ring (13-180).
- (14) Remove the pin (13-190), the washer subassembly (13-200) and the bush (13-230).

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- (15) Remove the shock absorber subassembly (13-50) and its related parts from the main fitting subassembly (20-90).
- (16) Use the Lifting Tackle 460006211 and install the sliding tube subassembly (17-240) in the Build Trolley 460007240.
- (17) Remove the bearings (15-20 and 15-30).
- (18) Remove the upper bearing housing (15-40) and related parts as follows:
 - (a) Release the tab washers (15-100).
- CAUTION: DISCARD THE SCREWS (15-90) AND THE LOCKING PLATES (15-80) WHEN REMOVED.**
- (b) Remove the screws (15-90) and the tab washers (15-100).
- (c) Remove the locking plate (15-80).
- (d) Use Pin Spanner 460007279 to remove the upper bearing housing (15-40).
- (e) Remove and discard the pins (15-120).
- (f) Remove the two piece stop with inserts (15-130).
- (19) Remove the locking pins (15-50), the retaining ring (15-60) and the recoil orifice plate (15-70).
- (20) Remove the upper diaphragm tube subassembly (15-360) and its related parts.
- (21) Release the tab washers (15-170). Remove the bolts (15-160), the tab washers (15-170) and the lock plate (15-180).
- (22) Use the Torque Adapter 460007283, the Torque Reactor 460007278, the Holding Blocks 460006406 and the Bench Clamp MT1025 to remove the diaphragm subassembly (15-190), the compression orifice plate (15-220), the clapper seat (15-230) and the baffle (15-240).
- (23) Remove the O-ring seal (15-250) and the backing rings (15-260).
- (24) Remove the bearing (15-270) and the seals (15-280 and 15-290).
- (25) Use the Assembly/Extraction Tool 460006410 to remove the level tube (15-300) and remove the O-ring seal (15-310).
- (26) Remove the split pin (15-320), the nut (15-330), the washer (15-340) and the bolt (15-350).
- (27) Use the Extractor 460006151/21 and the Drift 460004331/20 to remove the bush (15-370).
- (28) Use the Extractor 460006151/22 and the Drift 460004331/20 to remove the bush (15-380) from the upper diaphragm tube (15-390).
- (29) Lower Bearing Subassembly (16-110) Pre SB 201-32-58
 - (a) Remove the lower bearing subassembly (16-110) and its related parts from the sliding tube subassembly (17-240).
 - (b) Remove the O-ring seal (16-20), the backing rings (16-30), the O-ring seal (16-40) and the backing rings (16-50).
 - (c) Remove the seals (16-60 and 16-70).

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- (d) Remove the joint seal (16-80), the sealing ring (16-90) and the wiper ring (16-100).
- (e) Remove the lower bearing (16-150) from the lower bearing housing subassembly (16-120).
- (f) Remove the bushes (16-130) from the gland housing (16-140).
- (30) Lower Bearing Subassembly (16A-110D) Post SB 201-32-58
 - (a) Remove the lower bearing subassembly (16A-110D) and its related parts from the sliding tube subassembly (17-240).
 - (b) Remove the O-ring seal (16A-20), the backing rings (16A-30), the O-ring seal (16A-40) and the backing rings (16A-50).
 - (c) Remove the seals (16A-60 and 16A-70).
 - (d) Remove the joint seal (16A-80), the sealing ring (16A-90) and the wiper ring (16A-100).
 - (e) Remove the inner liner (16A-117) from the lower bearing subassembly (16A-110D) and discard it.
 - (f) Remove the lower bearing (16A-150A) from the lower bearing housing subassembly (16A-120B). Discard the machined lower bearing (16A-150A).
 - (g) Remove the bushes (16A-130A) from the gland housing (16A-140B).
- (31) Lower Bearing Subassembly (16-110D or 16A-110E) Post Ref. Code: 2253
 - (a) Remove the lower bearing subassembly (16-110D or 16A-110E) and its related parts from the sliding tube subassembly (17-240).
 - (b) Remove the O-ring seal (16-20A or 16A-20A), the backing rings (16-30 or 16A-30), the O-ring seal (16-40A or 16A-40A) and the backing rings (16-50 or 16A-50).
 - (c) Remove the seals (16-60 or 16A-60) and (16-70 or 16A-70).
 - (d) Remove the joint seal (16-80 or 16A-80), the sealing ring (16-90 or 16A-90) and the wiper ring (16-100 or 16A-100).
 - (e) Remove the common lower bearing bushes (16-130A or 16A-130B) from the lower bearing housing (16-140B or 16A-140C).
- (32) Use the Crowfoot Wrench T14500 to remove the charging valve (17-20). Remove the O-ring seal (17-27) from the charging valve (17-20).
- (33) Remove the cap screws (17-30), the washers (17-40) and the valve support (17-50).
- (34) Remove the O-ring seal (17-60) and the backing ring (17-70).
- (35) Release the lock washer (17-90) and use the Torque Adapter 460006404 to remove the jacking dome (17-80). Remove the lock washer (17-90).
- (36) Remove the cylinder (17-230) and its related parts from the sliding tube subassembly (17-240).
- (37) Hold the cylinder (17-230) in the Bench Clamp MT1025 and Holding Blocks MT1026/63.
- (38) Release the tab washer (17-110) and remove the bolts (17-100). Remove the tab washers (17-110).

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- (39) Remove the lock plate (17-120) and use the Pin Spanner 460007284 to remove the nut subassembly (17-130). Remove the rod (17-160) and the washer (17-170).
- (40) Remove the piston (17-200) and remove the bearing (17-180) and the seal (17-190).
- (41) Remove the O-ring seal (17-210) and the backing ring (17-220) from the cylinder (17-230).
- (42) Remove the cylinder (17-230) from the Bench Clamp MT1025 and Holding Blocks MT1026/63.
- (43) Remove the labels (17-250 and 17-290).
- (44) Remove the lubrication fittings (17-270) and the identification washers (17-280) from the sliding tube subassembly (17-240).
- (45) Remove the sliding tube subassembly (17-240) from the Build Trolley 460007240.
- (46) Sliding Tube Subassembly (17-240)
 - (a) Remove the bushes (18-10).
 - (b) Use the Extractor 460006151/20 and the Drift 460004331/8 to remove the bushes (18-20).
 - (c) Use the Extractor 460006151/7 and the Drift 460004331/8 to remove the bushes (18-30).
 - (d) Use the Extractor 460006151/10 and the Drift 460004331/21 to remove the bushes (18-40).
 - (e) Use the Extractor 460007254 to remove the bush (18-50).
 - (f) Remove the lubrication fittings (18-52) and identification washers (18-54).
 - (g) Remove the label (18-70) from the sliding tube (18-80).
- Q. Spherical Bearing (19-50) and Bung (19-60)
 - (1) Remove the split pin (19-10), the nut (19-20), the washers (19-30) and the bolt (19-40).
 - (2) Release the lock indentations of the locking washer (19-54).
 - (3) Use the Torque Adapter 460007232 to remove the locking nut (19-52). Remove the locking washer (19-54) and the outer race and the ball of the spherical bearing (19-50).

NOTE: The outer race and the ball are parts of the spherical bearing (19-550). They are a set: keep them together.
 - (4) Remove the bung (19-60).
- R. Main Fitting Subassembly (20-90)
 - (1) Remove the labels (20-10, 20-30, 20-40, 20-60 and 20-80).
 - (2) Remove the lubrication fitting (20-110) and the identification washer (20-120). Remove the lubrication adapter (20-130).
 - (3) Remove the lubrication fitting (20-140) and the identification washer (20-150). Remove the lubrication adapter (20-160).
 - (4) Remove the lubrication fitting (20-170) and the identification washer (20-180). Remove the lubrication adapter (20-190).

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- (5) Remove the lubrication fittings (20-200) and identification washers (20-210). Remove the lubrication adapters (20-220).
- (6) Use the Extractor 460001355 and remove the lubrication adapters (20-130), (20-160) (20-190) and (20-220).
- (7) Use the Extractor 460006151/47 and the Drift 460004331/1 to remove the bearings (20-230 and 20-240).
- (8) Remove the bearing (20-250 only).
- (9) Use the Hydraulic-Pneumatic Pump Set 460006497, the Bolt 460006498/7, the Press Pad 460006499/25 and the Extraction Tube 460004680 and remove the forward pintle bush (20-250A).
- (10) Use the Extractor 460006151/88 and the Drift 460004331/9 to remove the bearing (20-260).
- (11) Use the Extractor 460006151/87 and the Drift 460004331/9 to remove the bearing (20-260 and 20-270).
- (12) Use the Extractor 460006253 to remove the bearing (20-280).
- (13) Use the Extractor 460006151/47/48 and the Drift 460004331/9 to remove the bearing (20-290).
- (14) Use the Extraction Pad 460006263/460006232 and the Extraction Bar 460006262 to remove the bearing (20-300).
- (15) Use the Extraction Pad 460006261 and the Extraction Bar 460006262 to remove the bearing (20-310).
- (16) Use the Extractor 460006151/86 to remove the bushes (20-320).
- (17) Use the Extractor 460006151/10 and the Drift 460004331/21 to remove the bushes (20-330).
- (18) Use the Extractor Plate 460007259/460006151/9 and the Drift 460004331/21 to remove the bushes (20-340 and 20-350).
- (19) Use the Extractor 460006151/25 and the Drift 460004331/7 to remove the bush (20-360).
- (20) Remove the bearing (20-370 only).
- (21) Use the Press Pad Assembly 460006267 and remove the drag arm sleeve (20-370A only).
- (22) Use the Extractor 460006151/24 and the Drift 460004331/7 to remove the bushes (20-380).
- (23) Use the Extractor 460006151/51 and the Drift 460004331/7 to remove the bushes (20-390).
- (24) Remove the bearings (20-400).

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CLEANING

1. General

A. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
11-524	White spirit

2. Procedure

A. Cleaning

WARNING: DO NOT GET CLEANING AGENTS ON YOUR SKIN, IN YOUR EYES OR NEAR A FLAME. DO NOT BREATHE THE FUMES. ONLY USE IN A LOCATION THAT HAS A CONTINUOUS FLOW OF CLEAN AIR. CLEANING AGENTS ARE POISONOUS AND FLAMMABLE.

CAUTION: DO NOT USE CHLORINATED SOLVENTS. CHLORINATED SOLVENTS CAN MIX WITH VERY SMALL QUANTITIES OF WATER IN HYDRAULIC SYSTEMS TO MAKE HYDROCHLORIC ACID. HYDROCHLORIC ACID WILL CAUSE CORROSION ON METAL SURFACES.

- (1) Clean all the metal parts with white spirit, Material Ref. Item 11-524. Make sure that you fully remove all sealants, adhesives and jointing compounds.
- (2) Dry all the metal parts.
- (3) Use clean PVC or polythene gloves to prevent corrosion of metal parts.
- (4) Prevent corrosion of the metal parts that you do not immediately use for assembly procedures: refer to PCS-2800.

B. Paint Removal

WARNING: DO NOT GET PAINT STRIPPER ON YOUR SKIN, IN YOUR EYES OR NEAR A FLAME. DO NOT BREATHE THE FUMES. ONLY USE IN A LOCATION THAT HAS A CONTINUOUS FLOW OF CLEAN AIR. PAINT STRIPPER IS POISONOUS AND FLAMMABLE.

- (1) Remove the damaged paint: refer to PCS-2700.
- (2) Clean the part: refer to para 2.A.
- (3) Paint the part: [refer to REPAIR](#).

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CHECK

1. General

- A. The procedure to examine the parts is in two levels:
 - (1) Detailed Inspection.
 - (2) Special Detailed Inspection.

2. Detailed Inspection

A. Examine Parts Visually

- (1) Visually examine each part. Carefully examine changes of section and areas which contact sealing rings.
- (2) Examine each part for these types of damage:
 - (a) Corrosion.
 - (b) Deterioration of protective treatment.
 - (c) Distortion and/or cracks.
 - (d) Wear or fretting.
 - (e) Scores, dents or burrs.
 - (f) Unserviceable screw threads.
 - (g) Parts of permanent assemblies that are not correctly attached.

B. Examine Dimensions

- (1) Measure all the parts that are in **FITS AND CLEARANCES** and compare with the dimensions in the table.
- (2) Spring Data
 - (a) Not applicable.

3. Special Detailed Inspection

A. Special Dimension Check:

- (1) Examine the rod (**17-160**) for the diameter of radial damping holes. The diameter of each hole must be between 5,40 and 5,60 mm (0.213 and 0.220 in).
- (2) Examine the thread form of the diaphragm subassembly (**15-190**) and diaphragm (**15-210A**) with shadow graph projection.

NOTE: The thread size is M142 x 1.5 pitch - 5h6h to BS3643.

- (3) Examine the 4 holes in the sliding tube (**18-80**) where the bracket (**8-170**) installs, for burrs. If you find burrs contact Safran Landing Systems who will supply an applicable repair.

NOTE: Use a good light source and 10x magnification to view the area, to look for burrs.

B. Unless instructions are different:

- (1) Examine all parts shown in Tables **501** and **502** to the applicable NDT and information given.

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CAUTION: YOU MUST DISASSEMBLE ALL PARTS, THIS WILL INCLUDE THE BUSHES, THEY MUST BE REMOVED AND DISCARDED. YOU MUST APPLY THE NDT INSPECTION TO THE DETAIL LEVEL PART ONLY AS IDENTIFIED IN TABLES 501 AND 502. IF THE BUSHES ARE NOT REMOVED THE INSPECTION IS NOT COMPLETE FOR THE DETAIL PART AND DAMAGE CAN OCCUR.

- (2) Parts that are included in Tables 501 and 502 must be fully disassembled to the lowest detail level for NDT inspection. This includes the removal of all of the bushes.

Examination of Magnetic Steel Parts by Non-destructive Testing
 Table 501

Fig Item No.	Name	Material Type	M-D Spec	Remarks
1-40	Bolt	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
1-47, 1-47A, 1-49, and 1-49A,	Cross Bolt	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
1-60	Pintle pin	Steel, S155 or 300M to MTL1201	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
1-60A	Pintle pin	Steel, 300M to MTL1201	PCS-3100 and PCS-3002	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
2-30	Pin	Stainless Steel, 17-4PH to AMS5643	PCS-3100	Inclusion class 4
2-40	Spacer	Stainless Steel, S80	PCS-3100	Inclusion class 3
2-50	Threaded insert	Steel, S154	PCS-3100	Inclusion class 3

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
3-50	Pin	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 3 on areas without chromium plate - Chromium plated areas
3-60	Spacer	Stainless Steel, S80	PCS-3100	Inclusion class 3
3-70	Spacer	Stainless Steel, S80	PCS-3100	Inclusion class 3
4-60	Rod end	Steel, S154	PCS-3100	Inclusion class 3
4-190	Bolt	Steel, S154	PCS-3100	Inclusion class 3
4-190A	Special Bolt	Steel 4340 to MTL-1101	PCS-3100	Inclusion class 3
5-160	Bracket	Steel, S99	PCS-3100	Inclusion class 4
5-200	Bolt	Steel, S154	PCS-3100	Inclusion class 3
5-390	Static discharge connector	Stainless Steel, MAT130 or AMS5659 Cond H1025	PCS-3100	Inclusion class 4
5-400	Uplock pin	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
5-400A	Uplock pin	Steel, 4340 to MTL-1101	PCS-3100 and PCS-3002	- Inclusion class 3 - Chromium plated areas
6-90	Pin	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
9-50	Nut	Steel, S99 to MAT123	PCS-3100	Inclusion class 3

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
9-70	Pin	Steel, S155 or MTL1201	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
9-90	Spacer	Steel, S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
9-180	Spacer	Stainless Steel, S145	PCS-3100	Inclusion class 3
9-200	Sleeve	Stainless Steel, S145	PCS-3100	Inclusion class 3
10-80	Pin	Steel, S155 or MTL1201	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
10-260 and 10-260A	Upper torque link	Steel, MAT125	PCS-3100	Inclusion class 3
10-270	Spacer	Stainless Steel, S80	PCS-3100	Inclusion class 2
11-130	Pin	Steel, S155 or MTL1201	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
11-240 and 11-240A	Lower torque link	Steel, MAT125	PCS-3100	Inclusion class 3
12-70	Pin	Steel, S154	PCS-3100	Inclusion class 3
12-90	Valve stem	Steel, S99	PCS-3100	Inclusion class 3
12-90A	Valve stem	Steel, S99 or 4340 to AMS 6414	PCS-3100	Inclusion class 3

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
13-10 13-10A	Retaining pin	Steel S99	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 2 on areas without chromium plate - Chromium plated areas
13-10B	Retaining pin	Steel, 4340 to MTL-1101	PCS-3100 and PCS-3002	- Inclusion class 3 on areas without chromium plate - Chromium plated areas
13-70	Bolt	Steel	PCS-3100	Inclusion class 2
13-110	Inflation valve	Stainless Steel, Z8CND17-04	PCS-3100	Inclusion class 3
13-110A	Inflation valve	Stainless Steel, Z8CND17-04T1	PCS-3100	Inclusion class 3
13-190 13-190A	Pin	Steel, 35NCD16	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
14-60	Nut	Steel, 35CD4	PCS-3100	Inclusion class 4
15-50	Locking pin	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11 MD	PCS-3100	Inclusion class 3
15-60	Retaining ring	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11 MD	PCS-3100	Inclusion class 3
15-70	Recoil orifice plate	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11 MD	PCS-3100	Inclusion class 2
15-180	Lock plate	Steel, 25CD4S	PCS-3100	Inclusion class 2

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
15-220	Compression orifice plate	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11 MD	PCS-3100	Inclusion class 2
15-230	Clapper seat	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11 MD	PCS-3100	Inclusion class 2
15-300	Level tube	Stainless Steel, Z15CN17-03 Type 1 or 17-4PH to AMS 5604/5643	PCS-3100	Inclusion class 2
15-350	Bolt	Stainless Steel, Z6CNU17-04	PCS-3100	Inclusion class 3
15-390	Upper dia-phragm tube	Steel, 4340	PCS-3100	Inclusion class 4
15-390A	Upper dia-phragm tube	Steel, 4340 to MTL-1101	PCS-3100	Inclusion class 3
17-80	Jacking dome	Steel, 35NCD16	PCS-3100	Inclusion class 4
17-120	Lock plate	Steel, 25CD4S or MTL1101	PCS-3100	Inclusion class 2
17-170	Washer	Steel, 35NCD16	PCS-3100	Inclusion class 3
17-230	Cylinder	Steel, 35NCD16	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
17-230A	Cylinder	Steel, 35NCD16 to NCT 10-123-11MD or Steel, 4340 to AMS6414	PCS-3100	- Inclusion class 3

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
18-80 and 18-80A	Sliding tube	Steel, 300M	PCS-3100 and M-DLNDT3 Parts 1 and 2	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
18-80B	Sliding tube	Steel, 300M to MTL1201	PCS-3100 and PCS-3002	- Inclusion class 4 on areas without chromium plate - Chromium plated areas
18-80D, 18-80E, 18-80F and 18-80G	Sliding tube	Steel, 300M to MTL-1201	PCS-3100	- Inclusion class 4
19-40	Bolt	Steel, S154	PCS-3100	- Inclusion class 3
20-410 20-410A	Main fitting	Steel, MAT135 (35NCD16THQ)	PCS-3100	- Inclusion class 4
20-420 20-420A	Main fitting	Steel, MAT135 (35NCD16THQ)	PCS-3100	- Inclusion class 4
20-410B 20-420B	Main fitting	Steel, 35NCD16THQ to MTL1203	PCS-3100	- Inclusion class 4
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	Steel, 300M to MTL1201	PCS-3100	- Inclusion class 4

Examination of Non-Magnetic Parts by Non-destructive Testing

Table 502

Fig Item No.	Name	Material Type	M-D Spec	Remarks
2-80	Bracket	Aluminium Alloy, L113 or L168-T6511	PCS-3200	-
2-90	Bracket	Aluminium Alloy, L113 or L168-T6511	PCS-3200	-
2-120	Bracket	Aluminium Alloy, L113	PCS-3200	-
2-130	Bracket	Aluminium Alloy, L113	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
2-270	Bracket	Aluminium Alloy, L113	PCS-3200	-
2-280	Bracket	Aluminium Alloy, L113	PCS-3200	-
2-340 Only, 2-340A	Transfer block	Aluminium Alloy, L168T6511	PCS-3200	-
2-340B	Transfer block	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73 T7351, T7310 or T73511 to MTL-2701 or 7050 T7451 to MTL-2712	PCS-3200	-
2-350 Only, 2-350A	Transfer block	Aluminium Alloy, L168T6511	PCS-3200	-
2-350B	Transfer block	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73 T7351, T7310 or T73511 to MTL-2701 or 7050 T7451 to MTL-2712	PCS-3200	-
3-170	Lock stay cardan	Aluminium Alloy, 7010T736	PCS-3200	-
4-140	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
4-150	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
4-180A	Drag-arm Spacer	Aluminium Alloy, 7075-T73 to AMS QQ-A-250/12 or to MTL-2701	PCS-3200	-
4-210	Bracket	Aluminium Alloy, 6082 to BS EN 4007 (MAT206) or Aluminium Alloy, 2014A to BS L168 or 6082 to BS EN 2326 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
4-360	Bracket	Aluminium Alloy, L168T6511	PCS-3200	-
5-80	Bracket	Aluminium Alloy, L168T6511	PCS-3200	-
5-300	Bracket	Aluminium Alloy, L168T6511 or L93T651	PCS-3200	-
6-50	Spacer	Stainless Steel, S130	PCS-3200	-
6-170	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
6-180	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
6-230 Only	Slave link	Aluminium Alloy, L99	PCS-3200	-
6-280	Spacer	Stainless Steel, S130	PCS-3200	-
6-310	Lower slave link	Aluminium Alloy, BS L168 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
7-50	Spacer	Aluminium Alloy, L70	PCS-3200	-
7-100	Harness support bracket	Aluminium Alloy, L99	PCS-3200	-
7-100A	Harness support bracket	Aluminium Alloy, L168 or L93	PCS-3200	-
7-110	Harness support bracket	Aluminium Alloy, L99	PCS-3200	-
7-110A	Harness support bracket	Aluminium Alloy, L168 or L93	PCS-3200	-
7-140	Pivot bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
8-170	Bracket	Aluminium Alloy, L168 or L93	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
9-150 Only	Bracket	Aluminium Alloy, L113 or Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
9-150A	Bracket	Aluminium Alloy, L168-T6511 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
9-190 Only	Spacer	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
9-190A	Spacer	Aluminium Alloy, L168-T6511 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
10-30	Wedge	Aluminium Alloy, BS L168-T6 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
11-30	Harness support	Aluminium Alloy, BS L168-T6 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
11-80	Wedge	Aluminium Alloy, BS L168-T6 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
11-140	Harness support bracket	Aluminium Alloy, L168 or L93	PCS-3200	-
12-120	Transfer dowel	Aluminium Alloy, L168-T6511	M-DLNDT8	-
12-170 Only	Housing	Aluminium Alloy, L168T6511	PCS-3200	-
12-170A	Housing	Aluminium Alloy, L168-T6511 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	PCS-3200	-
13-220	Washer	Aluminium Alloy, 2024T4 or T351	PCS-3200	-
14-70	Stop ring	Stainless Steel, Z12CN18-10	PCS-3200	-
15-40	Upper bearing housing	Aluminium Alloy, 2024T3511	PCS-3200	-
15-140	Two piece stop	Aluminium Alloy, 2024T4 or T351	PCS-3200	-
15-210	Diaphragm	Aluminium Alloy, 2024T3511	PCS-3200	-
15-210A	Diaphragm	Aluminium Alloy, 7050-T7451 to AMS 4050	PCS-3200	-
15-240	Baffle	Aluminium Alloy, 2024T4 or T351	PCS-3200	-
16-140	Gland housing	Aluminium Alloy, 2024T3	PCS-3200	-
17-50	Valve support	Aluminium Alloy, 2024T4 or T452	PCS-3200	-
17-50A	Valve support	Aluminium Alloy, 2024T351 or T3	PCS-3200	-

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Fig Item No.	Name	Material Type	M-D Spec	Remarks
17-150	Nut	Aluminium Alloy, 2024T3511	PCS-3200	-
17-160	Rod	Aluminium Alloy, 2024T3 or T351	PCS-3200	-
17-200	Piston	Aluminium Alloy, 7175T7351	PCS-3200	-

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REPAIR

1. General

A. Repair Levels

- (1) There are two levels of repair procedure for parts that are found to be unserviceable after inspection: refer to CHECK.
 - (a) Repair of surface damage.
 - (b) Repair of wear or damage with an approved Messier-Dowty Limited or Safran Landing Systems repair.

B. Surface Damage

- (1) Repair isolated external scores, smooth dents and abrasions, that have no cracks and no effect on internal dimensions: refer to para (2). Such damage must not be:
 - (a) More than 19,00 mm (0.750 in) in length
 - (b) More than 0,76 mm (0.030 in) in depth
 - (c) Less than one diameter from a hole and less than 6,35 mm (0.250 in) from a bearing surface
 - (d) On a radius.
- (2) Remove burrs, corrosion and sharp edges: the area of damage must not be more than 645 mm² (1.0 in²) for each 6450 mm² (10.0 in²). Subsequently, remove 0,127 mm (0.0050 in) more of the material and repair the protective treatment.
- (3) In a bore that will not seal, ignore abrasions and small scores that have no burrs. If there are burrs, remove them plus 0,127 mm (0.0050 in) of material from the area. Repair the protective treatment.
- (4) In a bore that will seal, polish scores to remove them. Make sure that the surface finish, concentricity and fits and clearances do not change.
- (5) Remove burrs from external screw threads.

C. Approved Repairs

CAUTION: DO NOT REPAIR A PART WITH A PROCEDURE THAT IS NOT APPROVED.

- (1) Approved repairs are in para 4. The repairs in this CMM have been approved under Airbus' EASA Design Organisation Approval No. EASA.21J.031.
- (2) Unless instructions are different in the approved repair, the applicable tolerances are:
 - (a) General tolerance: + or - 0,25 mm (0.010 in)
 - (b) Holes that are drilled or machined: + 0,25 to - 0,05 mm (+ 0.010 to - 0.002 in)
 - (c) Angular tolerance: + or - 0,5 degree.
- (3) Before you repair a part that is identified with a concession, salvage or repair number, write to Safran Landing Systems for approval. Such numbers are adjacent to the part number, for example:
 - (a) Concession - CON 14235
 - (b) Salvage - 440015644
 - (c) Repair - 450213024.

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- (4) If the repairs in this manual cannot correct the wear or damage to the part, write to Safran Landing Systems: refer to M-DLPS3002.

2. Repair Procedure Conditions

A. Cleaning

- (1) Clean the parts after repair: refer to CLEANING.

B. Identification

- (1) Identify the parts after repair with the Messier-Dowty Limited or Safran Landing Systems Repair Number: refer to the applicable repair for instructions.

3. Protective Treatment

A. Protective Treatment Repair

(1) Cadmium Plated Surfaces

- (a) Repair damage to small areas of cadmium plated surfaces: refer to PCS-2141.

(2) Anodized Surfaces

- (a) Repair damage to small areas of anodized surfaces: refer to PCS-2220.

(3) Paint Finish

- (a) Repair damage to small areas of paint finish: refer to M-DLPS1003-1, use paint to PCS-2500.

(4) Sermetel W

- (a) Chip damage of less than 10,0 mm² (0.015 in²) can be restored with Sermetel 249 with Sermetel 273 catalyst: refer to M-DLPS637 (cold rework only).

B. Protective Treatment Replacement

- (1) Protective treatment replacement procedures and the applicable parts are given in [Table 601](#).

Protective Treatment

Table 601

IPL Figure and Item No.	Name	Material Specification	Protective Treatment
1-40	Bolt	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: <ul style="list-style-type: none"> - areas that have chromium plate - the thread and undercut - the split pin hole.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
1-47, 1-47A, 1-49 and 1-49A	Cross bolt	Steel, S99	Apply cadmium plate, but not to the chromium plated areas: refer to M-DLPS100-2. Apply paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: - the thread - chromium plated areas - the 1,5 mm (0.060 in) hole for the Bowden cable(1-45).
1-60	Pintle pin	Steel, S155 or 300M to MTL1201	Apply cadmium plate: refer to PCS-2100. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: - areas that have chromium plate - the two holes through the end. Apply a thin coat of primer paint to the holes through the end: refer to PCS-2500.
1-60A	Pintle pin	Steel, 300M or MTL1201	Refer to Figure 639 . Apply cadmium plate: refer to PCS-2100. Do not include areas that have chromium plate. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.00078 in). The cadmium plate must overlap the chromium plate run out. Bare metal not permitted. Apply primer paint to the areas A: refer to PCS-2500. Apply paint all over: refer to PCS-2500. Do not apply paint to: - areas that have chromium plate - the areas A.
2-30	Pin	Stainless steel, 17-4PH to AMS5643	Passivate: refer to AMS2700
2-40	Spacer	Stainless steel, S80	Passivate: refer to AMS2700
2-50	Threaded insert	Steel, S154	Apply cadmium plate all over: refer to M-DLPS100-1. The cadmium plate must be 0,010 to 0,015 mm (0.0004 to 0.0006 in) thick. Apply paint all over: refer to PCS-2500. Do not apply paint to the thread or to the surfaces that enter the transfer block (2-340 and 2-350)

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
2-80 and 2-90	Bracket	Aluminium Alloy, L113 or L168-T6511	Refer to Figure 631 . Chromic acid anodise all over, but not the spotface A and area B: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotface A and area B: refer to M-DLPS114. Apply paint all over but not to the spotface A, areas B and holes C. Apply only primer paint to the holes C: refer to PCS-2500.
2-120 and 2-130	Bracket	Aluminium Alloy, L113	Refer to Figure 601 . Anodise all over, but not areas A. Apply Alocrom 1200 to areas A: refer to PCS-2220. Paint all over but do not include on areas A and bores B. Apply primer to bores B: refer to PCS-2500.
2-340 Only and 2-350 Only	Transfer block	Aluminium alloy, L168 - T6511	Chromic acid anodize: refer to M-DLPS102-1. Do not include areas A. Alocrom areas A: refer to M-DLPS114. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint the holes and areas A, B and C. Apply primer to areas C: refer to PCS-2500. Refer to Figure 602 .
2-340A and 2-350A	Transfer block	Aluminium alloy, L168 - T6511	Refer to Figure 602 . Chromic acid anodize: refer to MIL-A-8625 Type 1B, Class 1, do not include areas A. Apply Alocrom to areas A: refer to PCS-2220, Type 2. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: <ul style="list-style-type: none"> - the holes - areas A - areas B - areas C. Apply primer to areas C: refer to PCS-2500.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
2-340B and 2-350B	Transfer block	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73 T7351, T7310 or T73511 to MTL-2701 or 7050 T7451 to MTL-2712	Refer to Figure 635 . Chromic acid anodize all over, but not the spotfaces A: refer to MIL-A-8625 Type 1B, Class 1. Apply Alocrom to spotfaces A: refer to PCS-2220, Type 2. Paint all over: refer to PCS-2500. Do not paint: <ul style="list-style-type: none"> - The threads - areas A - areas B - areas C. Apply primer to areas C: refer to PCS-2500.
3-50	Pin	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: <ul style="list-style-type: none"> - areas that have chromium plate - the threads - the thread undercut - the hole through the threads.
3-60	Spacer	Stainless steel, S80	Passivate: refer to AMS2700
3-70	Spacer	Stainless steel, S80	Passivate: refer to AMS2700
3-140	Lock stay cardan subassembly	-	Paint: refer to M-DLPS1003-1 and PCS-2500. Apply primer only to the flanges of the bushes. Do not paint: <ul style="list-style-type: none"> - the bushes - the holes for the lubrication fittings.
3-170	Lock stay cardan	Aluminium alloy, 7010T736	Chromic acid anodize: refer to M-DLPS102-1. Apply primer: refer to PCS-2500. Do not include the holes for lubrication
4-60	Rod end	Steel, S154	Apply cadmium plate: refer to M-DLPS100-1. The cadmium plate must be 0,004 to 0,005 mm (0.00015 to 0.0002 in) thick. Paint to PCS-2500 but not on the threaded diameter, shank and the adjacent flange face. Apply a light coat of primer paint only to the bore for the spherical bearing (4-50).

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
4-140 and 4-150	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 603 . Chromic acid anodise all over but not to the areas A: refer to M-DLPS102-1. Apply Alocrom 1200 to the areas A: refer to M-DLPS114. Apply a light coat of primer paint only to the holes B: refer to PCS-2500. Paint all over but not to the areas A and holes B: refer to PCS-2500.
4-180 Only	Spacer	Aluminium Alloy, L156	Refer to Figure 640 . Chromic acid anodise all over: refer to M-DLPS102-1. Paint all over but not to the areas A: refer to PCS-2500. Apply primer to areas A: refer to PCS-2500.
4-180A	Drag-arm Spacer	Aluminium Alloy, 7075-T73 to AMS QQ-A-250/12 or to MTL-2701	Refer to Figure 641 . chromic acid anodise all over: refer to MIL-A-8625, Type IB class 1. Paint all over but not to the areas A: refer to PCS-2500. Apply primer to areas A: refer to PCS-2500.
4-190	Bolt	Steel, S154	Apply cadmium plate all over: refer to M-DLPS100-1.
4-190A	Special Bolt	Steel, 4340 to MTL-1101	Apply cadmium plate all over: refer to PCS-2101. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.00059 in).
4-210	Bracket	Aluminium Alloy, 6082 to BS EN 4007 (MAT206) or Aluminium Alloy, 2014A to BS L168 or 6082 to BS EN 2326 or BS 2L93 OR 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 642 . Anodise all over: refer to MIL-A-8625 Type 1B, Class 1. Apply Alocrom 1200 to the spotfaces A: refer to PCS-2220. Apply paint all over but not to the spotfaces A and areas B: refer to PCS-2500. Apply primer paint only to areas B. Do not paint spotfaces A.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
5-160	Bracket	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2. The cadmium plate must be 0,010 to 0,015 mm (0.0004 to 0.0006 in) thick. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint areas A and B. Apply primer to area A: refer to Figure 604 .
5-200	Bolt	Steel, S154	Apply cadmium plate all over: refer to M-DLPS100-1.
5-390	Static discharge connector	Stainless steel, MAT130 or AMS5659 condition H1025	Apply cadmium plate all over: refer to M-DLPS100-2S. The cadmium plate must be 0,010 to 0,015 mm (0.0004 to 0.0006 in) thick.
5-400	Uplock pin	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2. Do not include the area that has chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Apply primer paint only to the contact faces of the flanges. Do not paint: - the area that has chromium plate - 15,00 mm (0.591 in) diameter areas around the holes on the inside face of one flange.
5-400A	Uplock pin	Steel, 4340 to MTL-1101	Refer to Figure 637 . Apply cadmium plate all over but not to the chromium plated areas: refer to PCS-2101. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.00059 in). The cadmium plate must overlap the chromium plate run out. Bare metal not permitted. Apply one layer of primer paint only to the areas A: refer to PCS-2500. Apply paint all over as per PCS-2500 but not to: - Chromium plated areas, - Areas A and B.
6-50	Spacer	Stainless steel, S130	Passivate: refer to AMS2700.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
6-90	Pivot pin	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2. Do not include areas that have chromium plate and the 9,00 mm (0.354 in) bore. Paint: refer to PCS-2500. Do not include areas that have chromium plate, the thread and the thread undercut.
6-170 and 6-180	Bracket	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 605 . Anodise all over, but not the spotfaces A: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotfaces A: refer to PCS-2220. Apply paint all over, but not to spotfaces A and bores B. Apply primer paint to bores B: refer to PCS-2500.
6-230 Only	Slave link	Aluminium Alloy, L99	Refer to Figure 606 . Anodise all over: refer to M-DLPS102-1. Apply paint all over but not on areas A and B. Apply a thin coat of primer paint to areas A: refer to PCS-2500.
6-230A	Slave link	Aluminium Alloy, L168 or L93	Refer to Figure 607 . Anodise all over: refer to M-DLPS102-1. Apply paint all over but not on areas A and B. Apply a thin coat of primer paint to areas A: refer to PCS-2500.
6-280	Spacer	Stainless steel, S130	Passivate: refer to AMS2700.
7-100 and 7-110	Harness support bracket	Aluminium Alloy, L99	Refer to Figure 632 . Chromic acid anodise all over but not the spotfaces A, B, C and F: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotfaces A, B, C and F: refer to M-DLPS114. Apply paint all over but not to the spotfaces A, B, C, F and holes E, D. Apply a coat of primer to the holes D: refer to PCS-2500.
7-100A and 7-110A	Harness support bracket	Aluminium Alloy, L168 or L93	Refer to Figure 632 . Chromic acid anodise all over but not the spotfaces A, B, C and F: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotfaces A, B, C and F: refer to M-DLPS114. Apply paint all over but not to the spotfaces A, B, C, F and holes E, D. Apply a coat of primer to the holes D: refer to PCS-2500.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
8-170	Bracket	Aluminium Alloy, L168 or L93	Refer to Figure 633 . Chromic acid anodise all over but not the spotfaces A: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotfaces A: refer to M-DLPS114. Apply paint all over but not to the areas A, B and C: refer to PCS-2500. Apply only primer to areas B: refer to PCS-2500.
9-50	Nut	Steel, S99 MAT123	Apply cadmium plate: refer to M-DLPS100-2. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not include the load bearing face and the thread.
9-70	Pin	Steel, S155 or MTL1201	Apply cadmium plate: refer to M-DLPS131. Do not include areas that have chromium plate. Paint the head of the pin only: refer to M-DLPS1003-1 and PCS-2500. Do not paint the undercut below the head.
9-90	Sleeve	Steel, S99 Mat123	Apply cadmium plate: refer to M-DLPS100-2. The cadmium plate must be 0,0035 to 0,005 mm (0.00014 to 0.00020 in) thick. Do not include areas that have chromium plate.
9-150 Only	Bracket	Aluminium Alloy, L113 or Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 643 . Chromic acid anodise all over: refer to M-DLPS102-1. Apply Alocrom 1200 to the spotfaces A: refer to M-DLPS114. Apply paint all over but not to the spotfaces A and areas B: refer to PCS-2500. Apply primer paint only to areas B. Do not paint spotfaces A.
9-150A	Bracket	Aluminium Alloy, L168-T6511 7075-T73, T7351, T73510 OR T73511 to MTL-2701	Refer to Figure 644 . Chromic acid anodise all over: refer to MIL-A-8625 Type IB, Class 1. Apply Alocrom 1200 to the spotfaces A: refer to PCS-2220 Type 2. Apply paint all over but not to the spotface A and areas B: refer to PCS-2500. Apply primer paint only to areas B. Do not paint spotface A.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
9-180	Spacer	Stainless steel, S145	Passivate: refer to AMS2700
9-190 Only	Spacer	Aluminium Alloy, BS L168-T6511 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 645 . Chromic acid anodise all over: refer to M-DLPS102-1. Apply paint all over but not to the areas A: refer to PCS-2500. Apply primer paint only to the areas A.
9-190A	Spacer	Aluminium Alloy, L168-T6511 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 646 . Chromic acid anodise all over: refer to MIL-A-8625 Type IB, Class 1. Apply paint all over but not to the areas A and B: refer to PCS-2500. Apply primer paint only to areas A. Do not paint areas B.
9-200	Sleeve	Stainless steel, S145	Passivate: refer to AMS2700
10-80	Pin	Steel, S155 or MTL1201	Apply cadmium plate: refer to M-DLPS131. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint areas A and areas that have chromium plate: refer to Figure 608 .
10-160 Only	Upper Pivot Bracket	Aluminium Alloy, L168 or L93	Refer to Figure 626 . Chromic acid anodise all over but not the spotfaces A: refer to M-DLPS102-1. Apply Alocrom 1200 to the areas A: refer to M-DLPS114. Apply paint all over but not to the areas A, B, C and D: refer to PCS-2500. Primer paint only on faces D. Apply light coat of primer to area B.
10-160A	Upper Pivot Bracket	Aluminium Alloy, L168, L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 627 . Chromic acid anodise all over but not the spotfaces A: refer to MIL-A-8625 Type 1B, Class 1. Apply Alocrom 1200 to the areas A: refer to PCS-2220 Type 2. Apply one coat of primer to the areas B: refer to PCS-2500. Apply primer only to the areas D: refer to PCS-2500. Apply paint all over but not to the areas A, C and D: refer to PCS-2500.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
10-170 and 10-170A	Upper torque link subassembly	-	Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: - the bushes - the lubrication fittings - the identification washers.
10-170B	Upper torque link subassembly	-	Paint: refer to PCS-2500. Do not paint: - the bushes - the lubrication fittings - the identification washers - lubrication adapters.
10-260 and 10-260A	Upper torque link	Steel, MAT125	Apply cadmium plate all over: refer to M-DLPS100-2. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0005 in).
10-270	Spacer	Stainless steel, S80	Passivate: refer to AMS2700
11-30	Harness support	Aluminium Alloy, BS L168-T6 or BS 2L93 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Refer to Figure 647 . Chromic acid anodise all over: refer to M-DLPS102-1. Apply paint all over but not to the areas A: refer to PCS-2500. Do not paint areas A.
11-130	Pin	Steel, S155 or MTL1201	Refer to Figure 610 . Apply cadmium plate: refer to M-DLPS131. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint areas A and areas that have chromium plate.
11-140	Harness support bracket	Aluminium Alloy, L168 or L93	Refer to Figure 634 . Chromic acid anodise all over but not the spotface A: refer to M-DLPS102-1. Apply Alocrom 1200 to the areas A: refer to M-DLPS114. Apply paint all over but not to the areas A, B, C and D: refer to PCS-2500. Apply a light coat of primer to the hole B: refer to PCS-2500. Apply only primer to face D: refer to PCS-2500.
11-150 and 11-150A	Lower torque link subassembly	-	Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: - the bushes - the lubrication fittings - the identification washers.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
11-150B	Lower torque link subassembly	-	Paint: refer to PCS-2500. Do not paint: <ul style="list-style-type: none"> - the bushes - the lubrication fittings - the identification washers - lubrication adapters.
11-240 and 11-240A	Lower torque link	Steel, MAT125	Apply cadmium plate all over: refer to M-DLPS100-2. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0005 in).
12-70	Pin	Steel, S154	Apply cadmium plate all over: refer to M-DLPS100-1.
12-90	Valve stem	Steel, S99	Refer to Figure 612 . Apply cadmium plate to where shown: refer to PCS-2101. The cadmium plate must be 0,010 to 0,015 mm (0.0004 to 0.0006 in) thick.
12-90A	Valve stem	Steel, S99 or 4340 to AMS 6414	Refer to Figure 628 . Apply cadmium plate to the area A: refer to PCS-2101. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0005 in). Apply paint all over but not to the areas B, C and D: refer to PCS-2500. Use three coat process to apply red paint to the area B as given below: (refer to PCS-2500) <ul style="list-style-type: none"> - Apply primer 463-12-8. - Apply top coat with Aerodur SGL ALUM. - Apply over layer with red color paint AVIOX 77702 Make sure that the outer diameter is not more than 12,540 mm (0.493 in) after the paint. Apply green color paint FED-STD-595-14062 only to the area C: refer to PCS-2500.
12-120	Transfer dowel	Aluminium Alloy, L168-T6511	Chromic acid anodise all over: refer to M-DLPS102-1.
12-170 Only	Housing	Aluminium alloy, L168T6511	Paint external areas only: refer to M-DLPS1003-1 and PCS-2500. Apply primer paint only to the contact face. Paint must not go in the bores.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
12-170A	Housing	Aluminium alloy, L168-T6511 or 7075-T73, T7351, T73510 or T73511 to MTL-2701	Paint external areas only: refer to M-DLPS1003-1 and PCS-2500. Apply primer paint only to the contact face. Paint must not go in the bores.
13-10 and 13-10A	Retaining pin	Steel, S99	Refer to Figure 613 . Apply cadmium plate: refer to M-DLPS100-2. Do not include areas that have chromium plate. Paint area A: refer to M-DLPS1003-1 and PCS-2500.
13-10B	Retaining pin	Steel, 4340 to MTL-1101	Refer to Figure 613 . Apply cadmium plate: refer to PCS-2101. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0005 in). Do not include areas that have chromium plate. Paint area A: refer to PCS-2500.
13-110	Inflation valve	Stainless steel, Z8CND17-04	Refer to Figure 614 . Passivate all over: refer to AMS 2700. Apply paint all over externally but not on areas A. Apply primer paint to areas B: refer to PCS-2500.
13-110A	Inflation valve	Stainless steel, Z8CND17-04T1	Refer to Figure 614 . Passivate all over: refer to AMS 2700. Apply paint all over externally but not on areas A. Apply primer paint to areas B: refer to PCS-2500
13-190 and 13-190A	Pin	Steel, 35NCD16	Refer to Figure 615 . Apply cadmium plate: refer to M-DLPS100-2. Do not include areas that have chromium plate. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint areas that have chromium plate and areas A and B. Apply primer to areas B.
14-60	Nut	Steel, 35CD4	Apply cadmium plate: refer to M-DLPS100-2. Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint the screw threads and the face that touches the wheel bearings.
14-70	Stop ring	Stainless steel, Z12CN18-10	Passivate: refer to AMS2700

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
15-50	Locking pin	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11MD	Protective treatment is not necessary
15-60	Retaining ring	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11MD	Protective treatment is not necessary
15-180	Lock plate	Steel, 25CD4S	Protective treatment is not necessary
15-220	Compression orifice plate	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11MD	Protective treatment is not necessary
15-230	Clapper seat	Steel, 35CD4 or 4340 to AMS6414 or 35NCD16 to NCT 10-123-11MD	Protective treatment is not necessary
15-300	Level tube	Stainless Steel, Z15CN17-03 Type1 or 17-4PH to AMS 5604/5643	Passivate: refer to AMS2700
15-350	Bolt	Stainless steel, Z6CNU17-04	Protective treatment is not necessary
15-360	Upper diaphragm tube sub-assembly	-	Refer to Figure 629 . Before installation of bushes: Apply primer paint to the areas A: refer to IFC 30-117-05. After installation of bushes: Apply paint to the areas B but not to the bushes: refer to IFC 30-117-05.
15-360A	Upper diaphragm tube sub-assembly	-	Refer to Figure 630 . Before installation of bushes: Apply primer paint to areas A but not to the areas B: refer to PCS-2500. After installation of bushes: Apply paint to the areas C but not to the areas D: refer to PCS-2500.
15-390	Upper diaphragm tube	Steel, NCT10-123-21MD	Refer to Figure 616 . Apply cadmium plate internally and externally on area A: refer to M-DLPS100-2. Do not apply cadmium plate to bores B and C

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
15-390A	Upper diaphragm tube	Steel, 4340 to MTL-1101	Refer to Figure 623 . Apply cadmium plate internally and externally over area A: refer to PCS-2101. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
17-80	Jacking dome	Steel, 35NCD16	Apply cadmium plate: refer to PCS-2100. Make the cadmium plate thickness 0,010 to 0,015 mm (0.0004 to 0.0006 in). Paint: refer to M-DLPS1003-1 and PCS-2500. Do not paint: - the threads - the axial hole and chamfers - the two radial holes.
17-120	Lock plate	Steel, 25CD4S or MTL011	Protective treatment is not necessary
17-170	Washer	Steel, 35NCD16	Protective treatment is not necessary
17-230	Cylinder	Steel, 35NCD16	Refer to Figure 617 . Cadmium plate all over to M-DLPS100-2. Make cadmium plate thickness 0,010 to 0,015 mm (0.0004 to 0.0006 in). Do not cadmium plate: - the area B - chromium plated area C - the 3 holes in face D Paint areas A: refer to PCS-2500. Primer paint only on face D and areas E and F including the chamfer. Do not paint: - chromium plated area C - the 3 holes in face D.
17-230A	Cylinder	Steel, 35NCD16 to NCT 10-123-11MD or Steel, 4340 to AMS6414	Refer to Figure 624 . Apply cadmium plate all over but not to the areas A: refer to PCS-2101. Cadmium plate is optional on radii and chamfer B. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 and 0.0006 in). Apply only primer paint to areas C including chamfer: refer to PCS-2500. Apply paint to areas D: refer to PCS-2500. No bare cadmium permitted.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
18-80 and 18-80A	Sliding tube	Steel, 300M	<p>Refer to para 3.C. and Figure 618. Apply cadmium plate to PCS-2100. The cadmium plate thickness should be between 0,010 and 0,015 mm (0.0004 and 0.0006 in). Do not apply cadmium plate:</p> <ul style="list-style-type: none"> - to the areas where Sermetel W is applied - to the chromium plated areas - where identified on Figure 618. <p>Apply Sermetel W where shown: refer to IFC 40-860-03MD. Apply primer as shown and finish paint to PCS-2500. Do not apply paint:</p> <ul style="list-style-type: none"> - where identified on Figure 618 - to the chromium plated areas. - to the threaded surfaces.
18-80B	Sliding tube	Steel, 300M to MTL-1201	<p>Refer to Figure 625. Apply cadmium plate all over but not to the chromium plated areas A and areas B and C: refer to PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in).</p> <p>Apply sermetel W only to the areas C: refer to IFC 40-860-03MD. Sermetel is optional in areas D. If sermetel is not applied in areas D, apply cadmium plate to areas D. Make the sermetel W coating thickness between 0,025 and 0,050 mm (0.001 and 0.002 in). The Sermetel W coating must overlap the chromium plated areas and cadmium plated areas.</p> <p>Apply primer paint only to the areas E. Apply paint all over but not to the chromium plated areas A, areas E and F: refer to PCS-2500.</p> <p>Do not paint areas F.</p>

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
18-80D, 18-80E, 18-80F and 18-80G	Sliding tube	Steel, 300M to MTL-1201	<p>Refer to Figure 648. Apply zinc-nickel plate all over but not to the chromium plated areas A and areas B, C, D, E and F: refer to PCS-2133.</p> <p>Make the zinc-nickel plate thickness between 0,010 and 0,030 mm (0,0004 and 0,0011 in). Zinc-nickel plate must extend onto the chrome surfaces completely covering the base material. Apply zinc-nickel plate to the areas B, C and D: refer to PCS-2133. Make the zinc-nickel plate thickness in areas B, C and D as below:</p> <ul style="list-style-type: none"> - In areas B between 0,0250 and 0,0375 mm (0,00100 and 0,00147 in). Zinc-nickel plate must extend onto the chrome surfaces completely covering the base material - In areas C between 0,010 and 0,020 mm (0,0004 and 0,0008 in) - In areas D between 0,025 and 0,050 mm (0,0010 and 0,0020 in). Zinc-nickel plate must extend onto the chrome surfaces completely covering the base material. <p>Zinc-nickel plate is optional on areas E. Do not apply zinc-nickel plate in areas F.</p> <p>Apply two coat of paint all over but not to the areas G, H and J. Paint must extend onto the chrome surfaces completely covering the zinc-nickel plate areas. Apply primer paint only to the areas G. Primer paint is optional on areas H: refer to PCS-2500. Do not paint areas J.</p>
19-40	Bolt	Steel, S154	Apply cadmium plate all over: refer to M-DLPS100-1
19-50	Spherical bearing	Steel, S99	Apply cadmium plate to the split housing (cadmium plate is not permitted inside the housing or the outer race split line): refer to PCS-2101, PCS-2141 or DEF STAN 03-19.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
19-52	Locking nut	Steel, S99	Apply cadmium plate: refer to M-DLPS100-2, M-DLPS137 or DEF STAN 03-19.
19-54	Locking washer	Stainless steel, S526/S527	Apply cadmium plate: refer to M-DLPS100-2, M-DLPS137 or DEF STAN 03-19.
20-90, 20-90A 20-100, 20-100A	Main fitting subassembly	-	Refer to Figure 619 . Apply primer paint only to the areas D: refer to Figure 619 and PCS-2500. Refer to PCS-2500 and apply paint all over externally, but not to: - the bearings, bush bores and flanges - the lubrication fittings and their identification washers - the holes (with or without threads) - the areas A and D. Refer to PCS-2500 and apply paint internally along surface B, but not along surface C.
20-90B and 20-100B	Main fitting subassembly		Refer to Figure 638 . Apply paint all over externally, but not to areas A: refer to PCS-2500.
20-410 and 20-420	Main fitting	Steel, MAT135	Refer to Figures 620 and 621 . Apply cadmium plate to M-DLPS131, do not apply cadmium plate to areas A. Primer paint all over but not in holes and on areas identified B and the 22,0 mm (0.87 in) diameters C: refer to PCS-2500.
20-410A and 20-420A	Main fitting	Steel, MAT135 or 35NCD16THQ	Refer to Figure 622 . Apply cadmium plate all over but not to the chromium plated areas and areas A: refer to M-DLPS131. Apply brush cadmium plate to the areas D: refer to M-DLPS137. Paint all over externally and internally to areas B but not to the chromium plated areas, the bush and bearing bores, the chamfers, the lubrication fitting bores and areas C and D: refer to PCS-2500.

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
20-410B and 20-420B only	Main fitting	Steel, E35NCD16THQ to MTL-1203	<p>Refer to Figure 636. Apply cadmium plate all over including the holes less than diameter 10 mm (0.393 in) but not to the chromium plated areas and areas A: refer to PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in). The cadmium plate must overlap the chromium plate run out. The cadmium plate is optional on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install.</p> <p>Apply primer paint only to areas B: refer to PCS-2500.</p> <p>Apply wet primer to PCS-2804 or apply resin to PCS-2802 to the area D.</p> <p>Apply paint all over but not on the chromium plated areas, the areas A, B, C and on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install: refer to PCS-2500. Paint finish is optional in areas E.</p>

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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
20-410C and 20-420C	Main fitting	Steel, 300M to MTL-1201	<p>Refer to Figure 636. Apply cadmium plate all over including the holes less than diameter 10 mm (0.393 in) but not to the chromium plated areas and areas A: refer to PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in). The cadmium plate must overlap the chromium plate run out. The cadmium plate is optional on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install.</p> <p>Apply primer paint only to areas B: refer to PCS-2500.</p> <p>Apply wet primer to PCS-2804 or apply resin to PCS-2802 to the area D.</p> <p>Apply paint all over but not on the chromium plated areas, the areas A, B, C and on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install: refer to PCS-2500.</p>

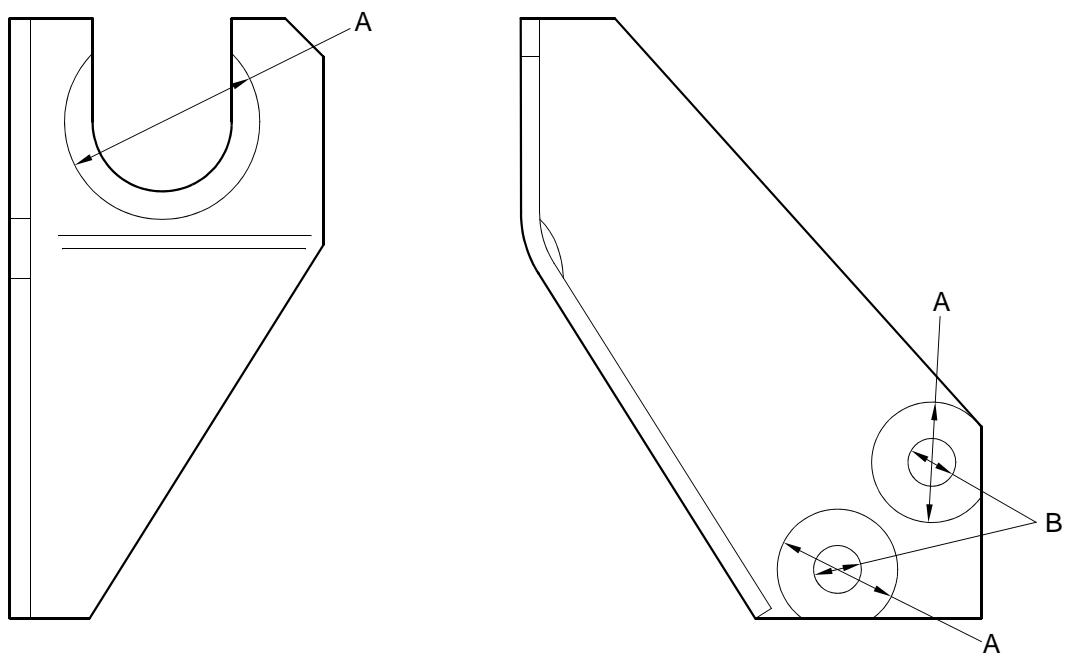
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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IPL Figure and Item No.	Name	Material Specification	Protective Treatment
20-410D and 20-420D only	Main fitting	Steel, 300M to MTL-1201	<p>Refer to Figure 636. Apply cadmium plate all over including the holes less than diameter 10 mm (0.393 in) but not to the chromium plated areas and areas A: refer to PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in). The cadmium plate must overlap the chromium plate run out. The cadmium plate is optional on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install.</p> <p>Apply primer paint only to areas B: refer to PCS-2500.</p> <p>Apply wet primer to PCS-2804 or apply resin to PCS-2802 to the area D.</p> <p>Apply paint all over but not on the chromium plated areas, the areas A, B, C and on the lubrication fitting bores where the lubrication adaptors (20-130), (20-160), (20-190) and (20-220) will install: refer to PCS-2500. Paint finish is optional in areas E.</p>

C. Protective Treatment - Sequence of Application

CAUTION: YOU MUST COMPLETE THE PROCESSES THAT FOLLOW IN THE SEQUENCE SHOWN. FAILURE TO DO THE PROCESSES IN THE CORRECT SEQUENCE CAN DAMAGE THE SLIDING TUBE ([18-80](#)) OR ([18-80A](#)) OR ([18-80B](#)) OR REDUCE THE EFFECT OF THE PROTECTIVE TREATMENTS.

- (1) If you apply protective treatment processes that include Sermetel W to any ultra high tensile (UHT) steel part, the sequence of the processes is important. The sequence of the protective treatment processes must be as follows:
 - (a) Chromium plate processes.
 - (b) Cadmium plate processes.
 - (c) Sermetel W processes.
 - (d) Paint processes.

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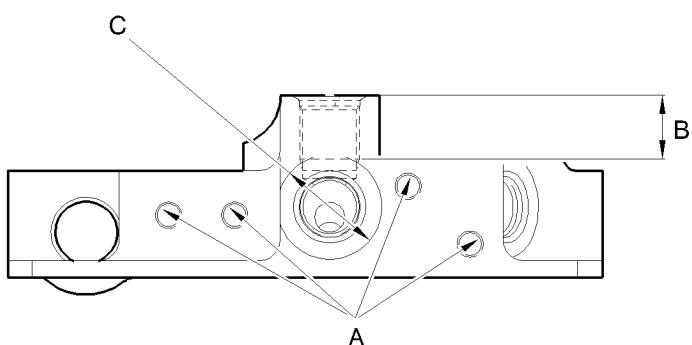
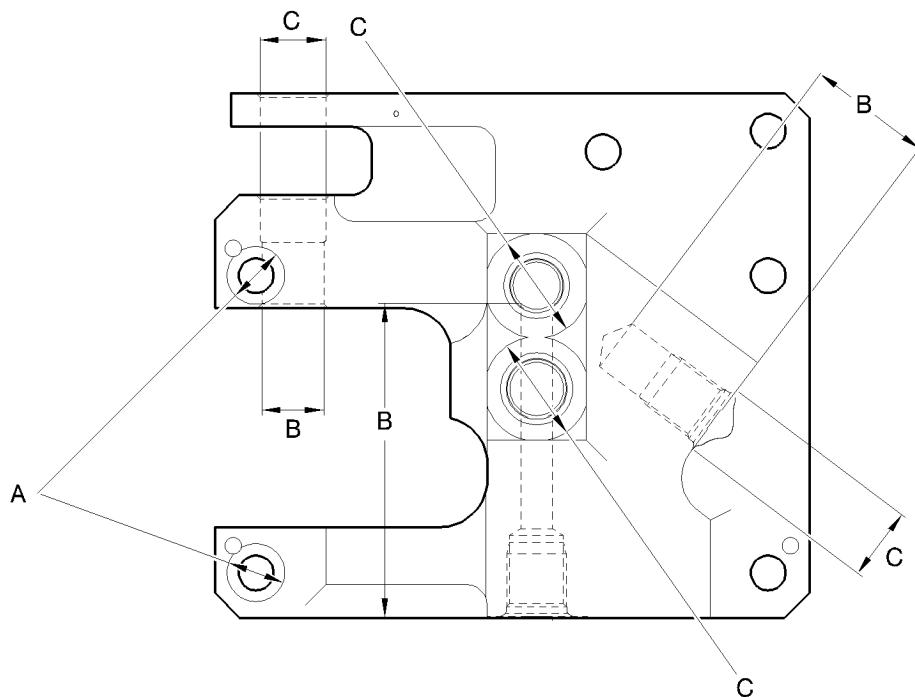
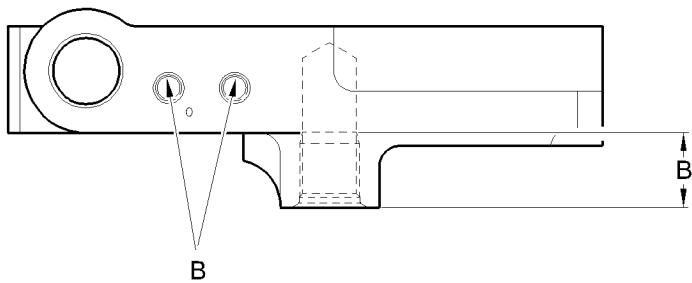
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Bracket ([2-120](#) and [2-130](#)) - Protective Treatment
Figure 601

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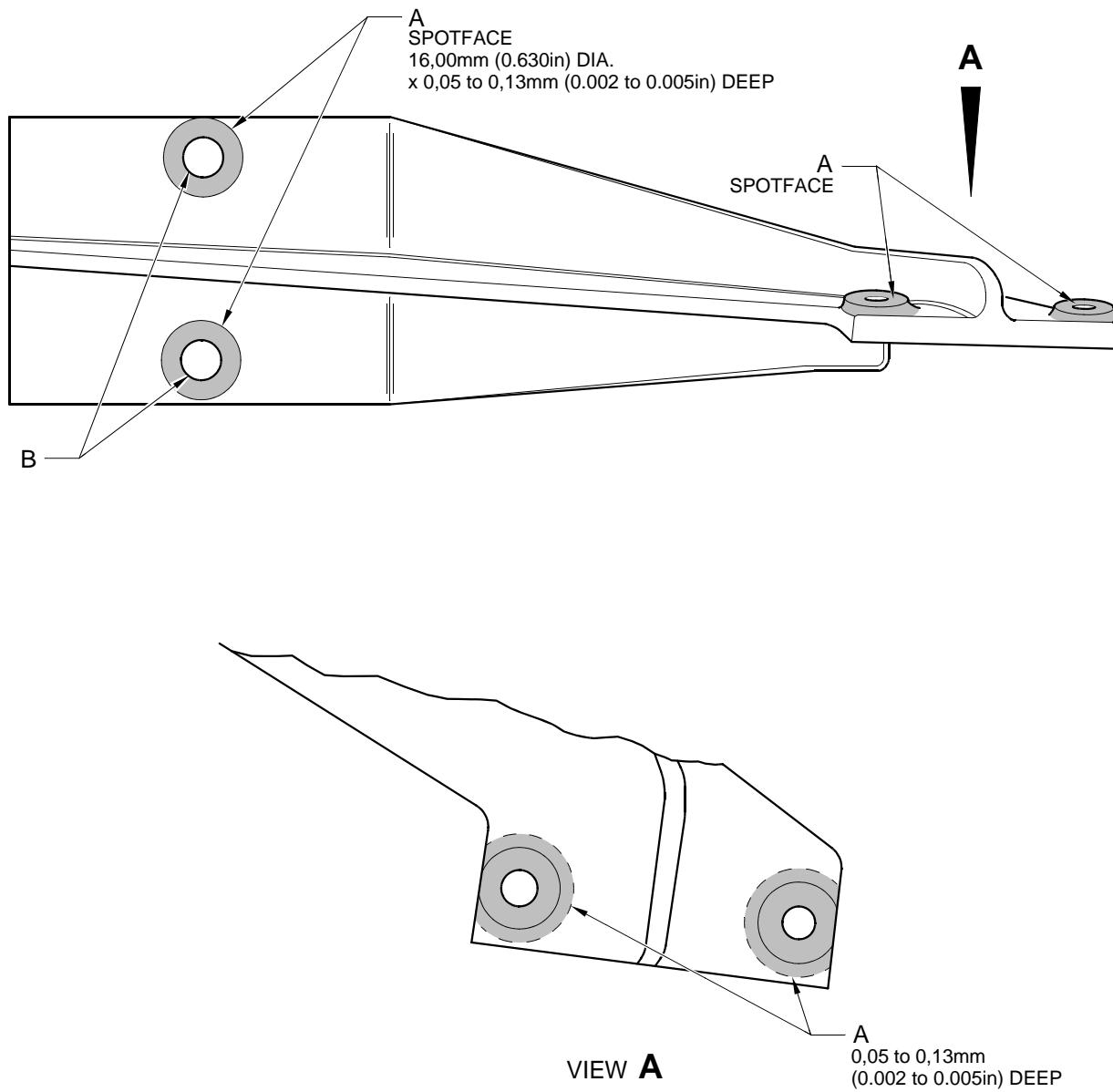
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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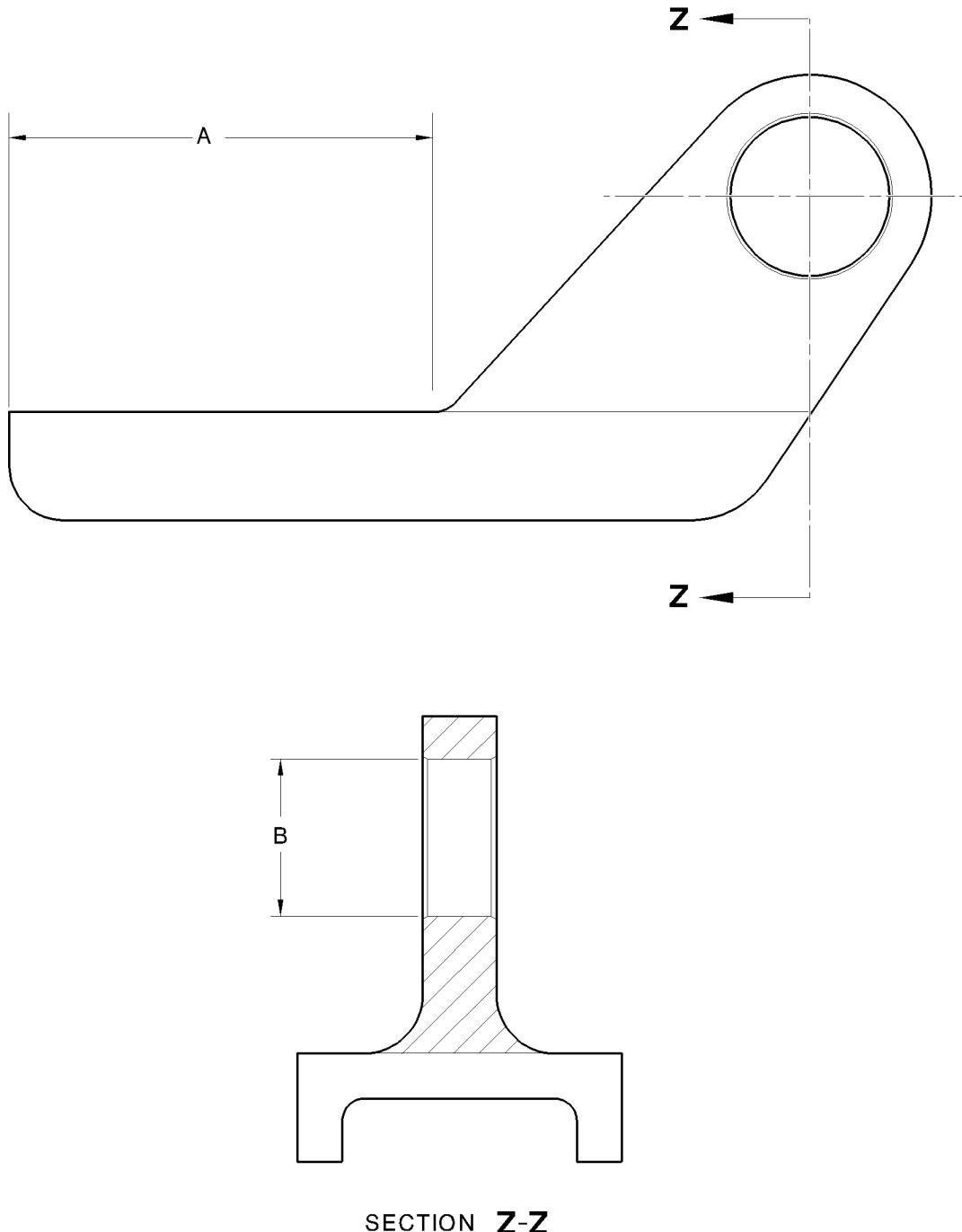
Transfer Block (2-340, 2-340A, 2-350 and 2-350A) - Protective Treatment
Figure 602

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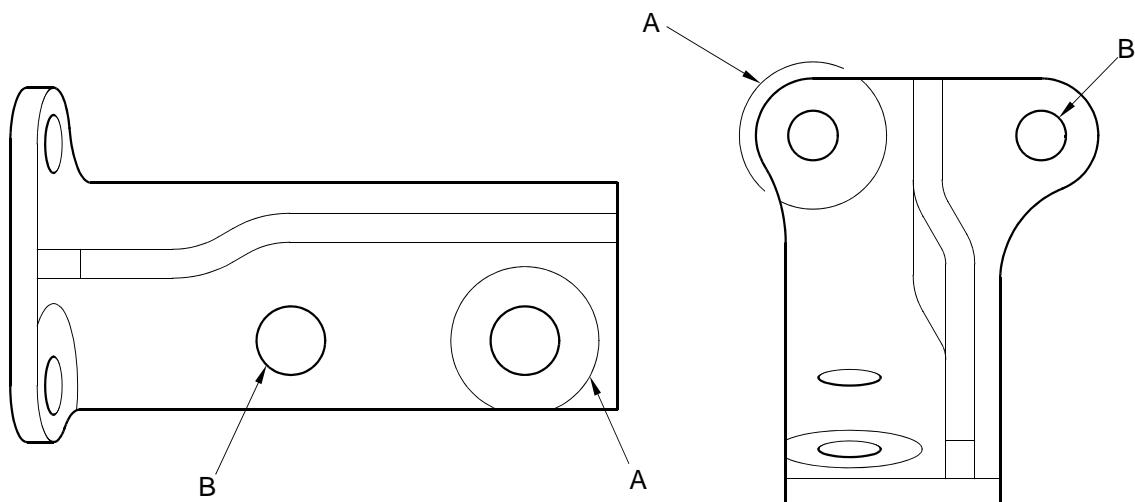
A321-S-32-12-22-096-0

Bracket (4-140 and 4-150) - Protective Treatment
Figure 603

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A3219232-1

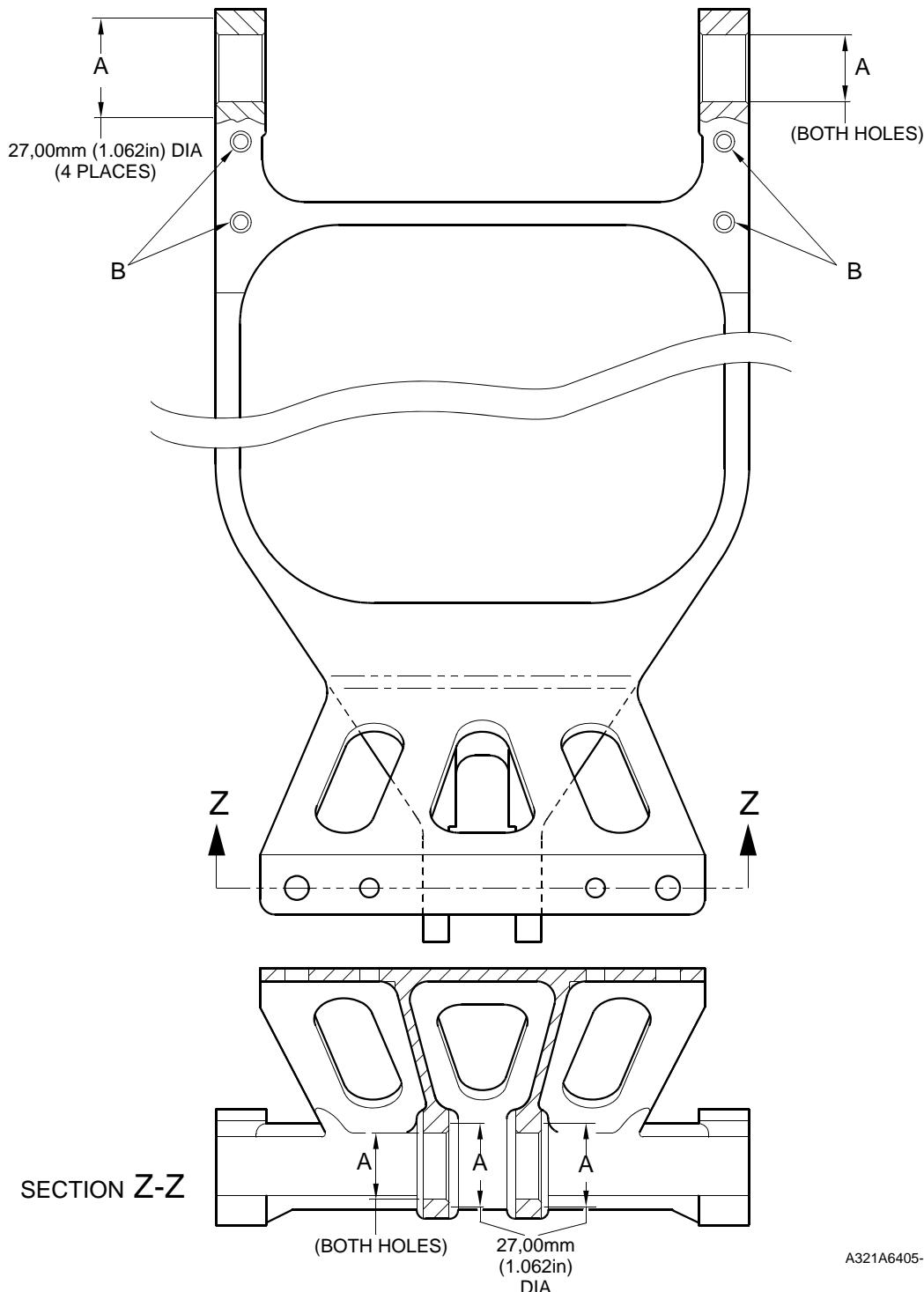
Bracket (5-160) - Protective Treatment
Figure 604

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Bracket (6-170 and 6-180) - Protective Treatment
Figure 605

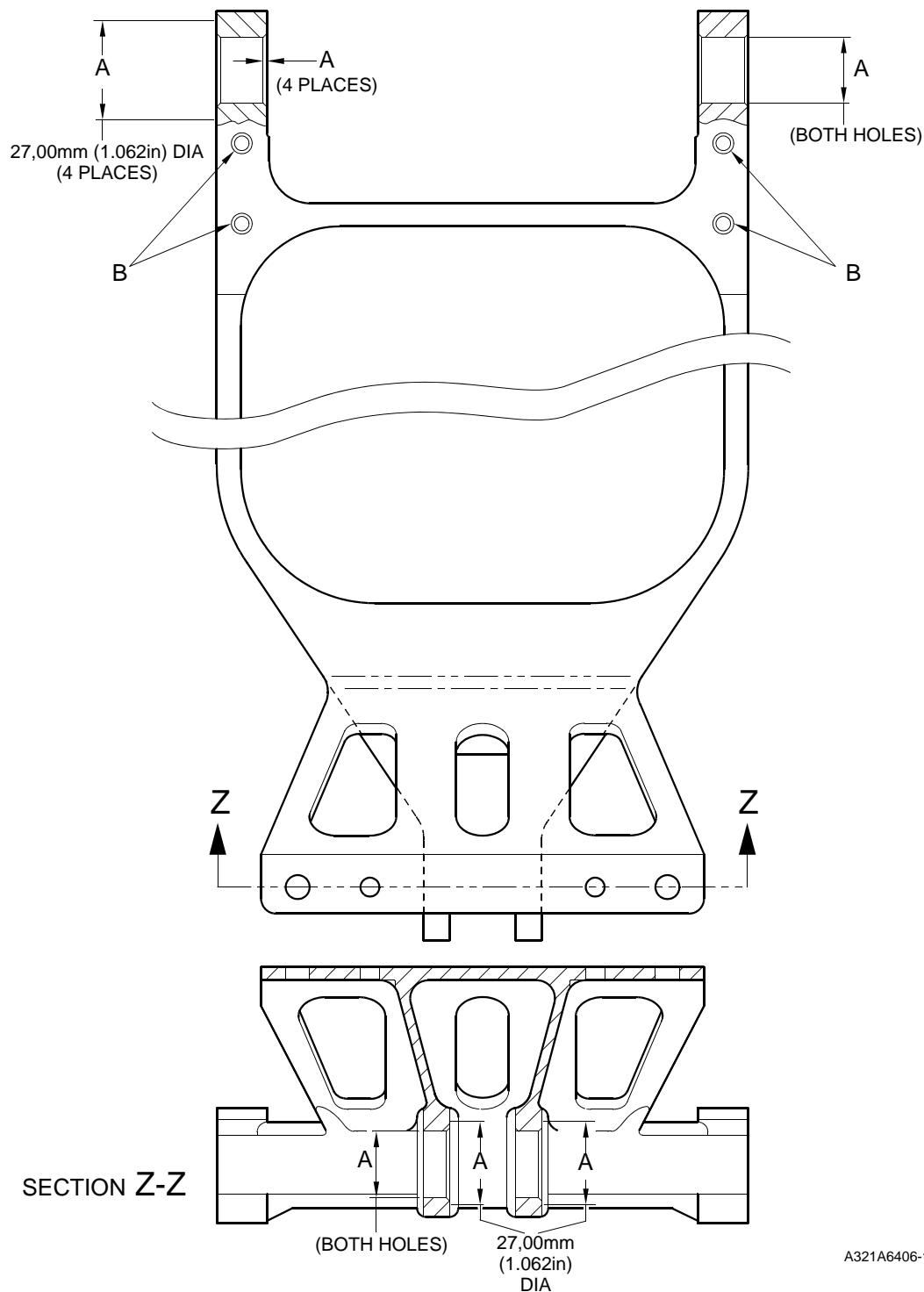
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Slave Link ([6-230](#)) Only - Protective Treatment
Figure 606

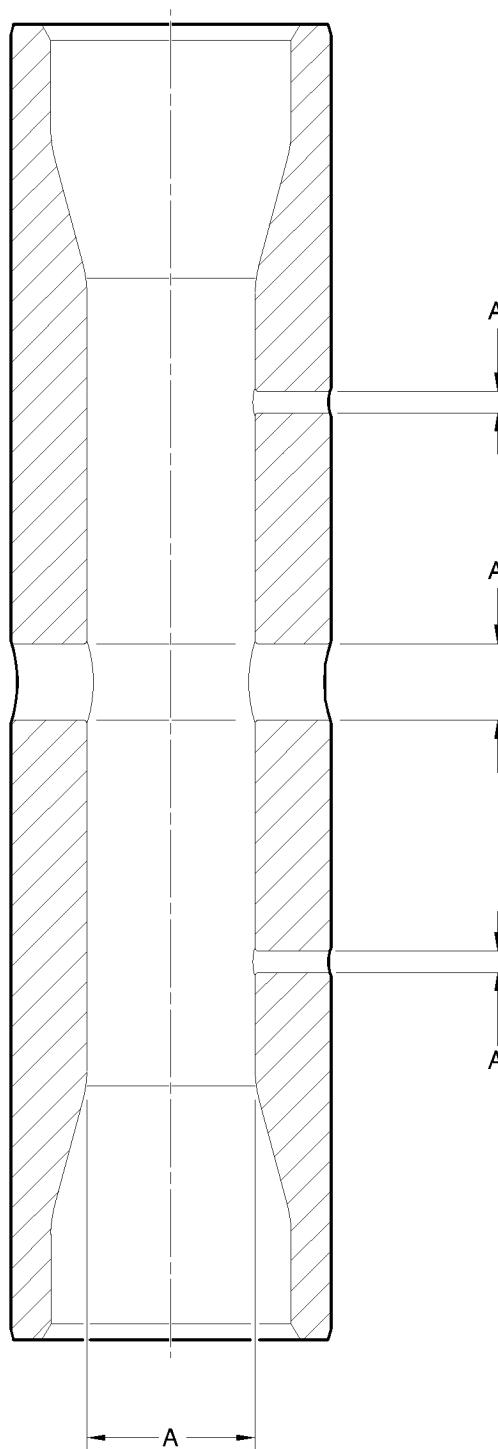
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Slave Link (6-230A) - Protective Treatment
Figure 607

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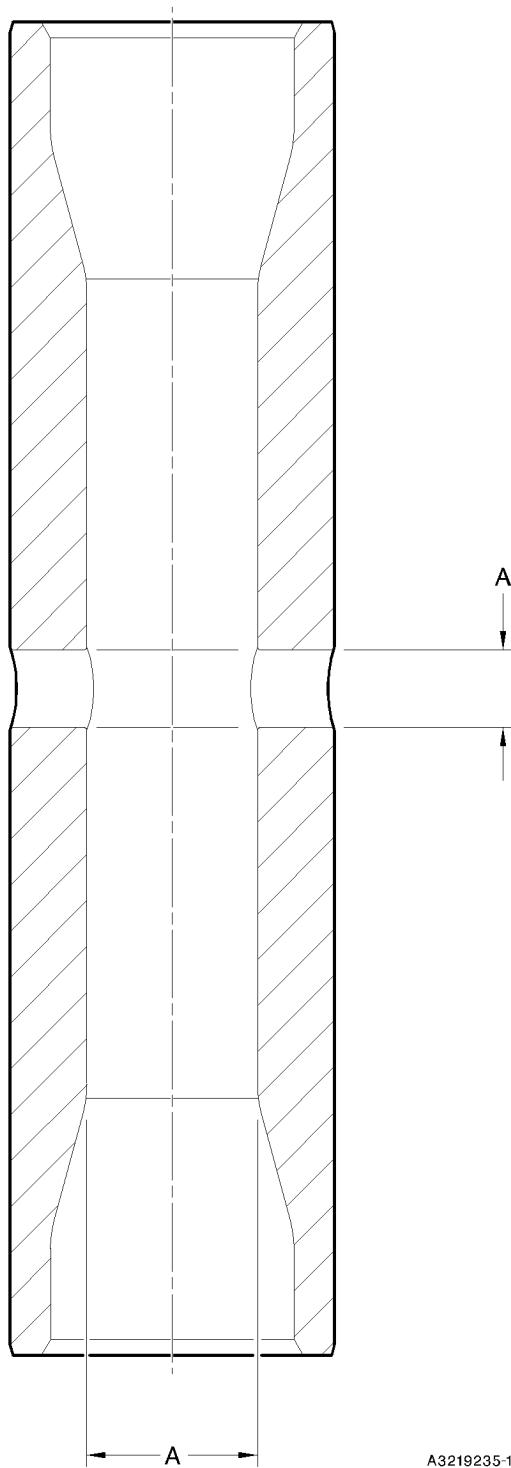
Pin (10-80) - Protective Treatment
Figure 608

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Figure 609

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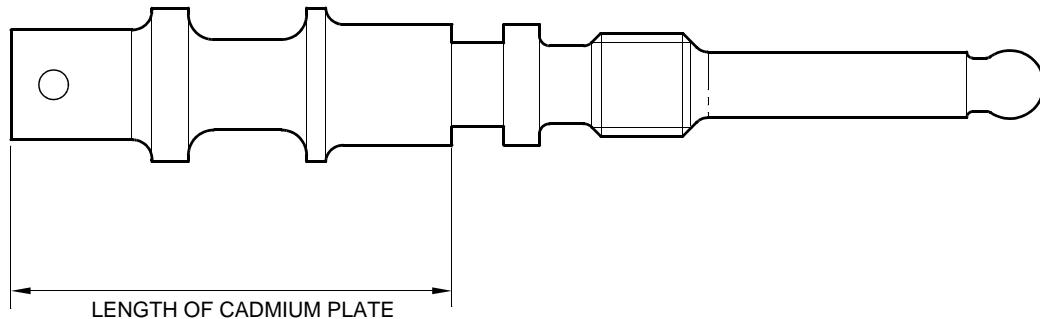
Pin (11-130) - Protective Treatment
Figure 610

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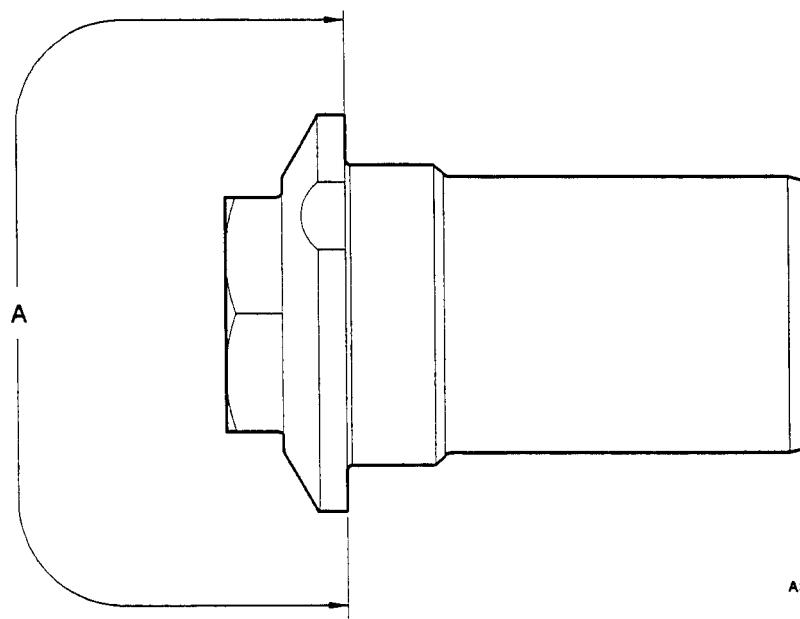
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Figure 611

32-12-22

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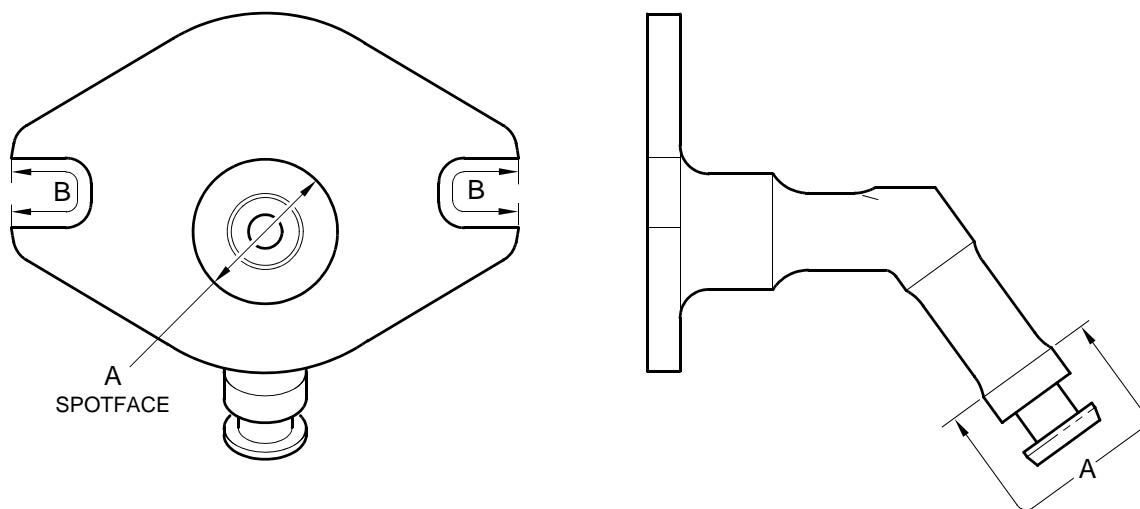
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Valve Stem (12-90) - Protective Treatment
Figure 612

A3219237-1

Retaining Pin (13-10) - Protective Treatment
Figure 613

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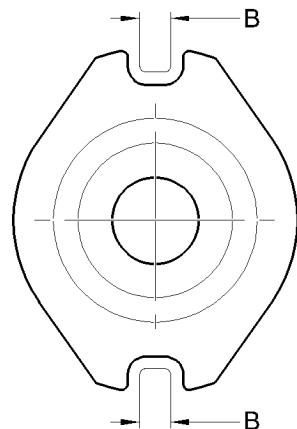
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Inflation Valve ([13-110](#) and [13-110A](#)) - Protective Treatment
Figure 614

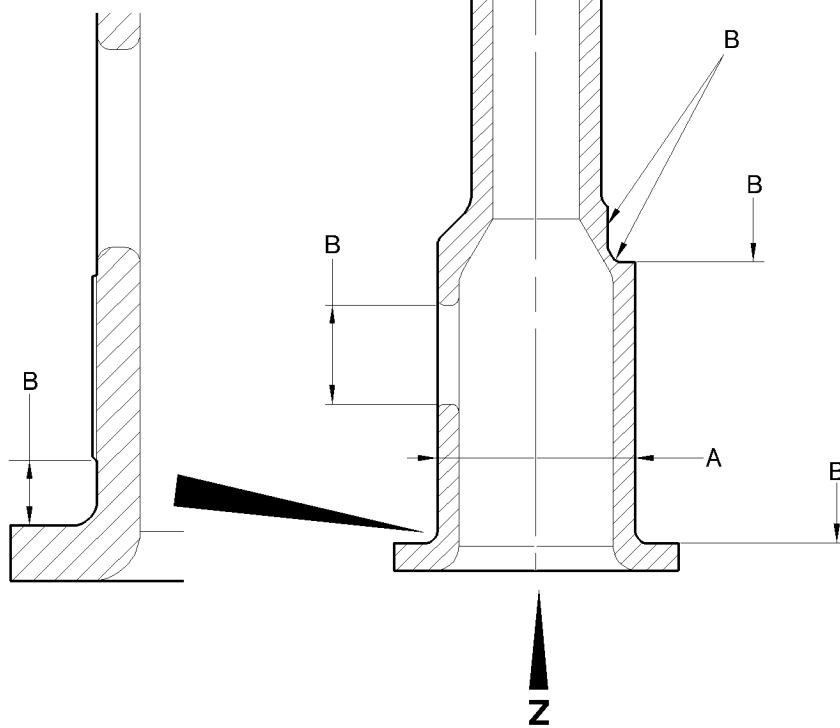
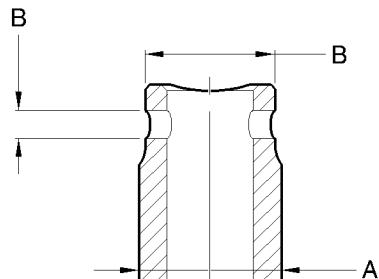
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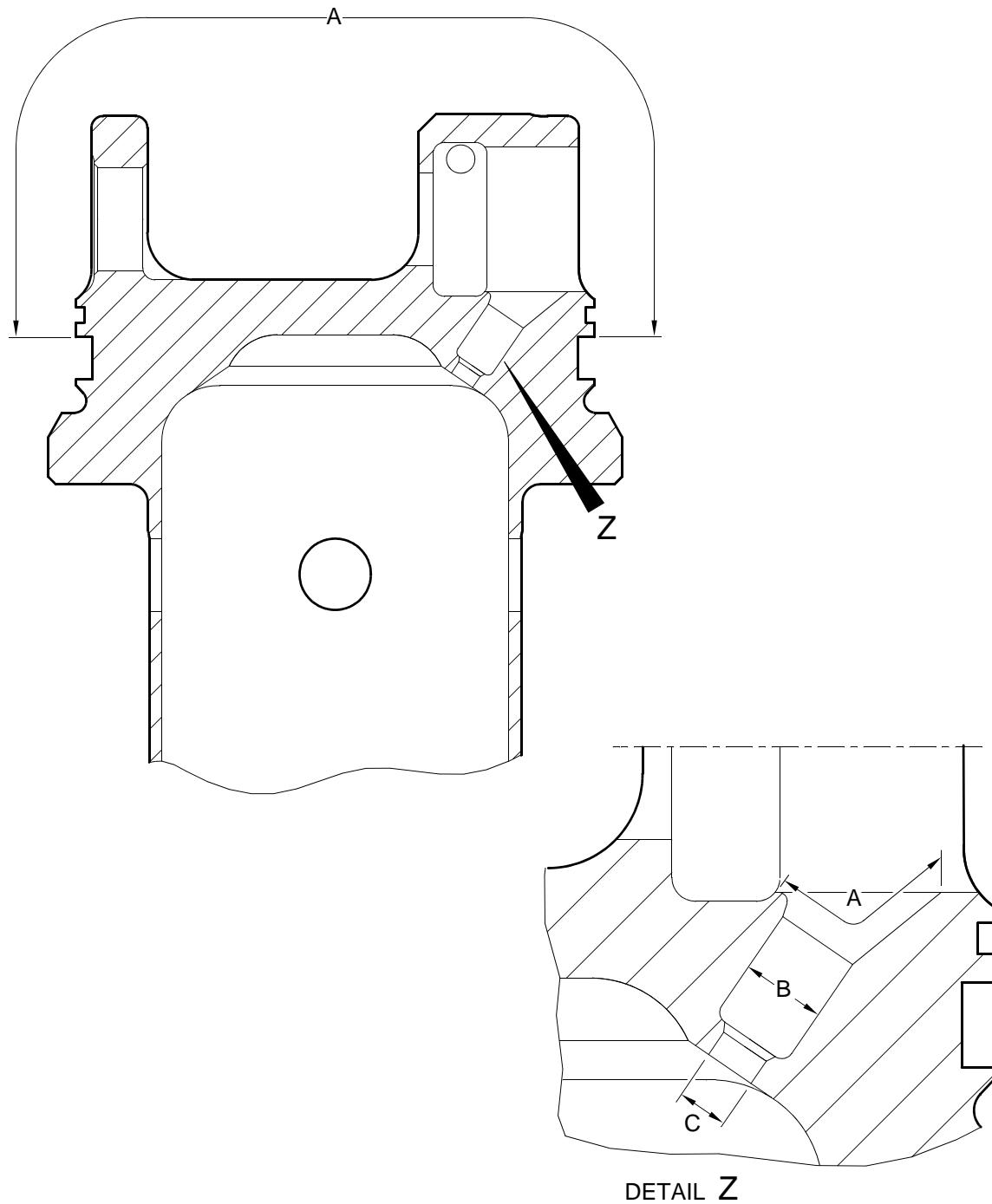


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Pin (13-190 and 13-190A) - Protective Treatment
Figure 615

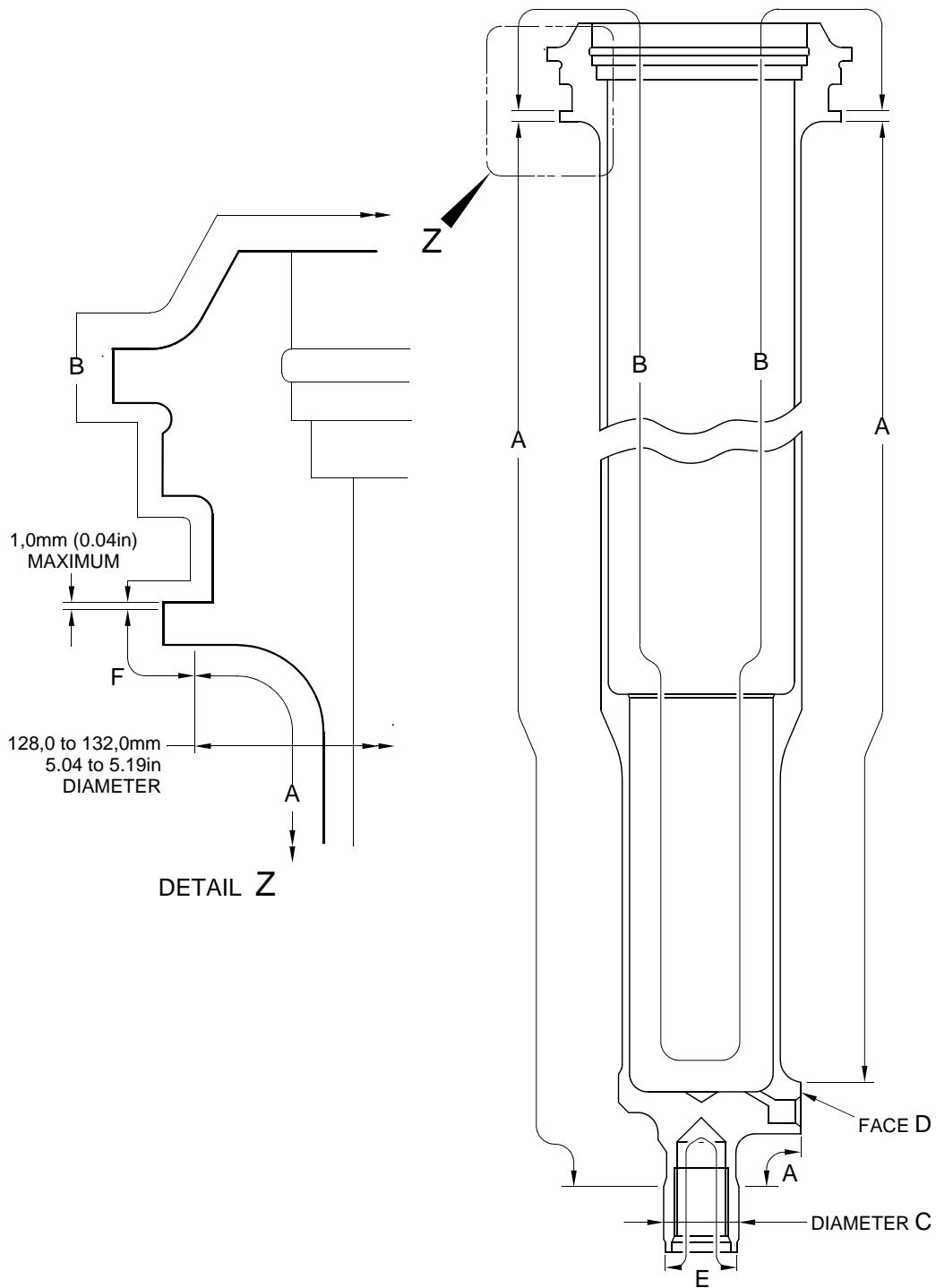
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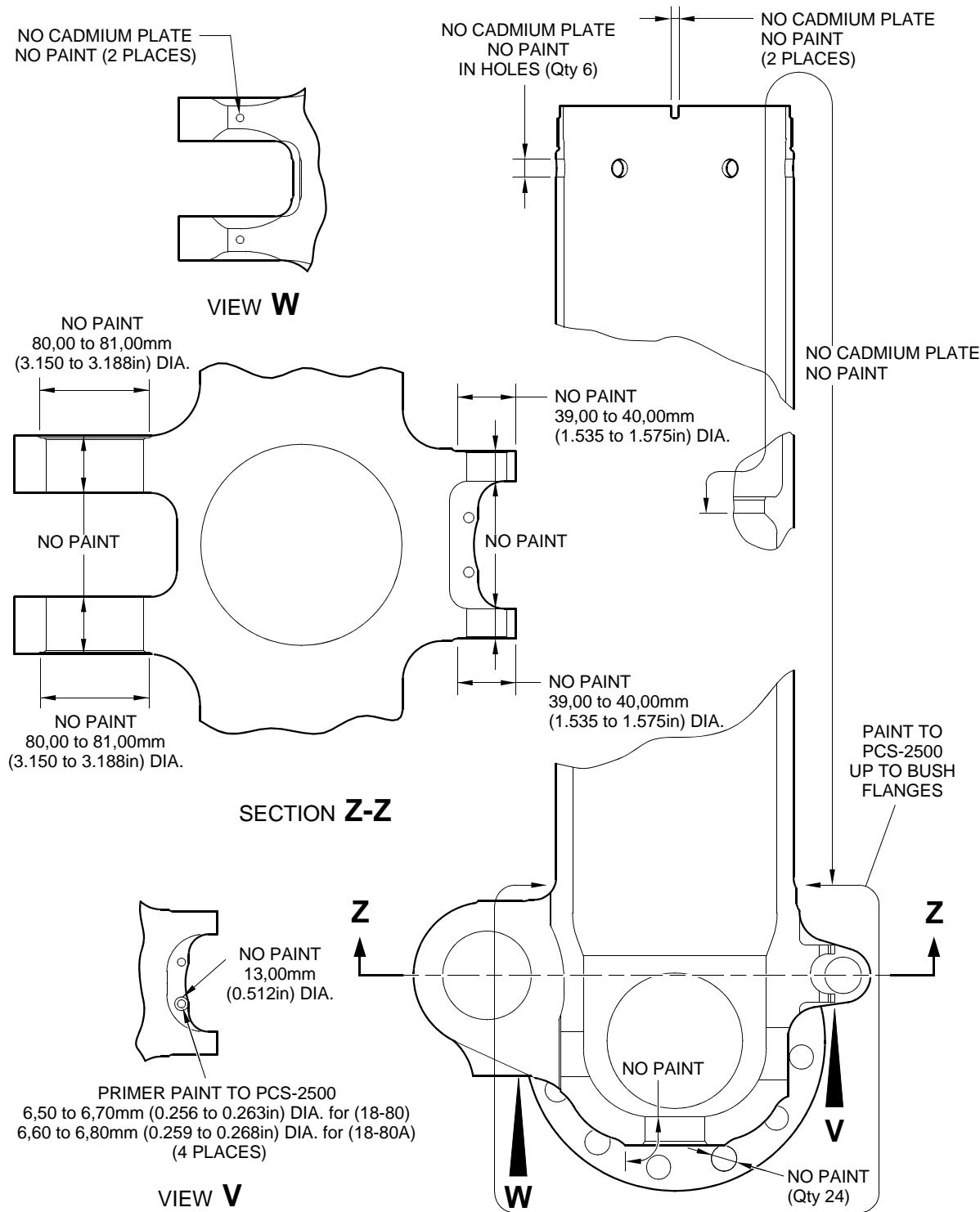
 Upper Diaphragm Tube (15-390) - Protective Treatment
 Figure 616

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 MAIN LANDING GEAR LEG


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 Cylinder (17-230) - Protective Treatment
 Figure 617

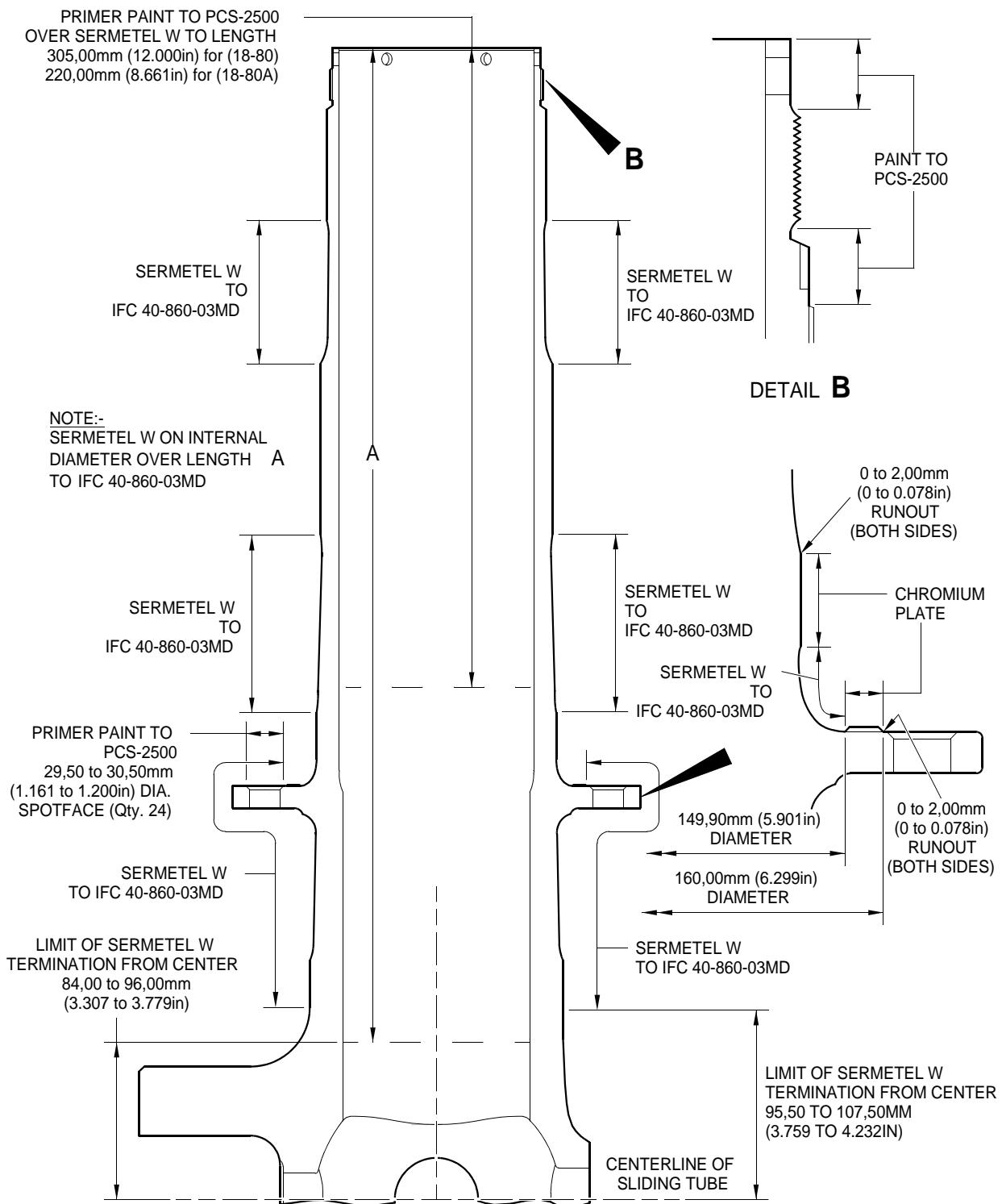
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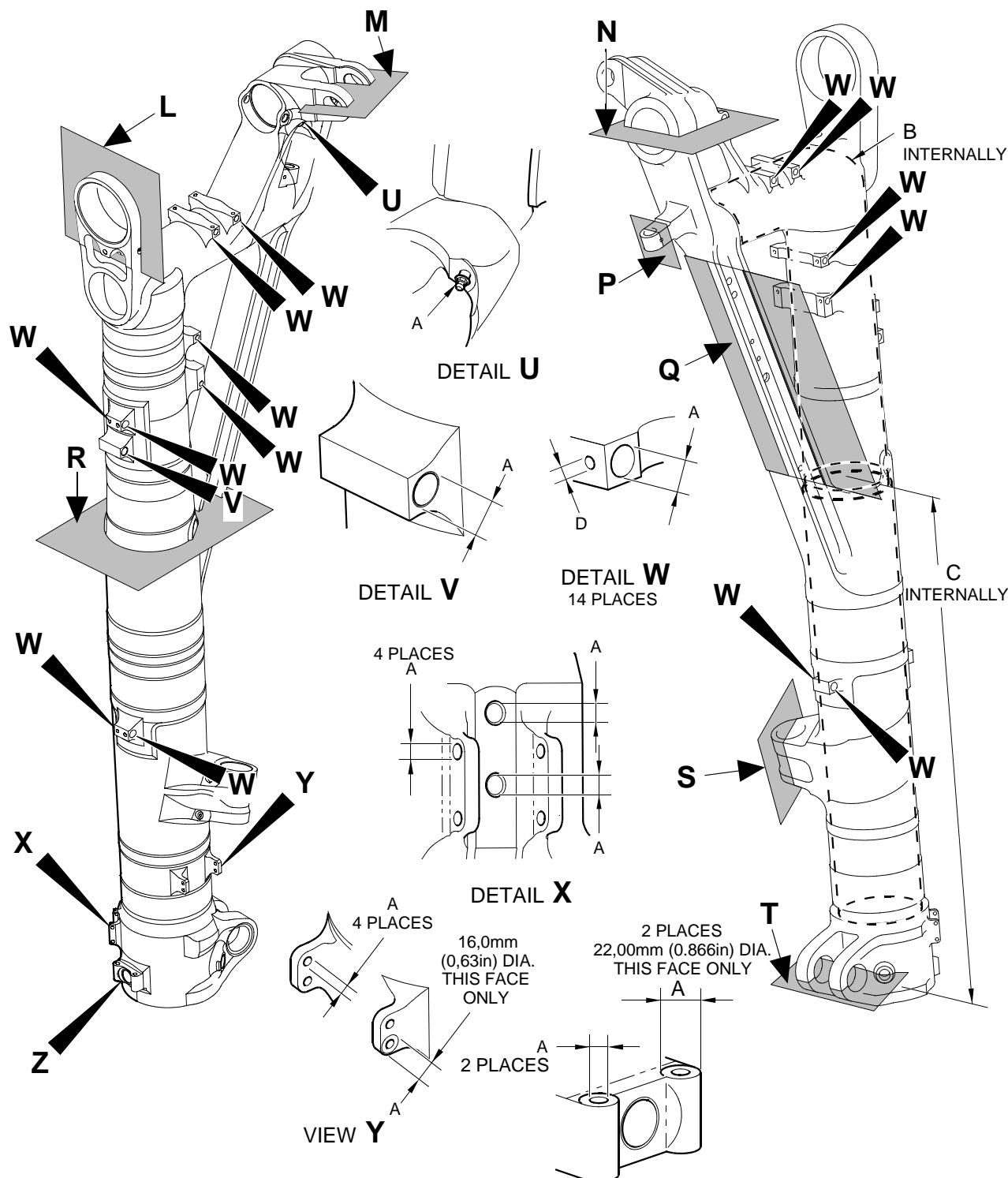
Sliding Tube (18-80) or (18-80A) - Protective Treatment
Figure 618 - Sheet 1

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MAIN LANDING GEAR LEG**



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Sliding Tube (18-80) or (18-80A) - Protective Treatment
Figure 618 - Sheet 2

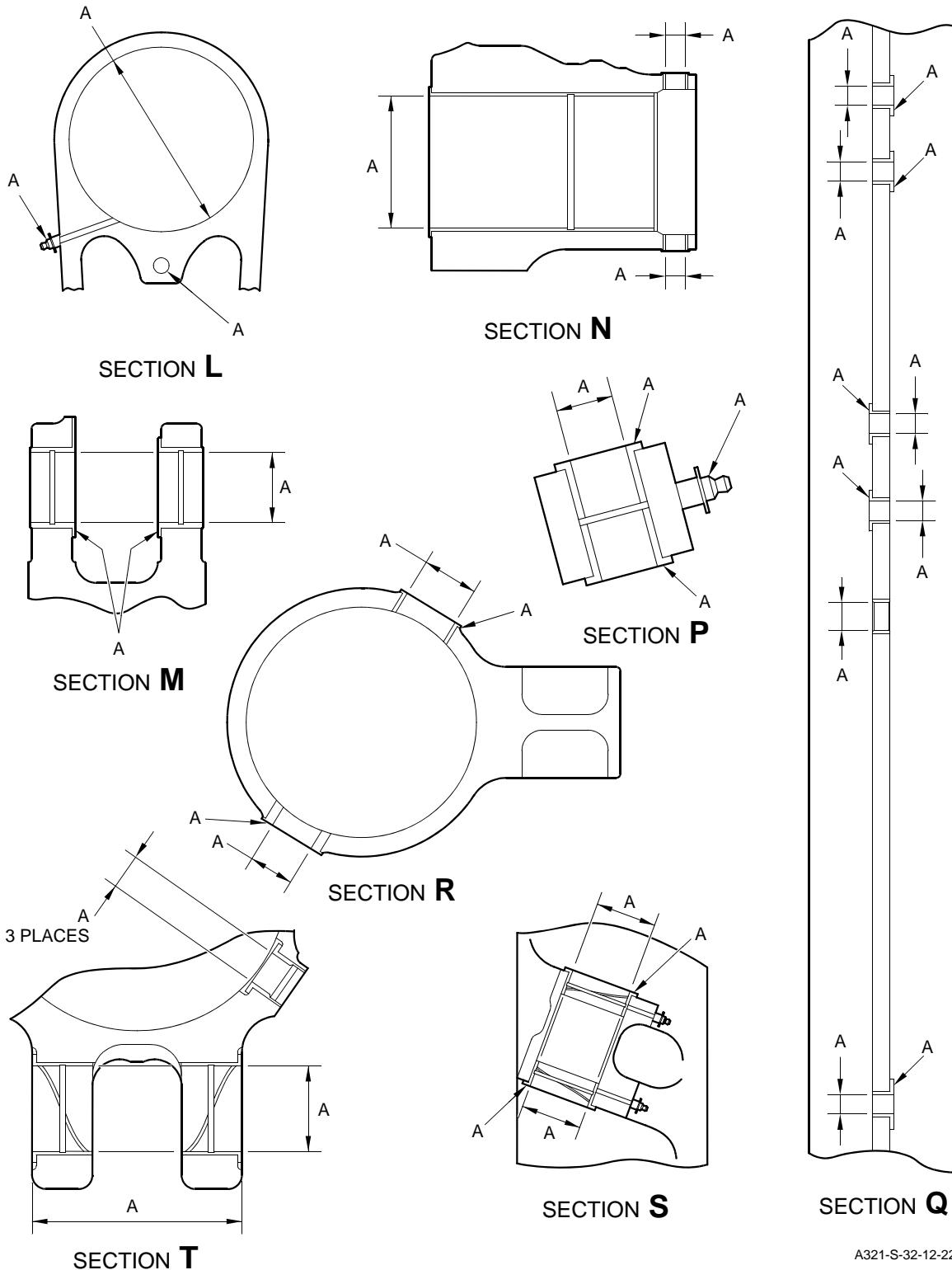
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FOR ALL SECTION VIEWS SEE SHEET 2

DETAIL Z

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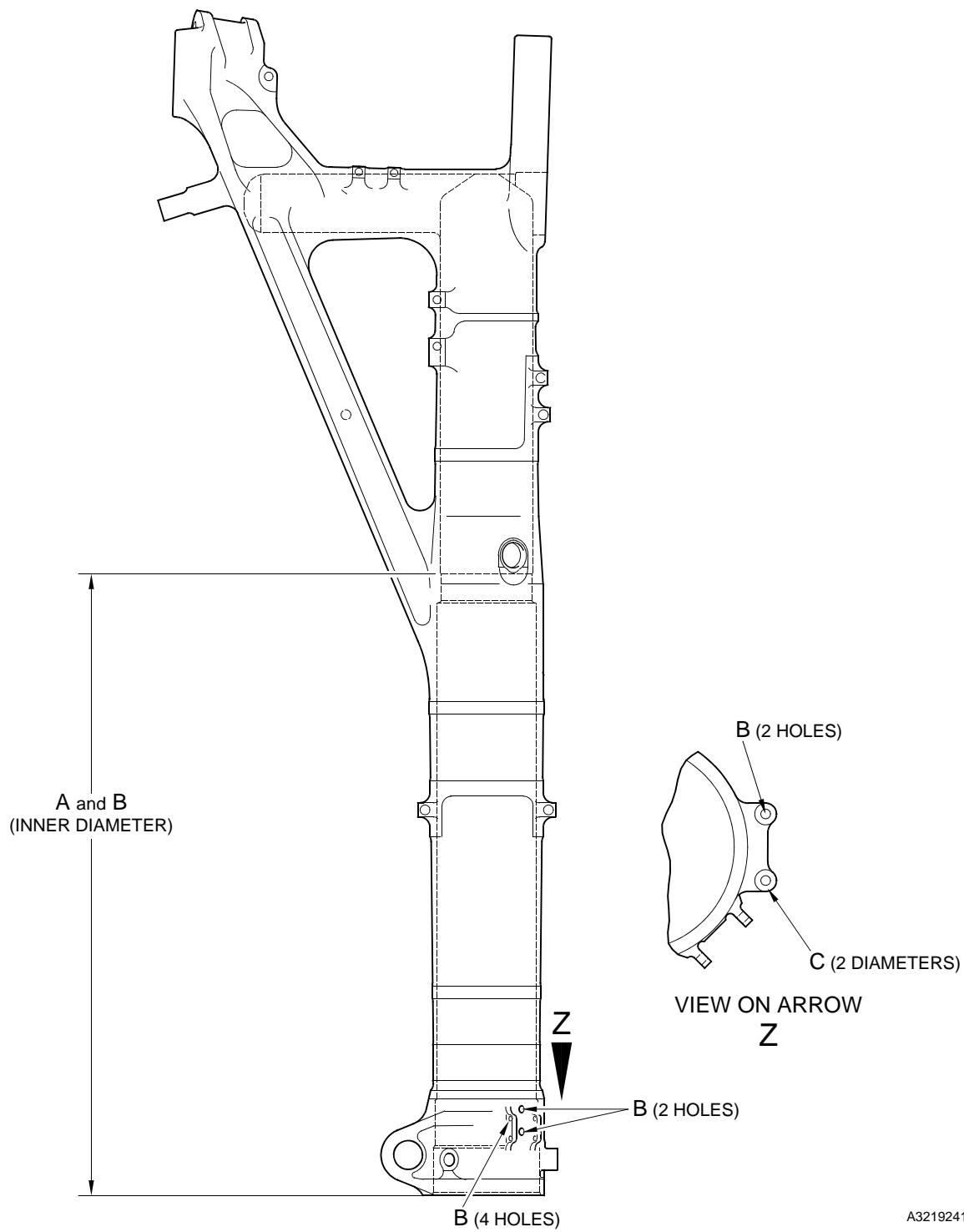
Main Fitting Subassembly (20-90, 20-90A, 20-100 and 20-100A) - Protective Treatment
 Figure 619 - Sheet 1

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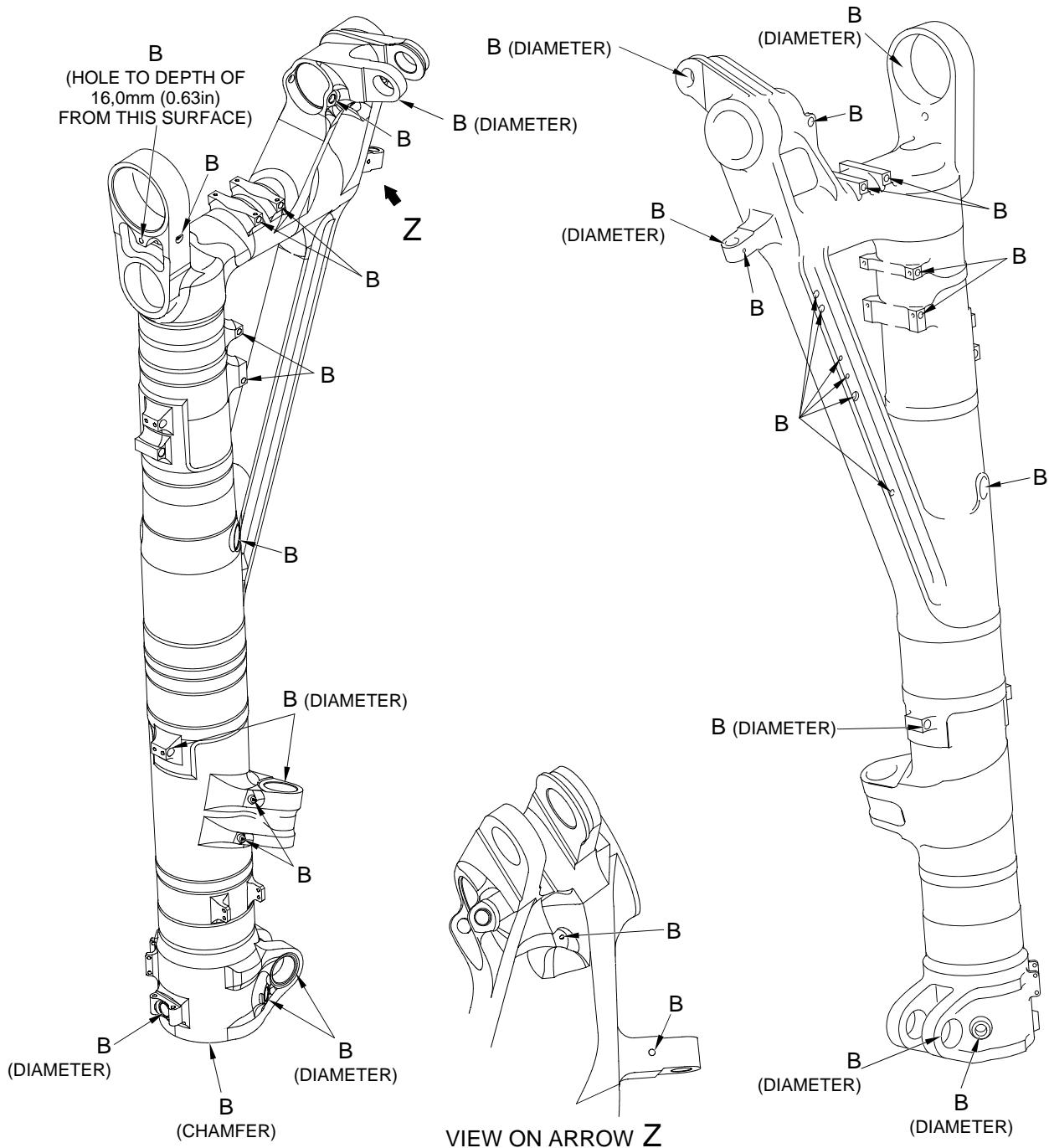
 Main Fitting Subassembly (20-90, 20-90A, 20-100 and 20-100A) - Protective Treatment
 Figure 619 - Sheet 2

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Main Fitting (20-410) and (20-420) - Protective Treatment
Figure 620

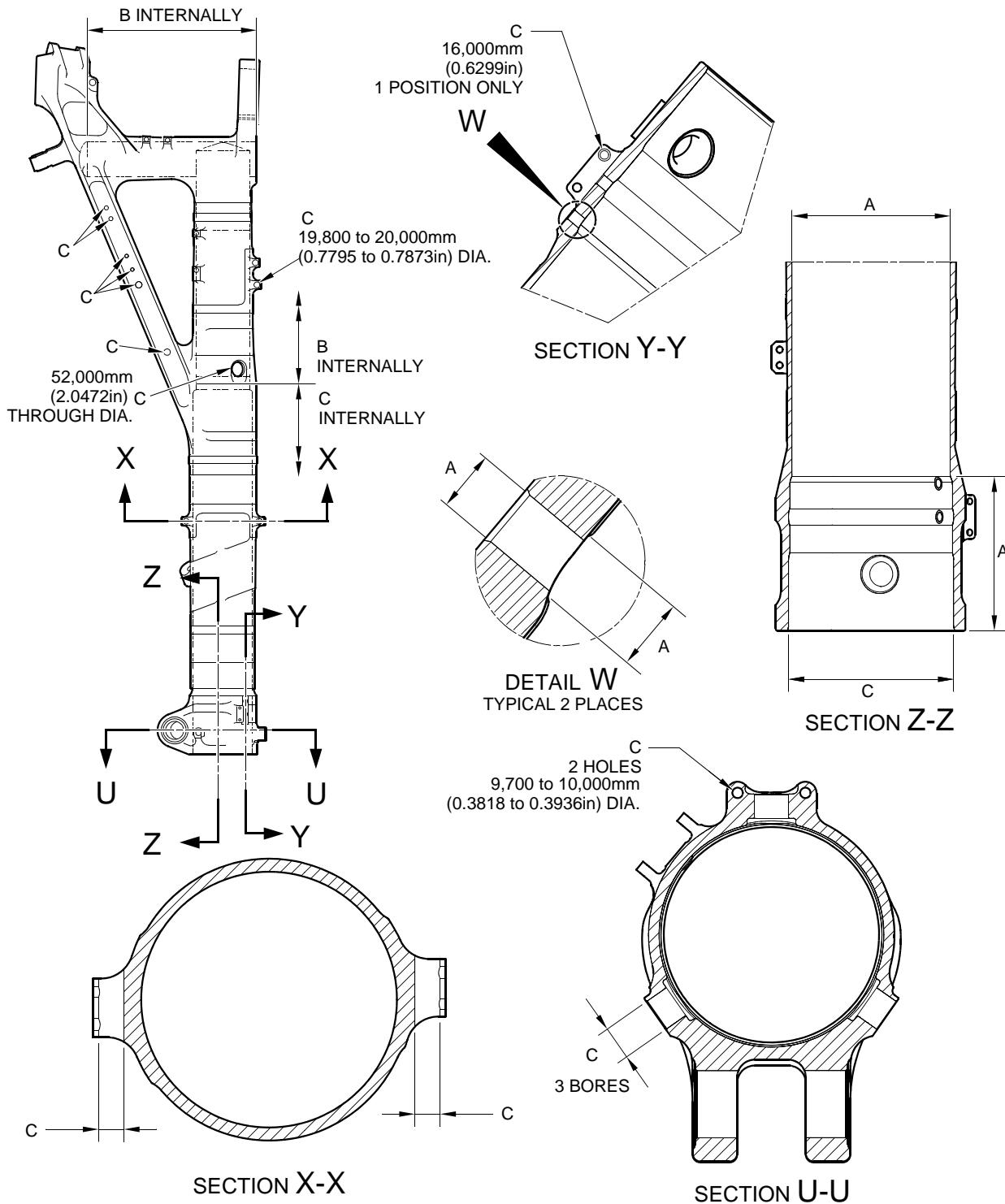
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Main Fitting (20-410) and (20-420)- Protective Treatment
Figure 621

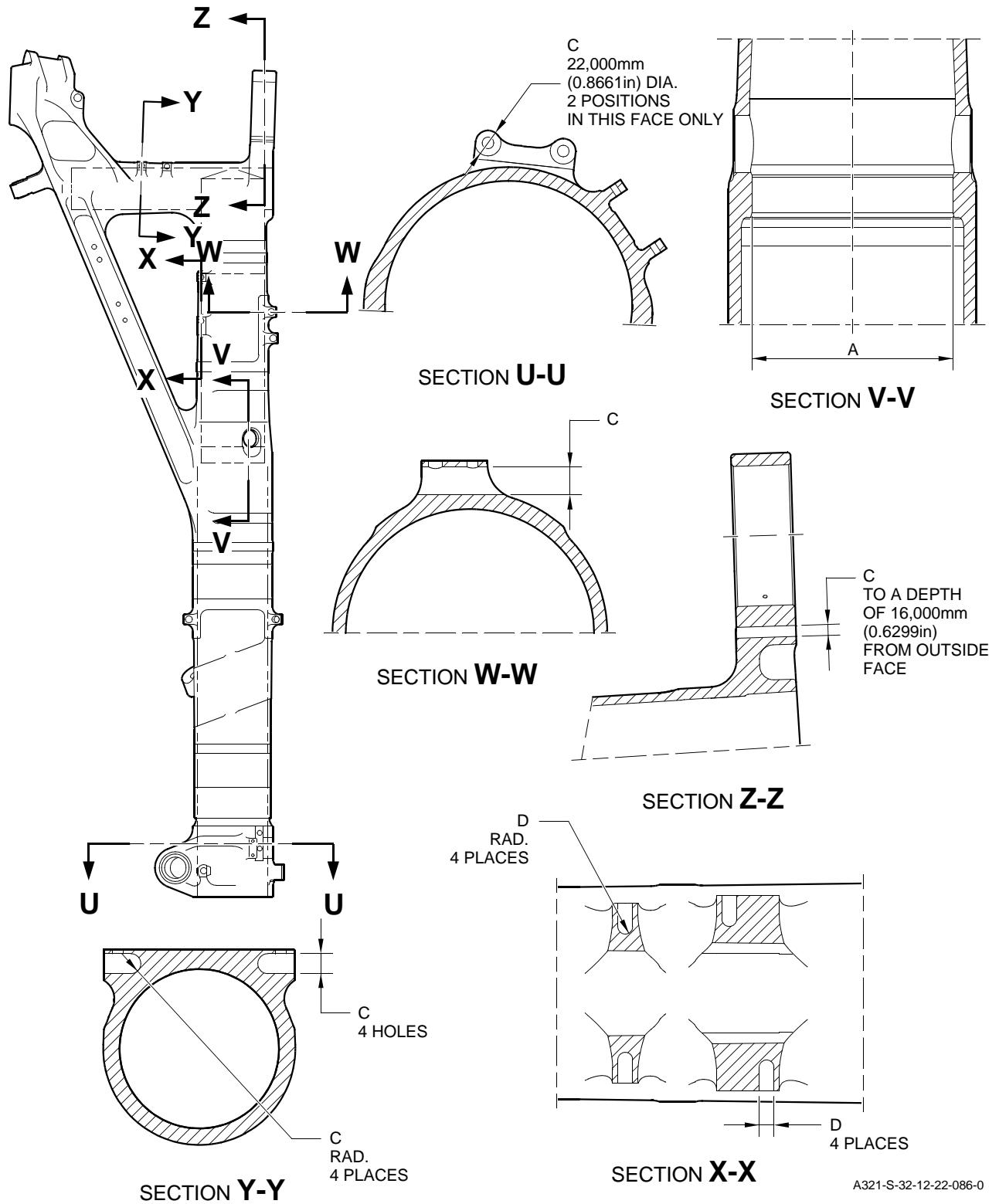
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Main Fitting (20-410A) and (20-420A) - Protective Treatment
Figure 622 - Sheet 1

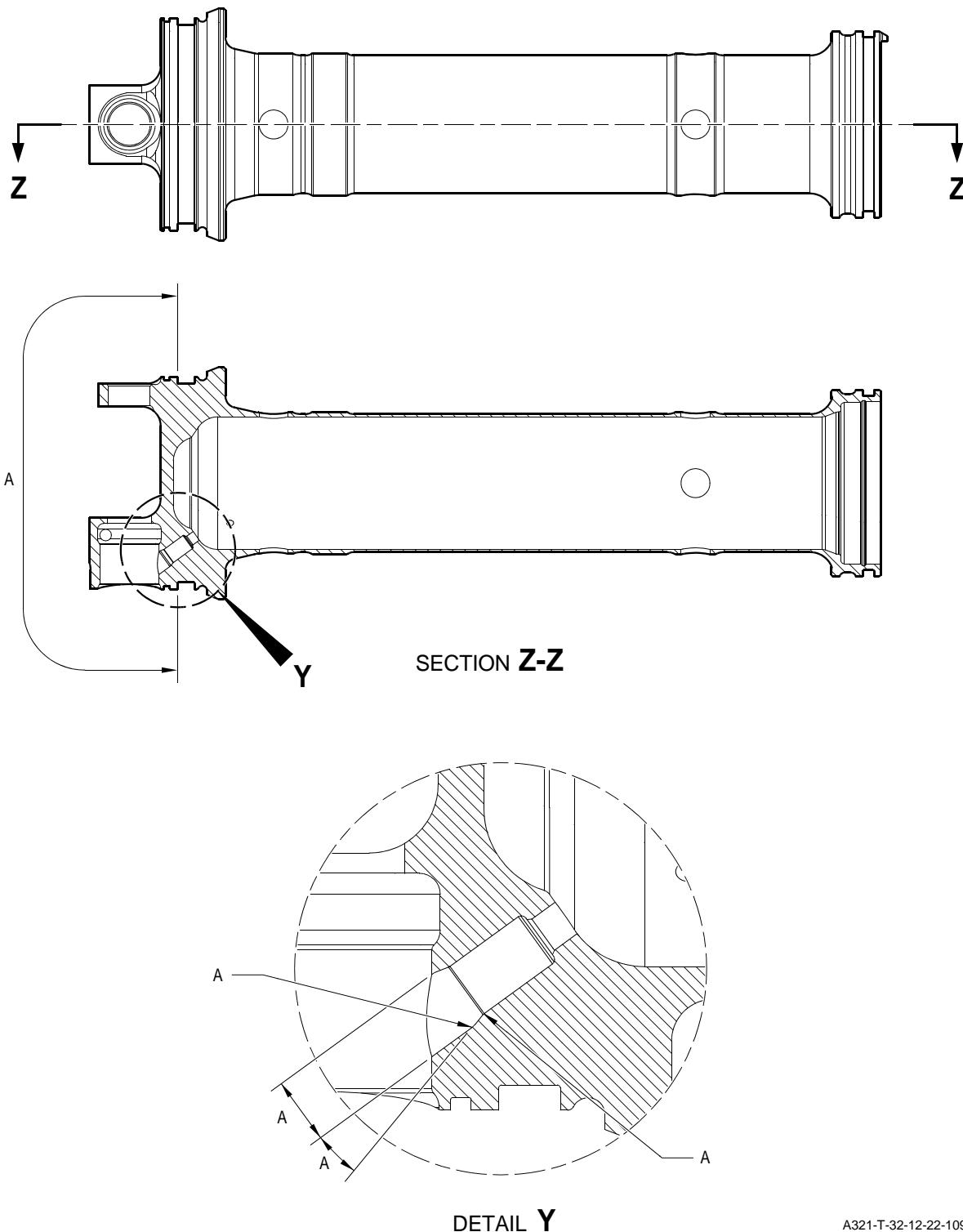
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Main Fitting (20-410A) and (20-420A) - Protective Treatment
Figure 622 - Sheet 2

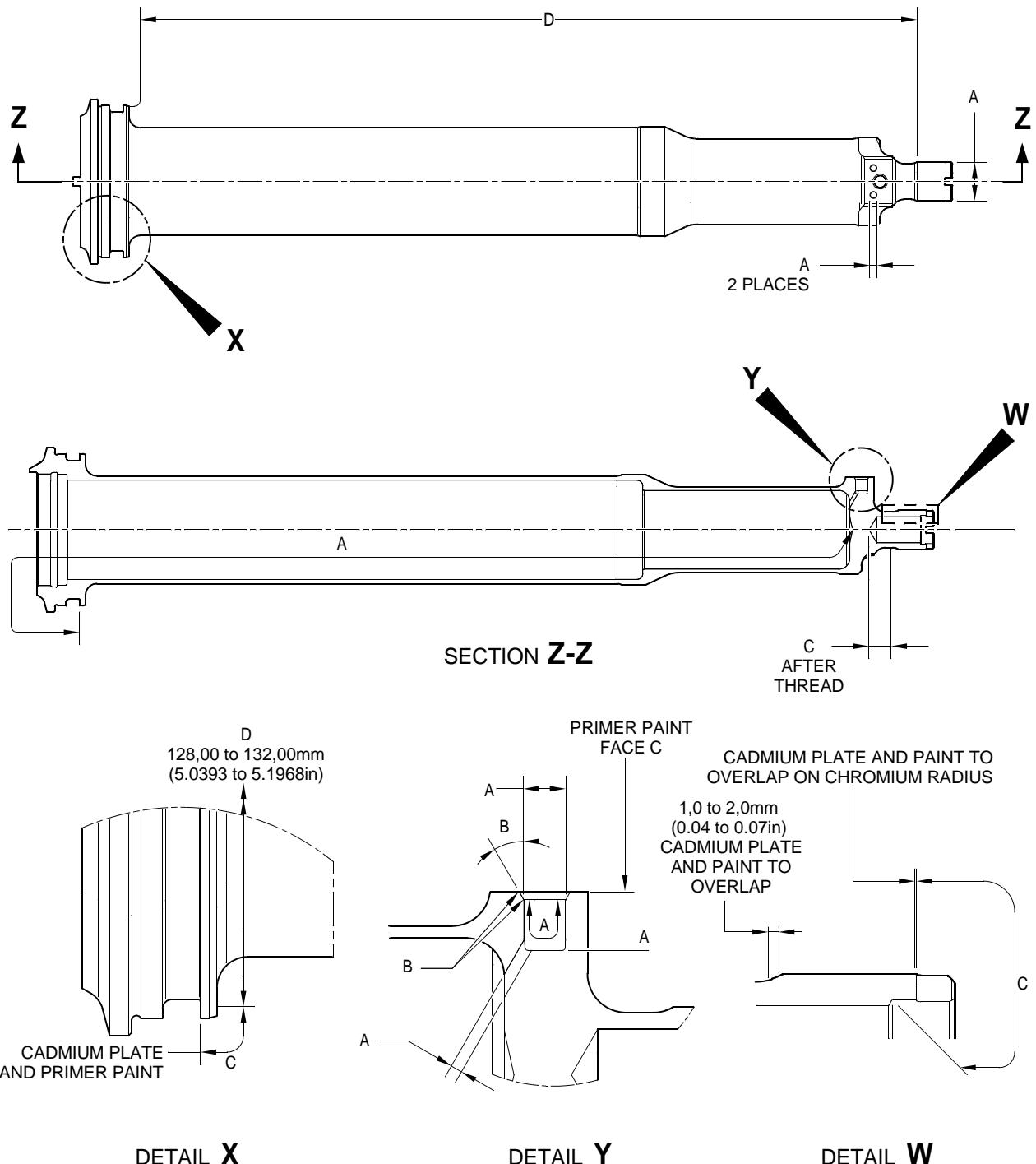
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Upper Diaphragm Tube ([15-390A](#)) - Protective Treatment
Figure 623

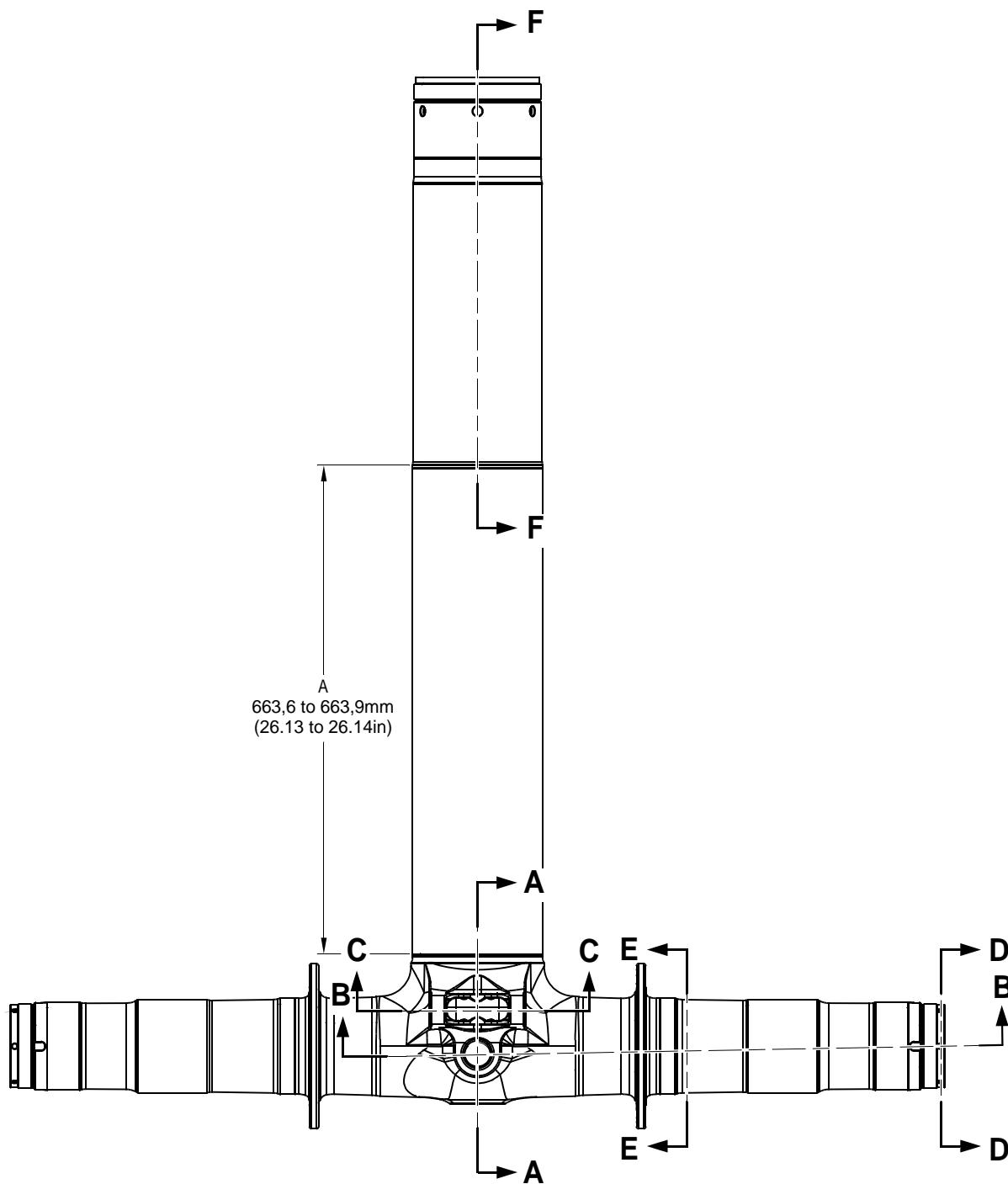
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Cylinder (17-230A) - Protective Treatment
Figure 624

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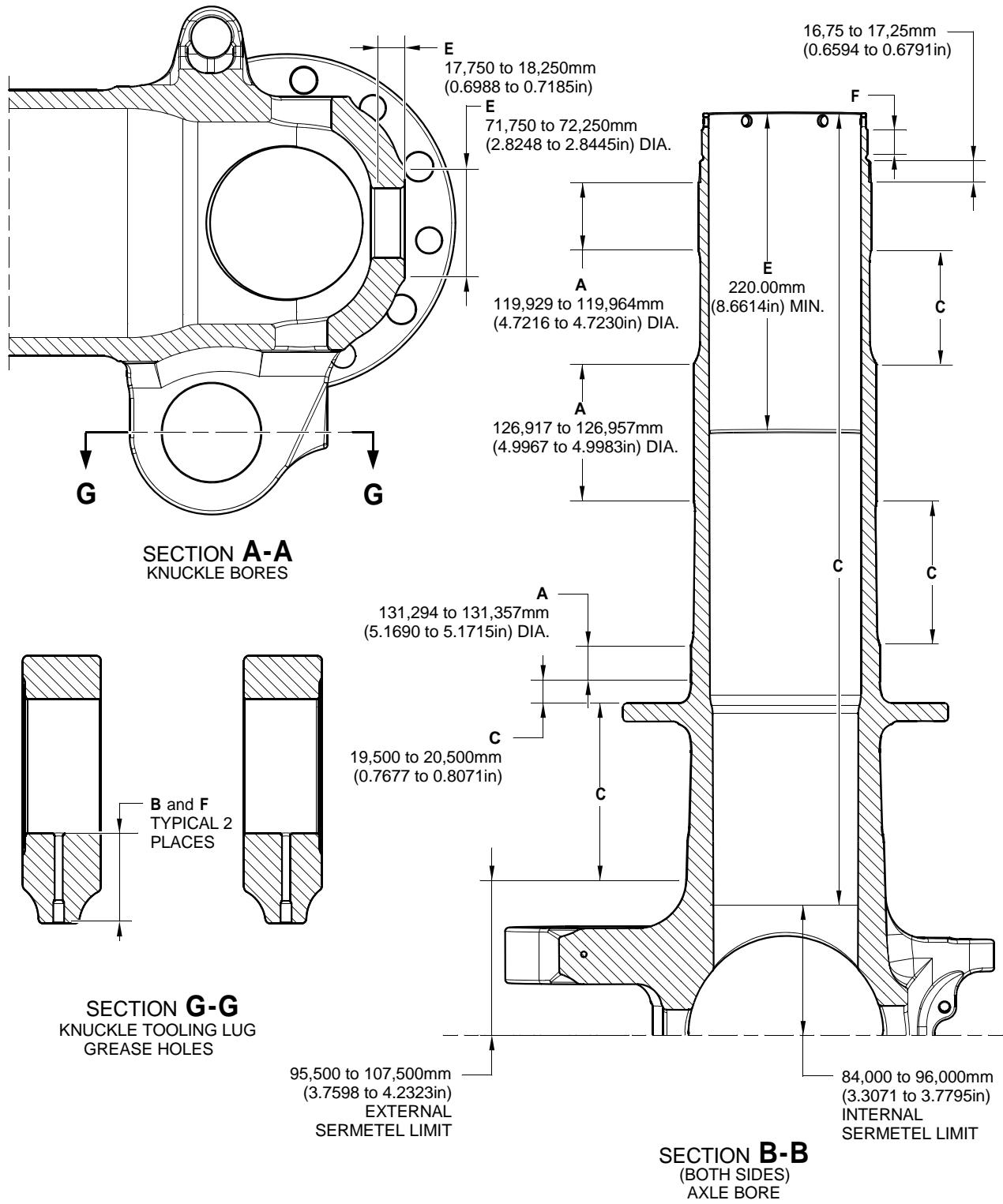
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Sliding Tube (18-80B) - Protective Treatment

Figure 625 - Sheet 1

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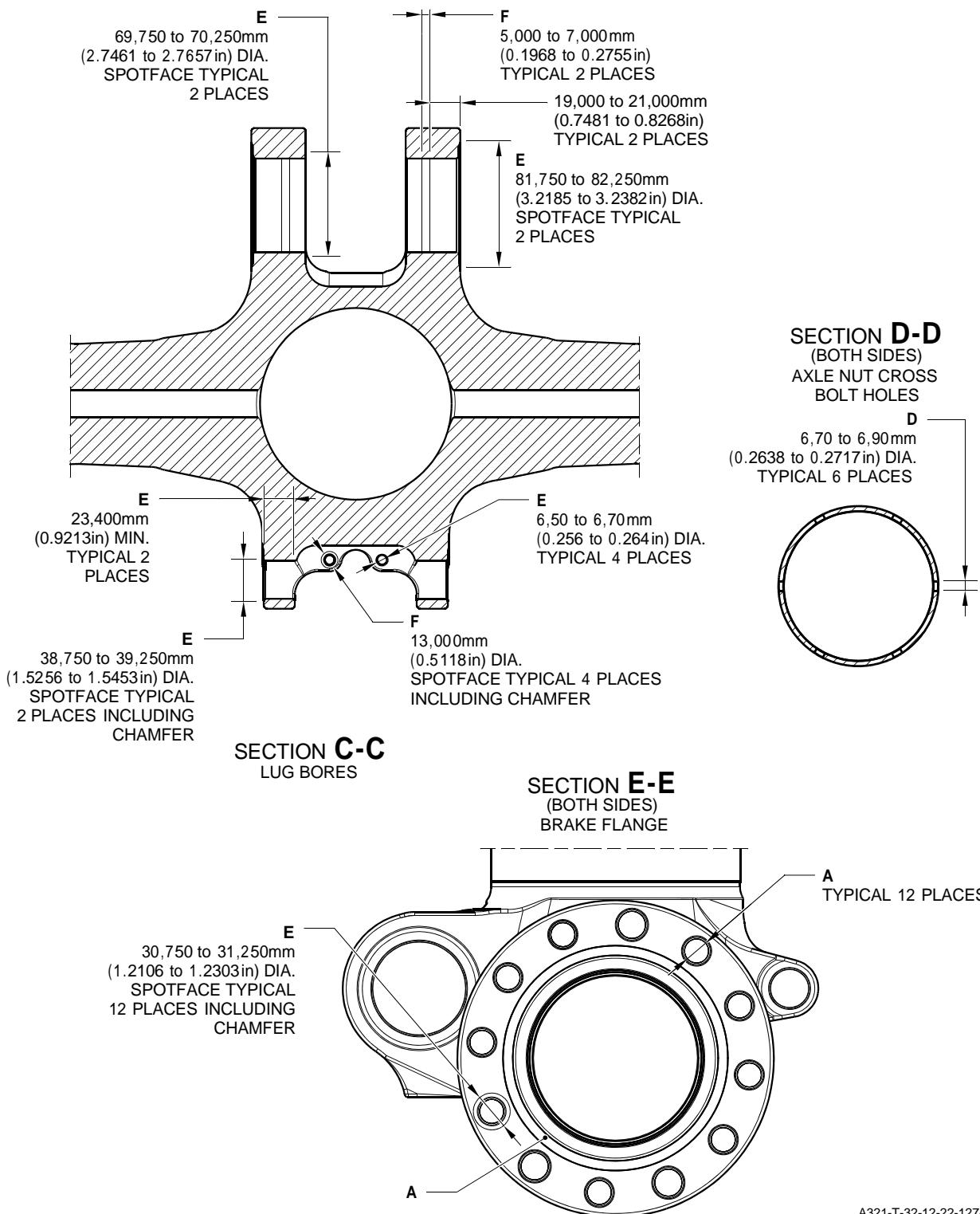
Sliding Tube (18-80B)- Protective Treatment

Figure 625 - Sheet 2

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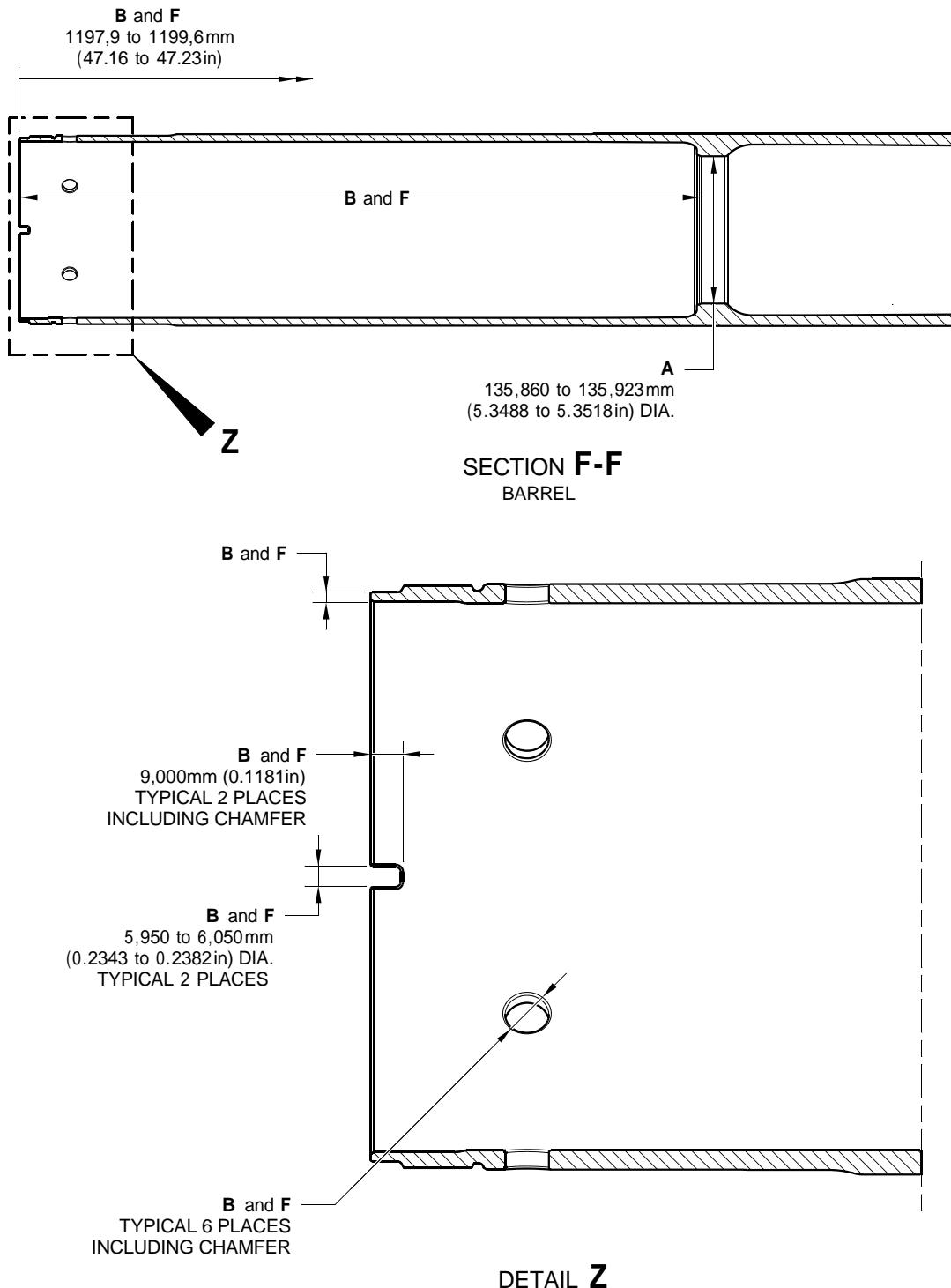
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Sliding Tube (18-80B)- Protective Treatment

Figure 625 - Sheet 3

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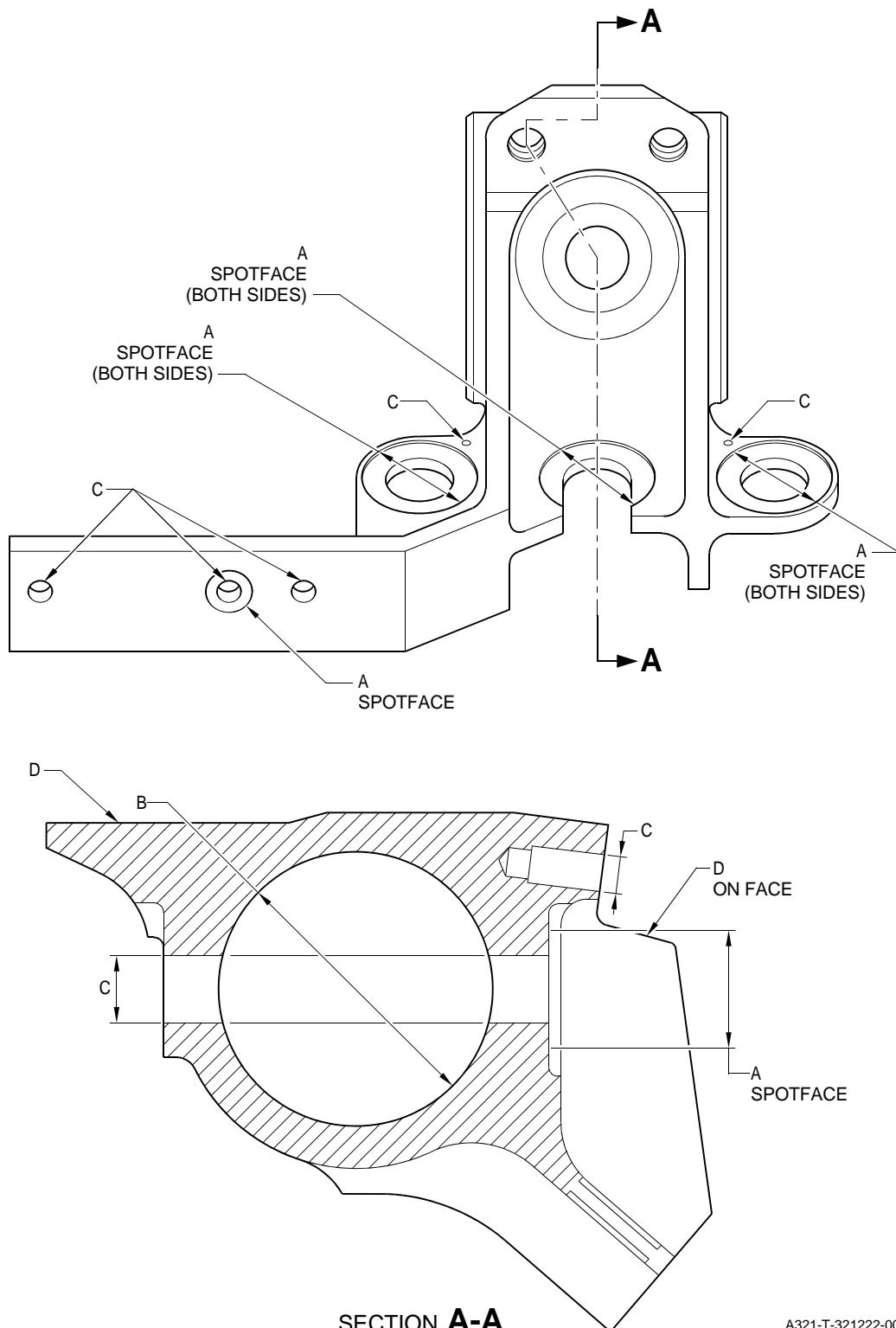
Sliding Tube (18-80B)- Protective Treatment

Figure 625 - Sheet 4

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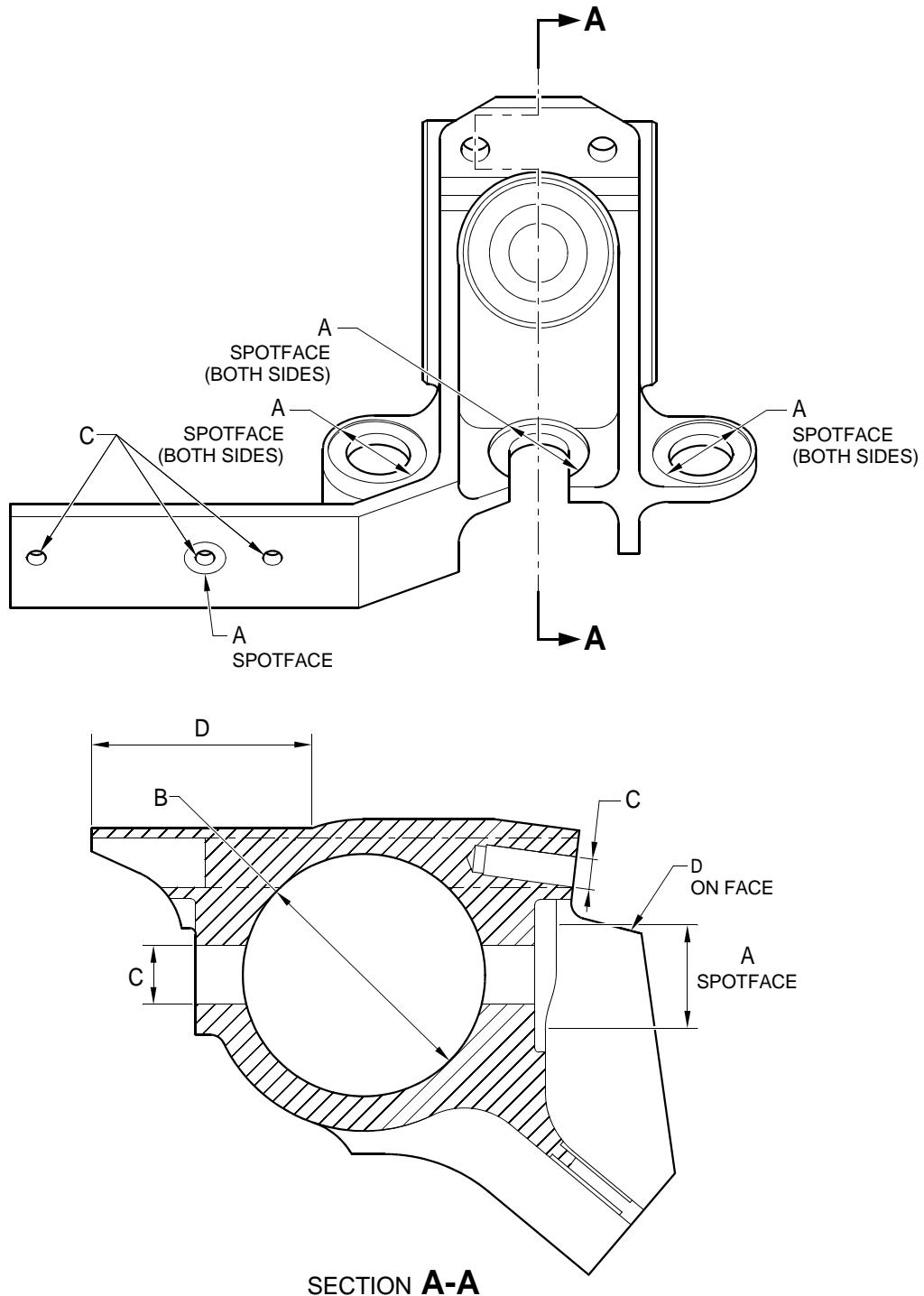
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MAIN LANDING GEAR LEG



A321-T-321222-0001-01

Upper Pivot Bracket (10-160) Only - Protective Treatment

Figure 626

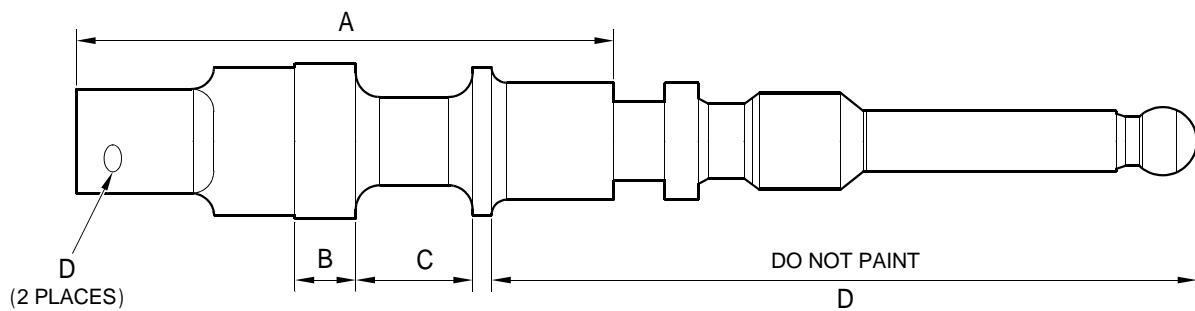
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A321-T-321222-0002-01

 Upper Pivot Bracket ([10-160A](#)) - Protective Treatment
 Figure 627

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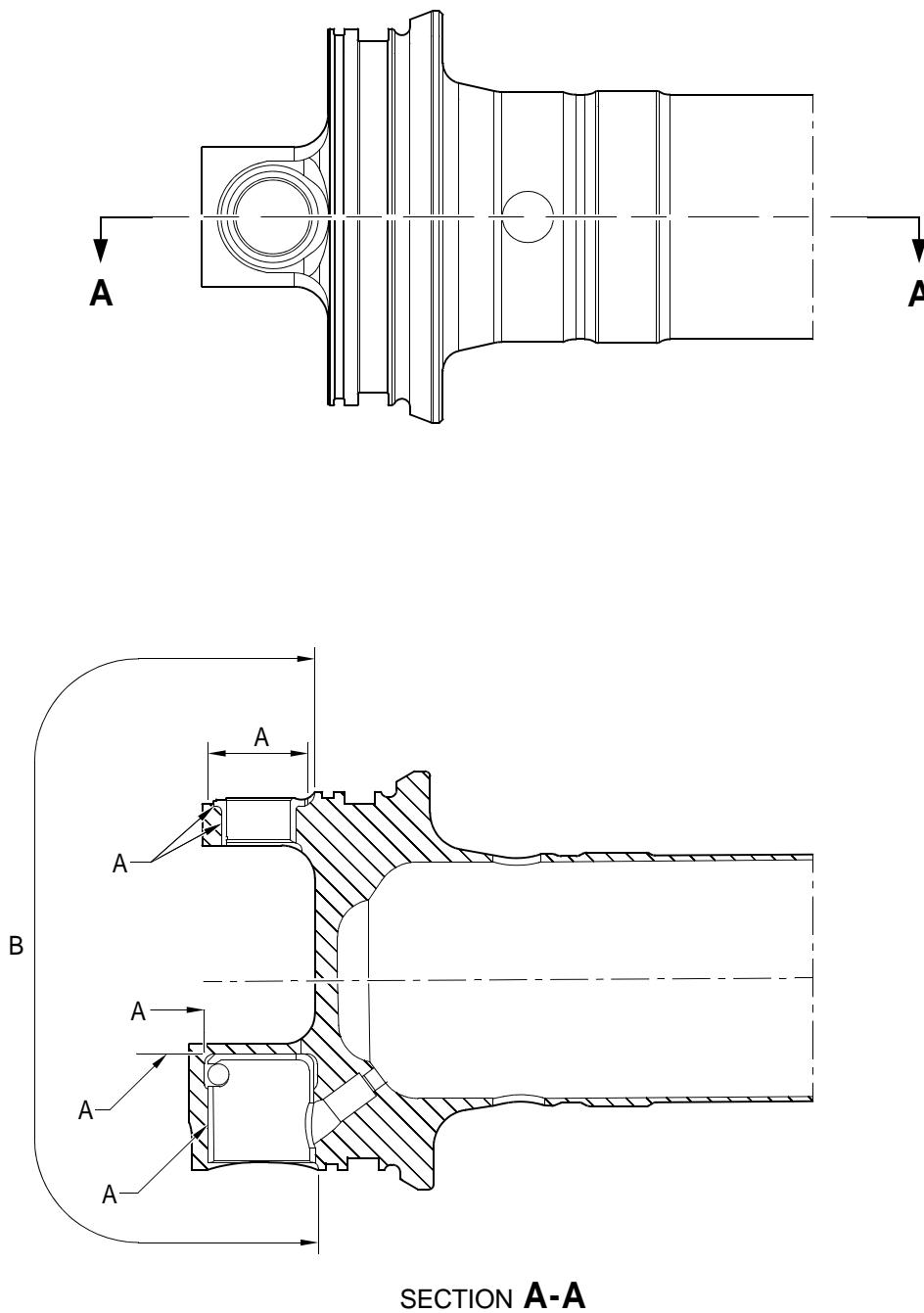
A321-T-321222-0003-00

Valve Stem (12-90A) - Protective Treatment

Figure 628

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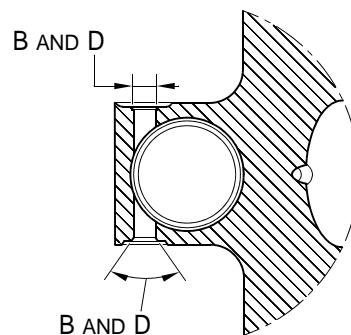
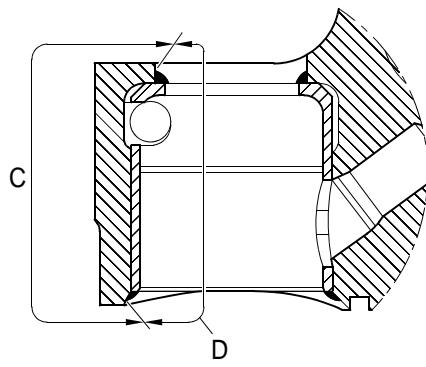
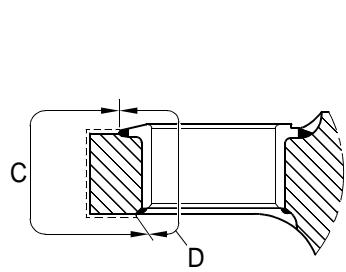
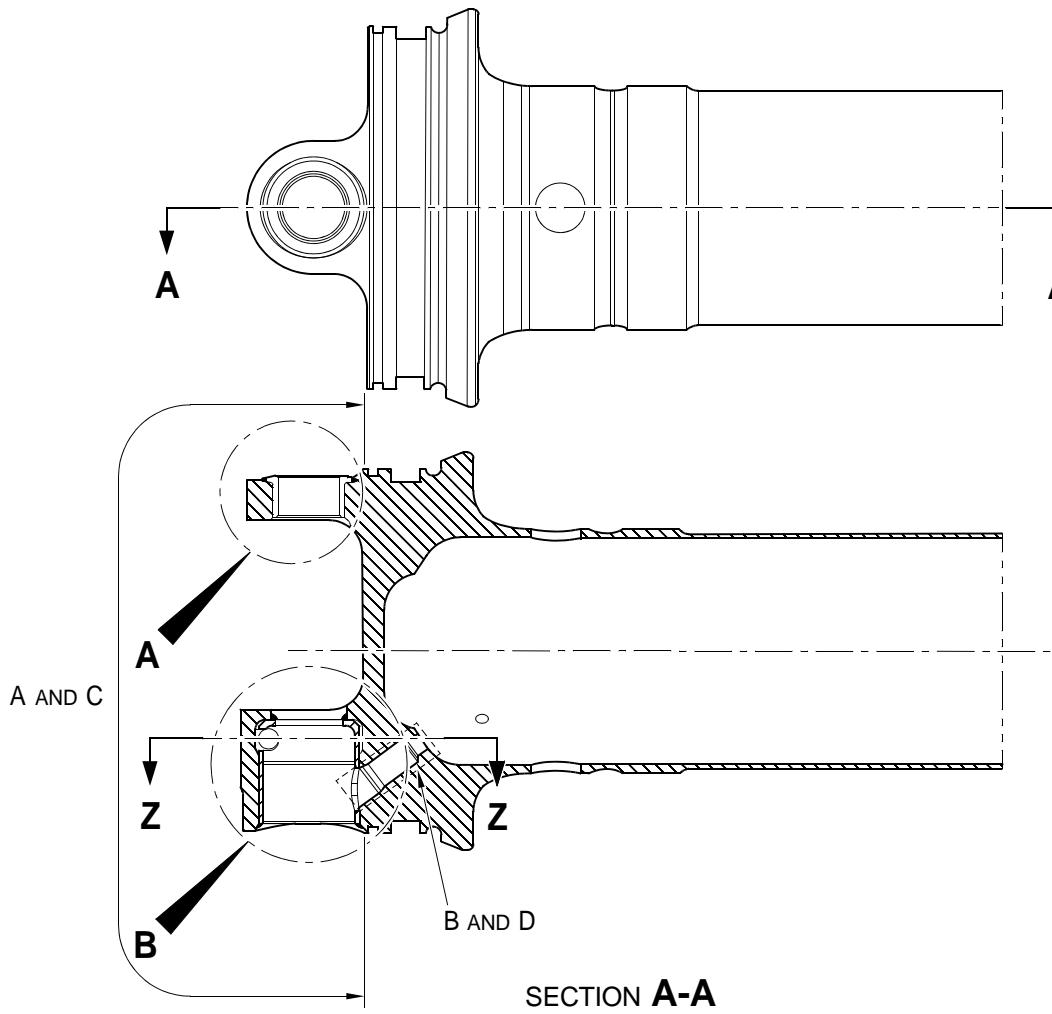
A321-T-321222-0004-00

Upper Diaphragm Tube Subassembly (15-360) - Protective Treatment

Figure 629

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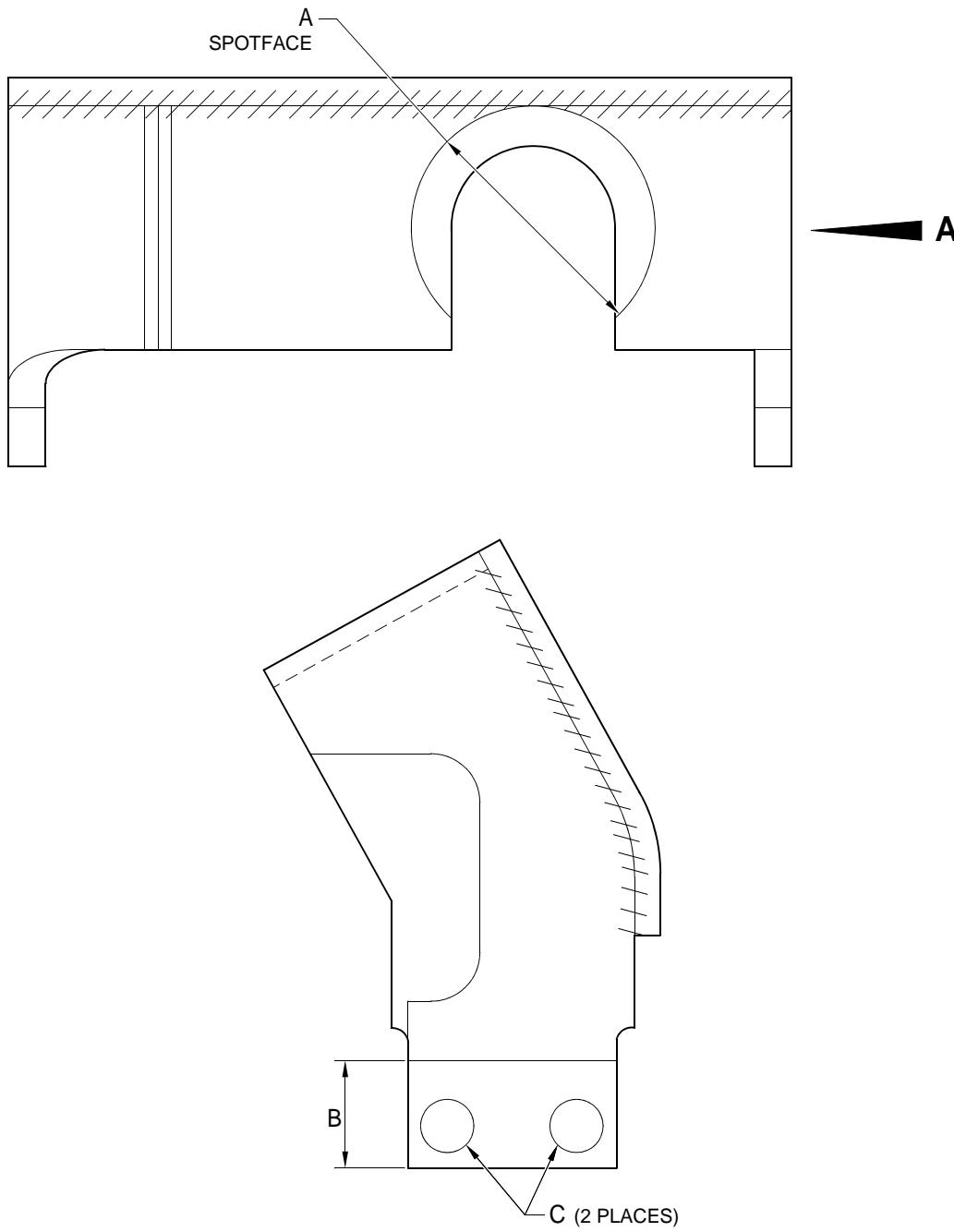
A321-T-321222-0005-00

Upper Diaphragm Tube Subassembly (15-360A) - Protective Treatment

Figure 630

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VIEW A

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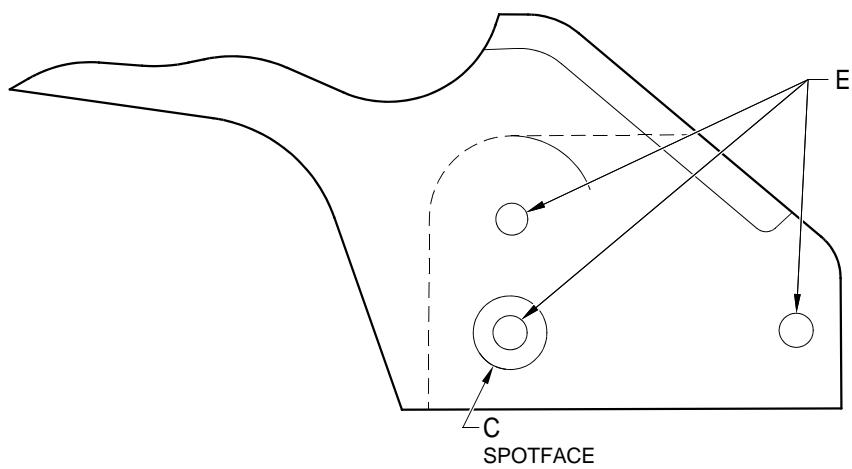
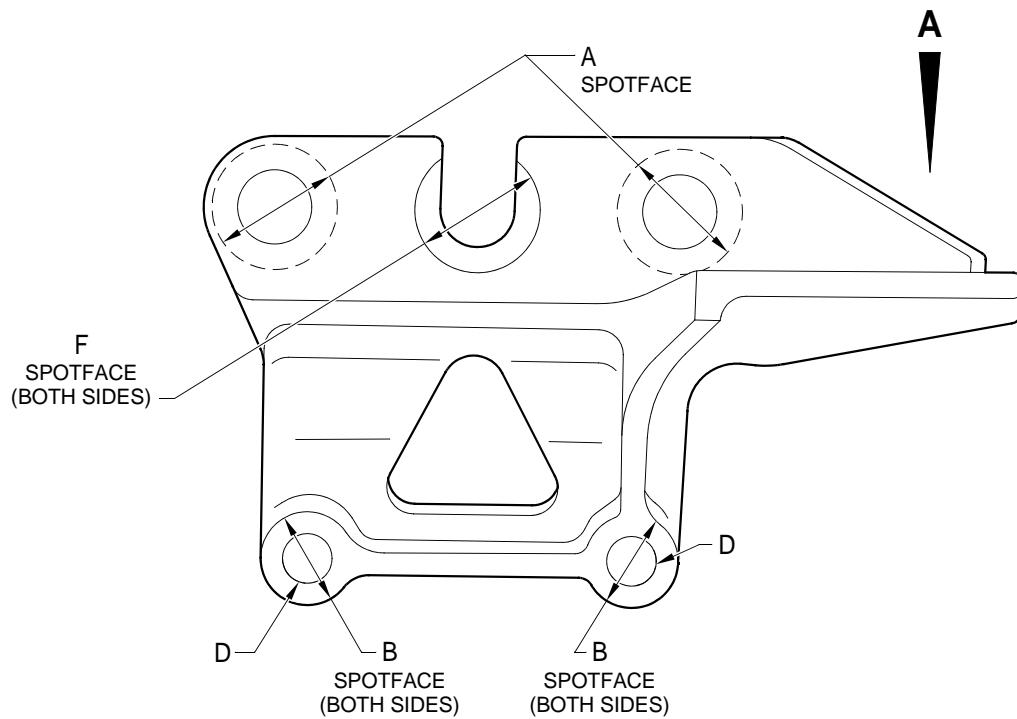
Bracket (2-80 and 2-90) - Protective Treatment

Figure 631

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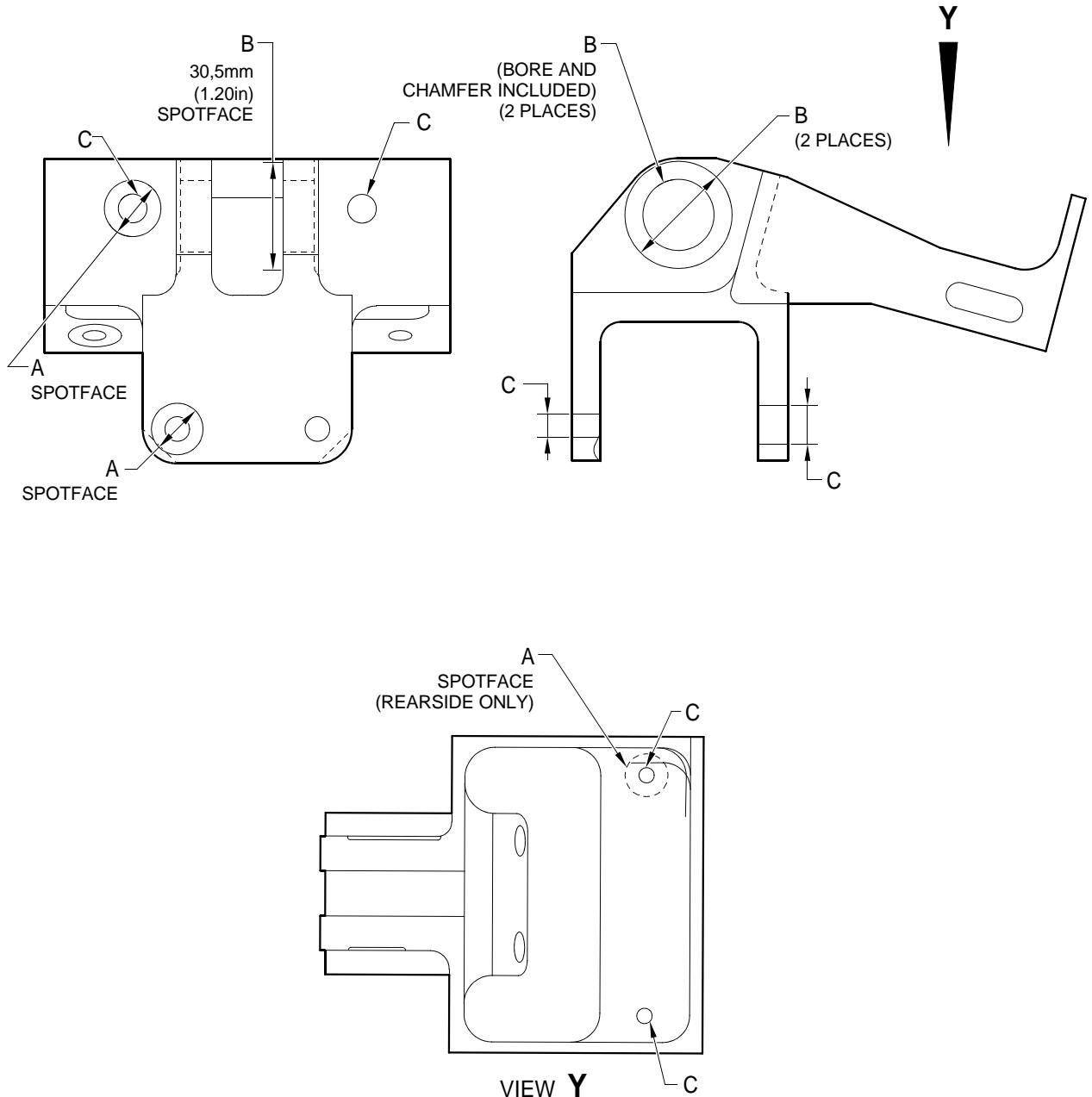
VIEW A

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Harness Support Bracket ([7-100](#), [7-100A](#), [7-110](#) and [7-110A](#)) - Protective Treatment

Figure 632

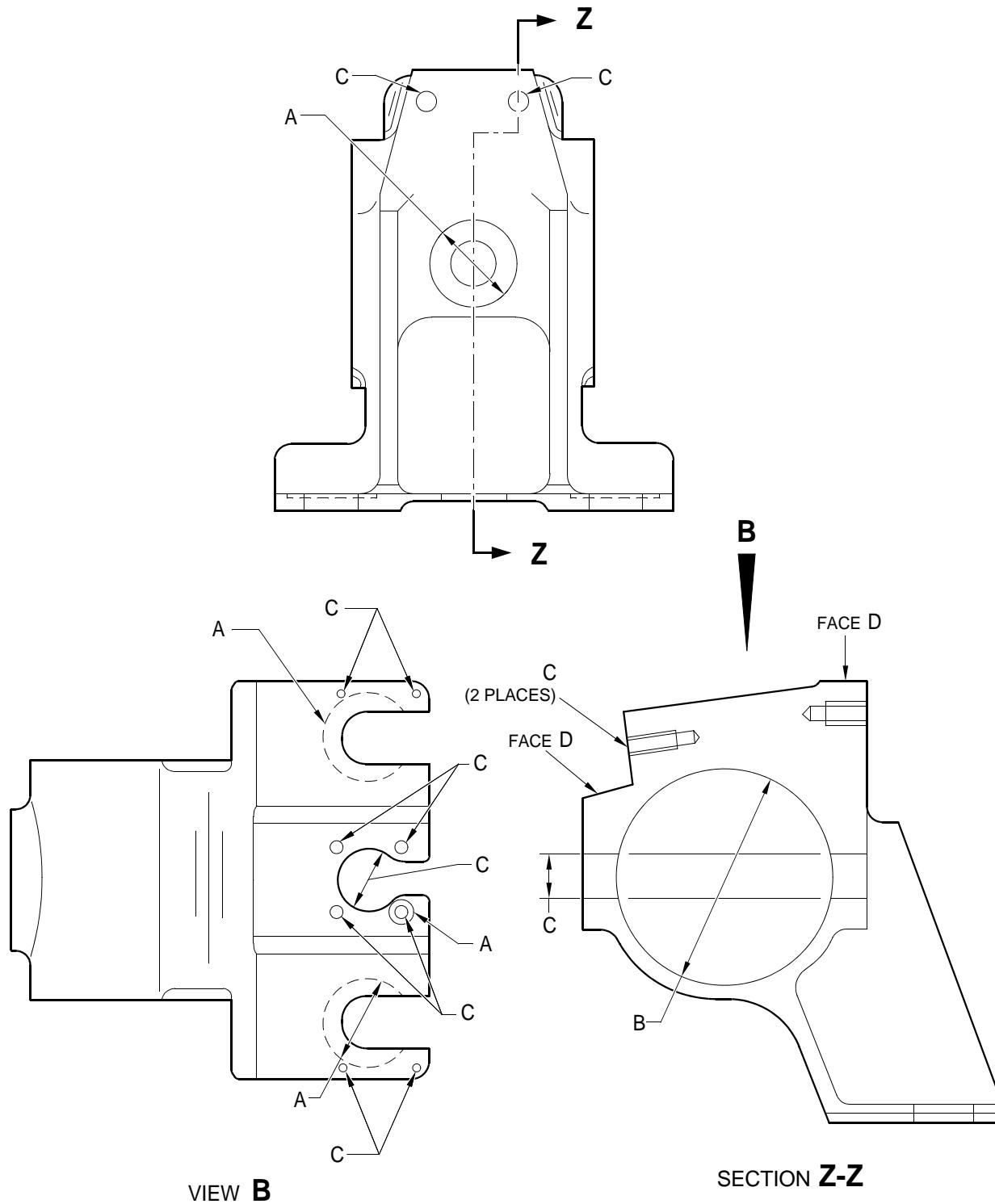
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-321222-0009-00

Bracket (8-170) - Protective Treatment
Figure 633

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

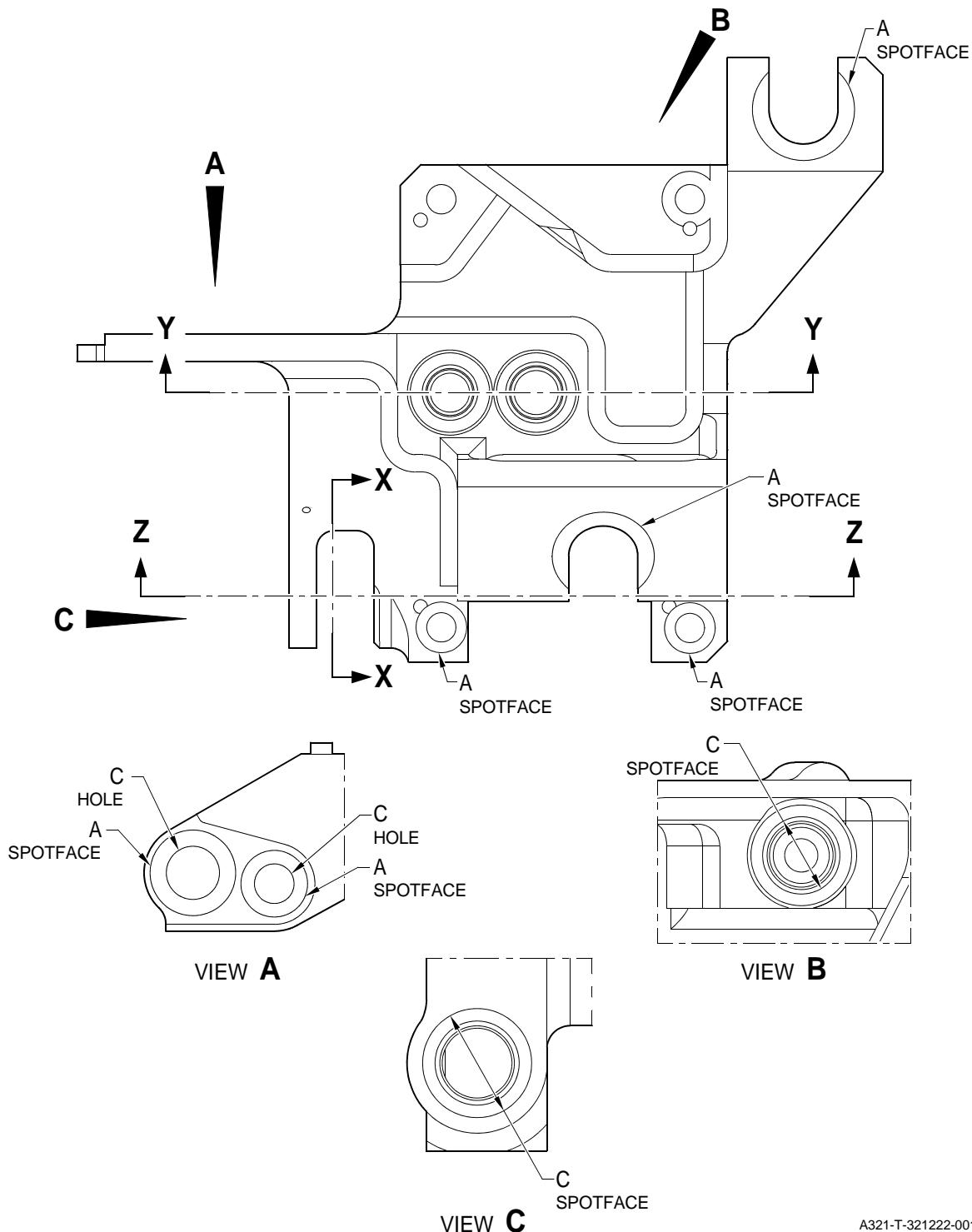


SECTION Z-Z

A321-T-321222-0010-00

Harness Support Bracket (11-140) - Protective Treatment

Figure 634

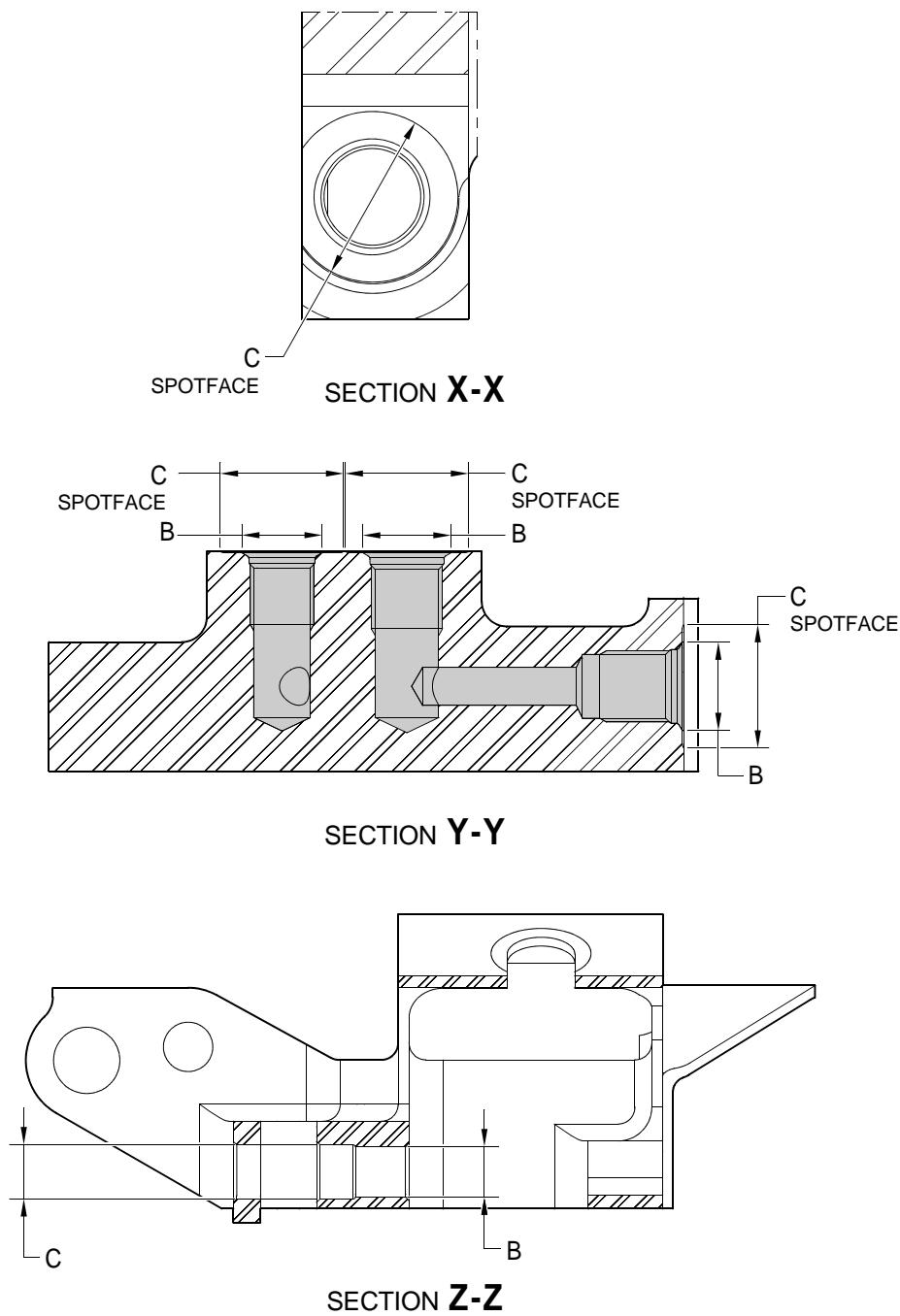
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG


A321-T-321222-0012-00

Transfer Block (2-340B and 2-350B) - Protective Treatment

Figure 635 - Sheet 1

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

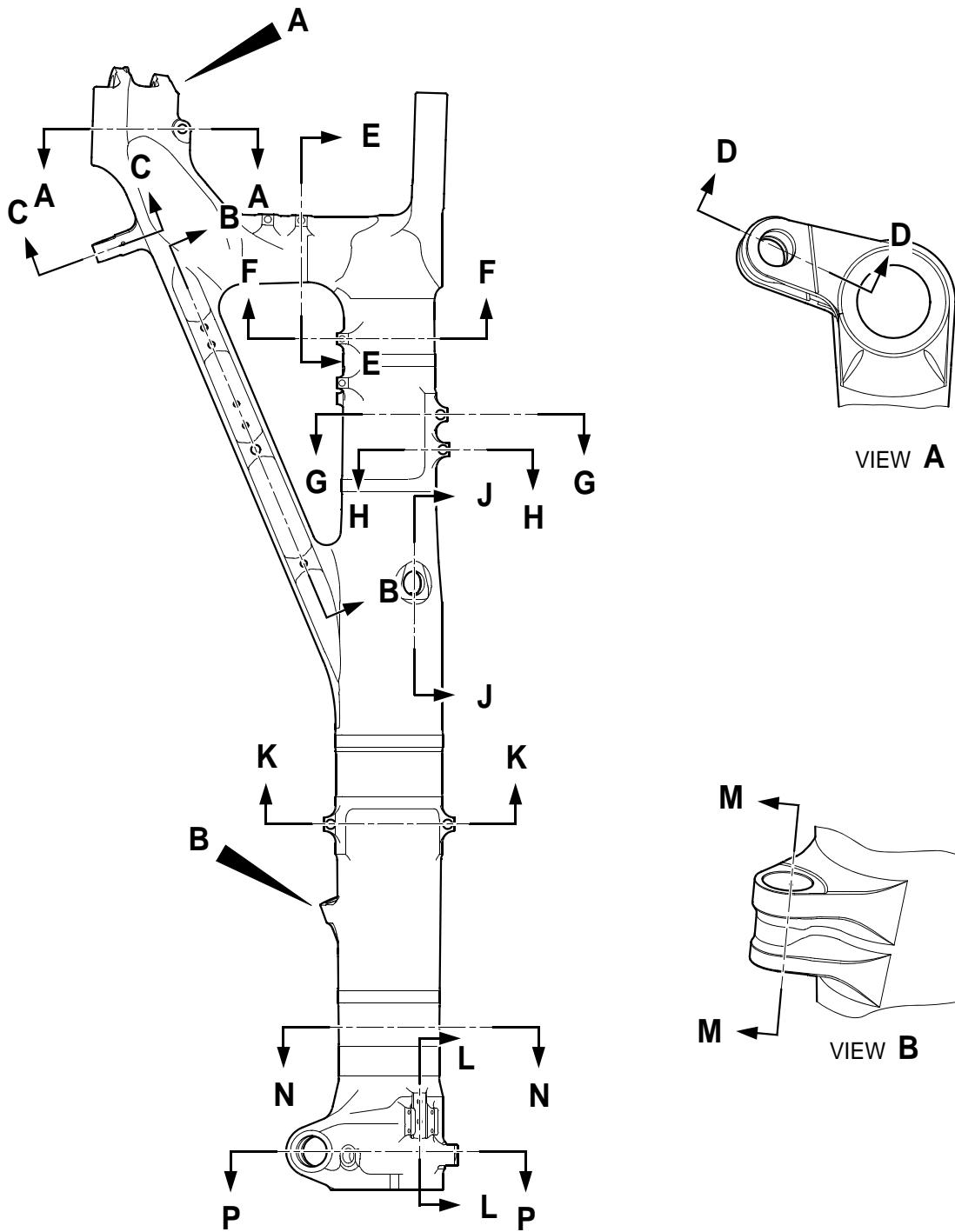


A321-T-321222-0008-00

Transfer Block ([2-340B](#) and [2-350B](#)) - Protective Treatment

Figure 635 - Sheet 2

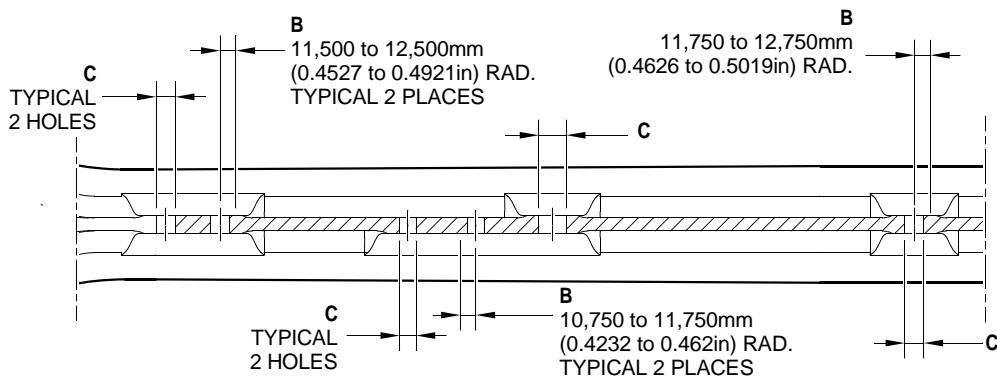
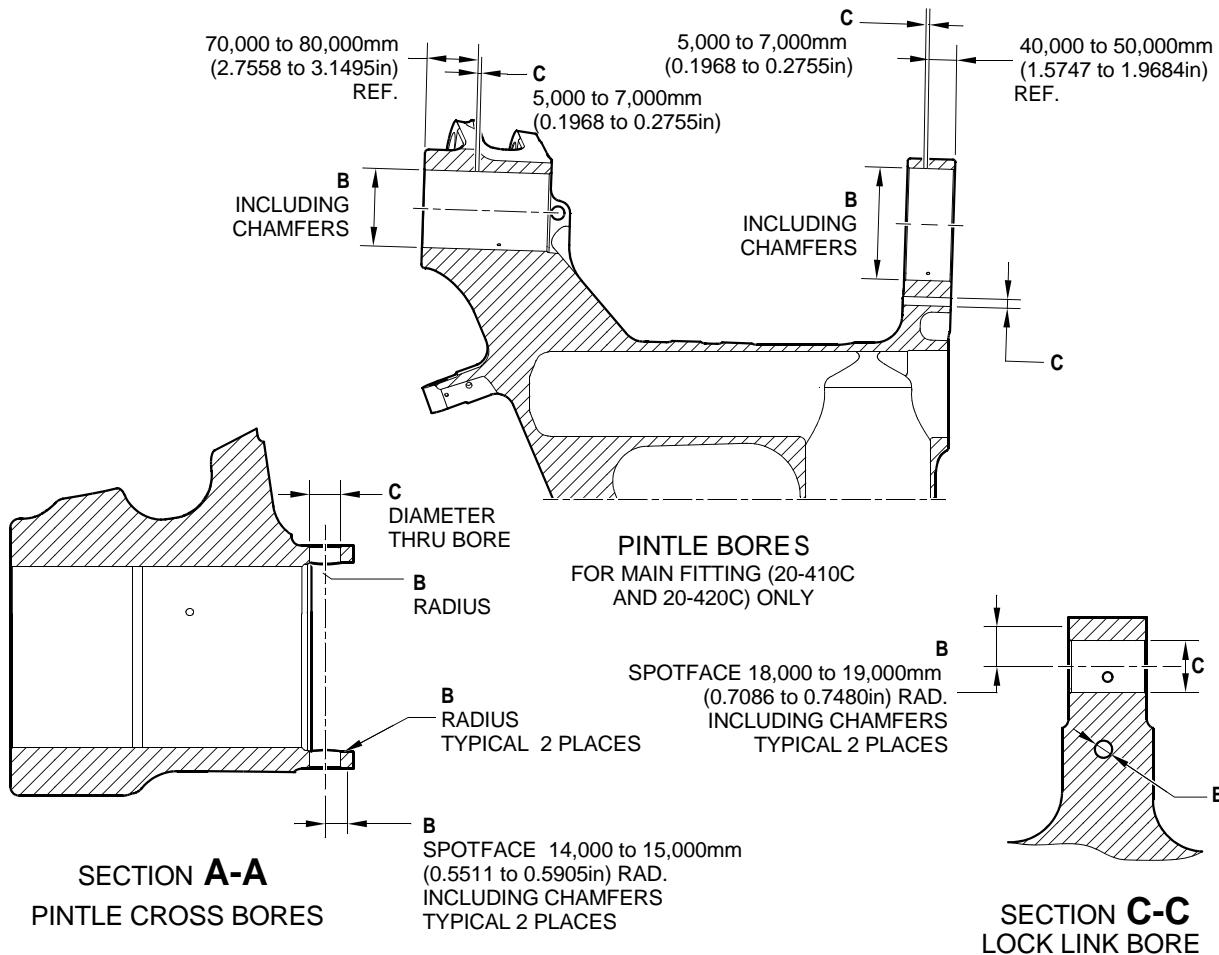
32-12-22Page 662
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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG


A321-T-321222-0020-00

Main Fitting ([20-410B](#), [20-420B](#), [20-410C](#), [20-420C](#), [20-410D](#) and [20-420D](#)) - Protective Treatment
 Figure 636 - Sheet 1

**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

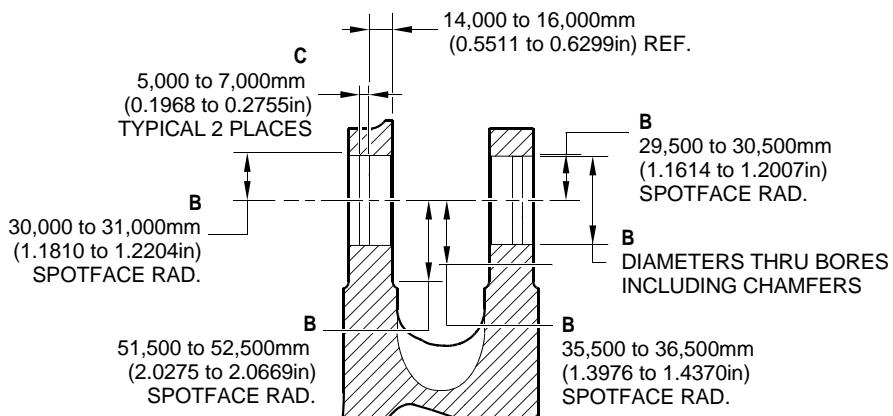


SECTION B-B
DRAG ARM HOLES
FOR MAIN FITTING (20-410C, 20-420C) ONLY

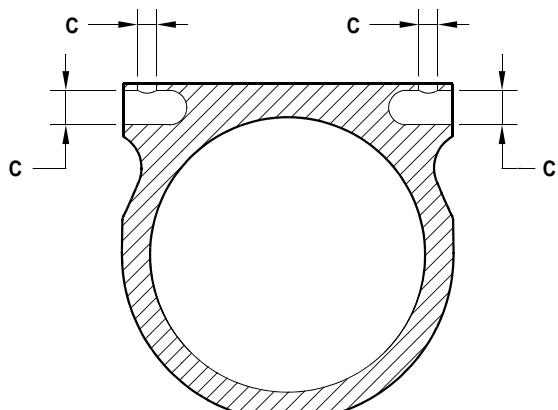
A321-T-321222-0021-02

Main Fitting (20-410B, 20-420B, 20-410C, 20-420C, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 2

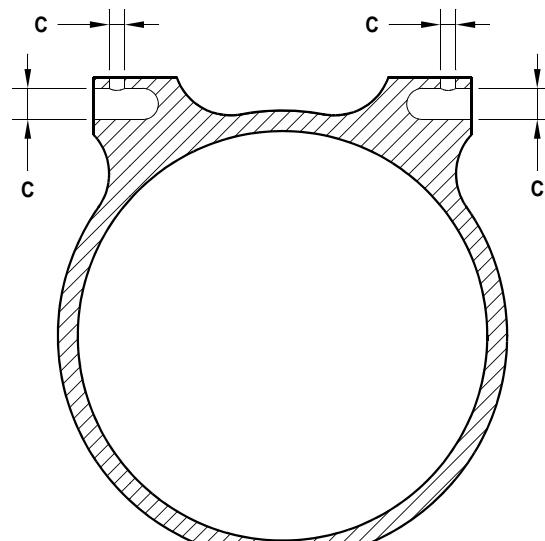
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



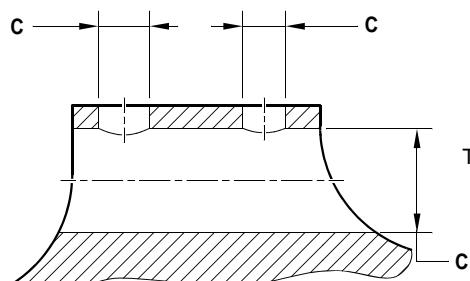
SECTION D-D
RETRACTION BORES
FOR MAIN FITTING (20-410C
AND 20-420C) ONLY



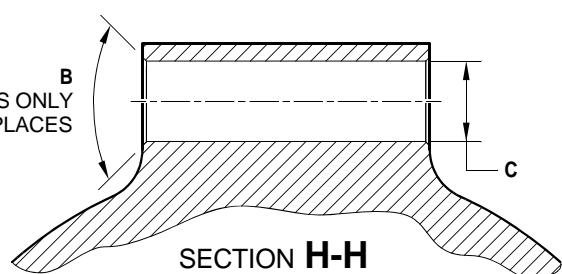
SECTION E-E
TYPICAL 2 TRANSFER BLOCK LUGS



SECTION F-F
TYPICAL 2 BRAKE MANIFOLD LUGS



SECTION G-G
UPPER DOOR LUGS

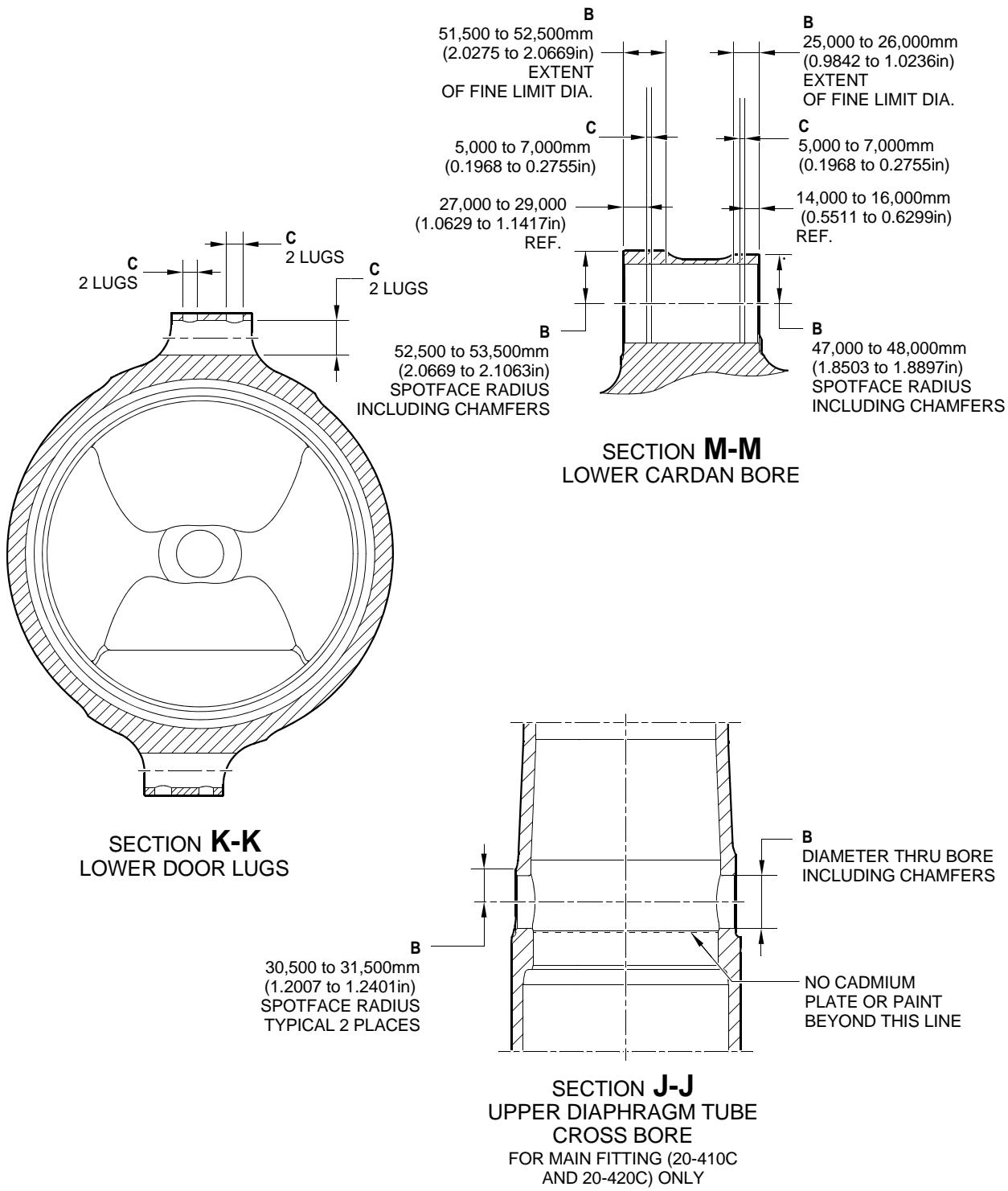


SECTION H-H
TOOLING LUG
FOR MAIN FITTING (20-410C
AND 20-420C) ONLY

A321-T-321222-0022-01

Main Fitting (20-410B, 20-420B, 20-410C, 20-420C, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 3

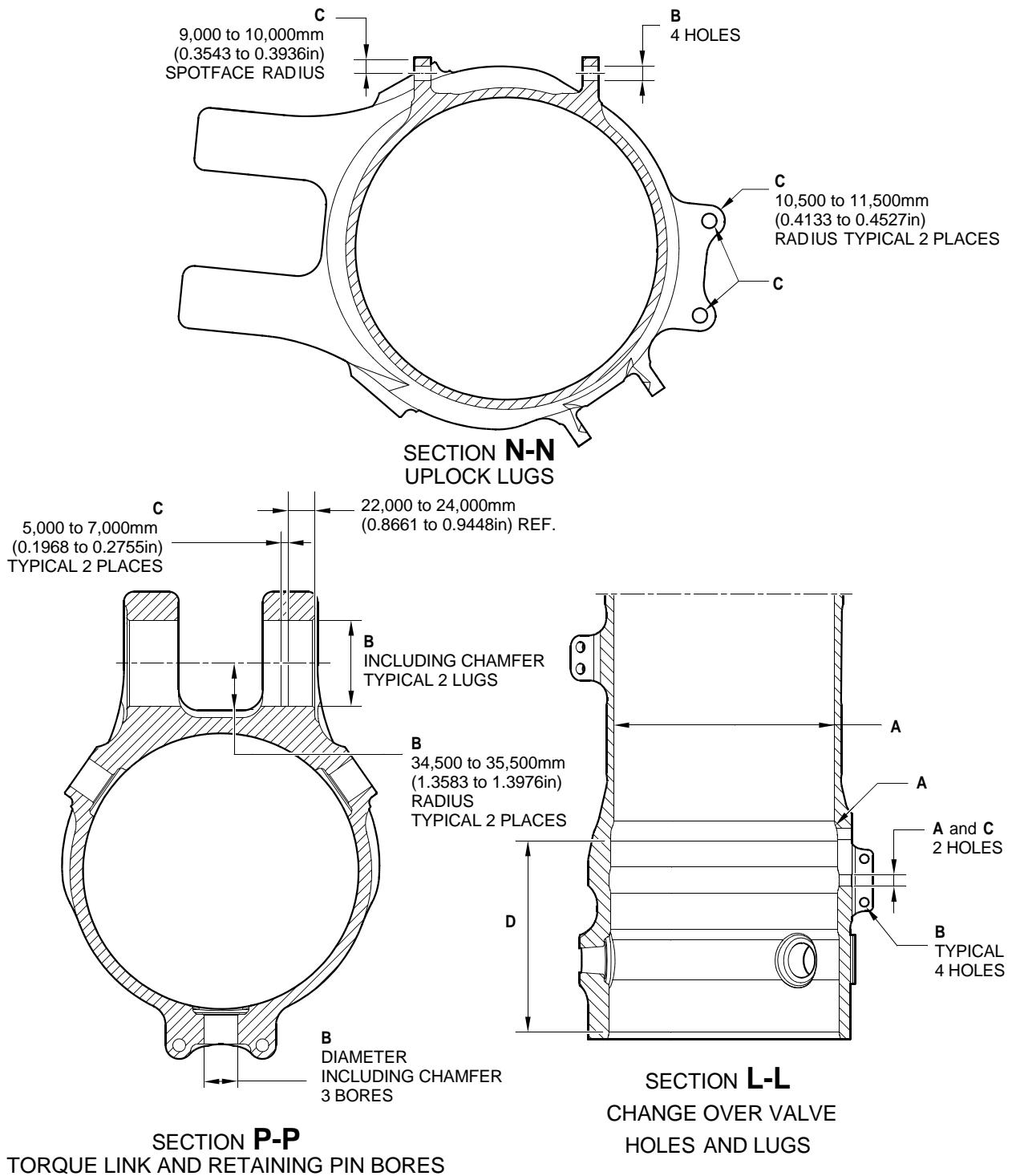
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-321222-0023-01

Main Fitting (20-410B, 20-420B, 20-410C, 20-420C, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 4

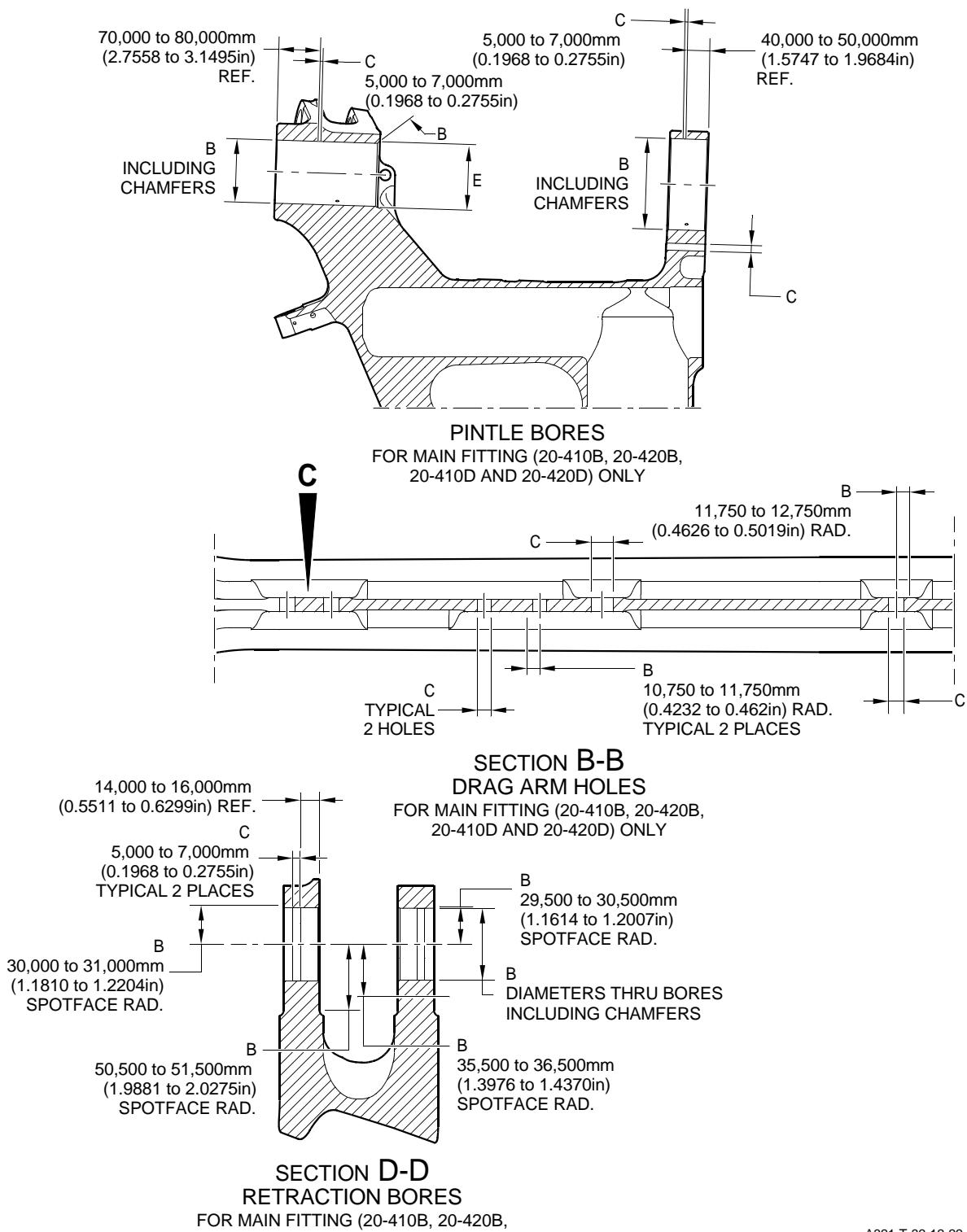
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-321222-0024-01

Main Fitting (20-410B, 20-420B, 20-410C, 20-420C, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 5

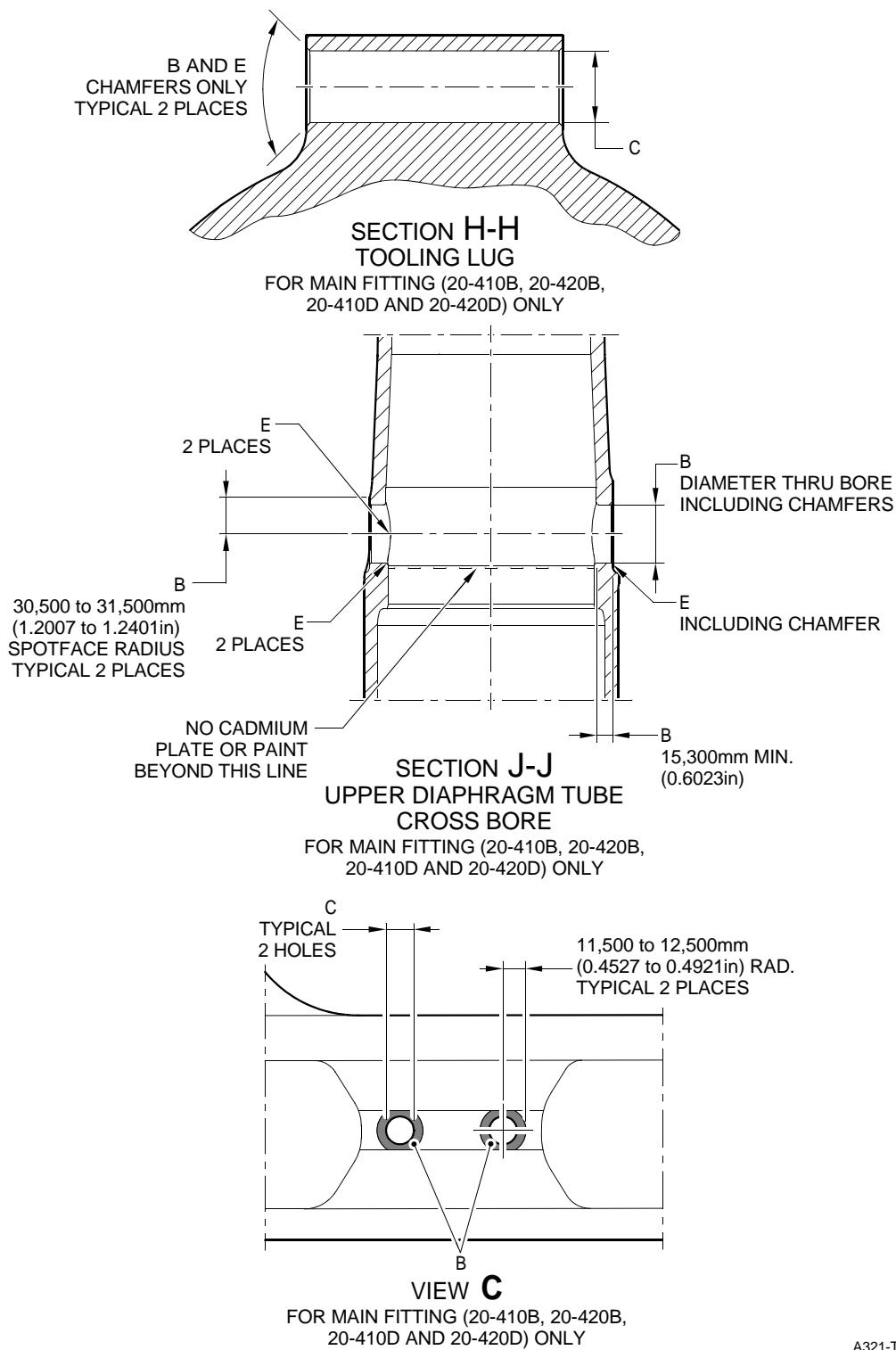
**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**



A321-T-32-12-22-125-1

Main Fitting (20-410B, 20-420B, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 6

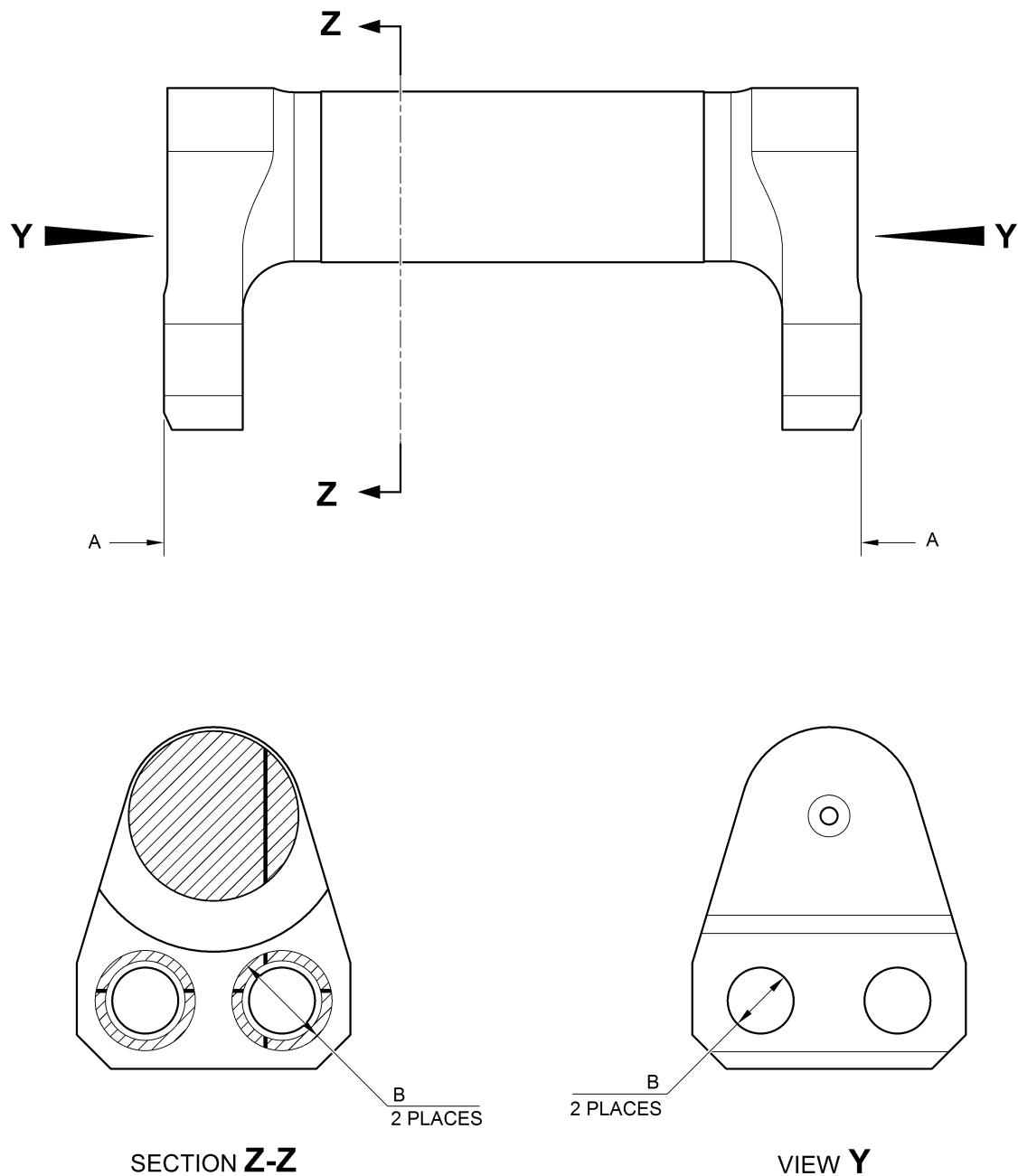
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-32-12-22-126-1

Main Fitting (20-410B, 20-420B, 20-410D and 20-420D) - Protective Treatment
Figure 636 - Sheet 7

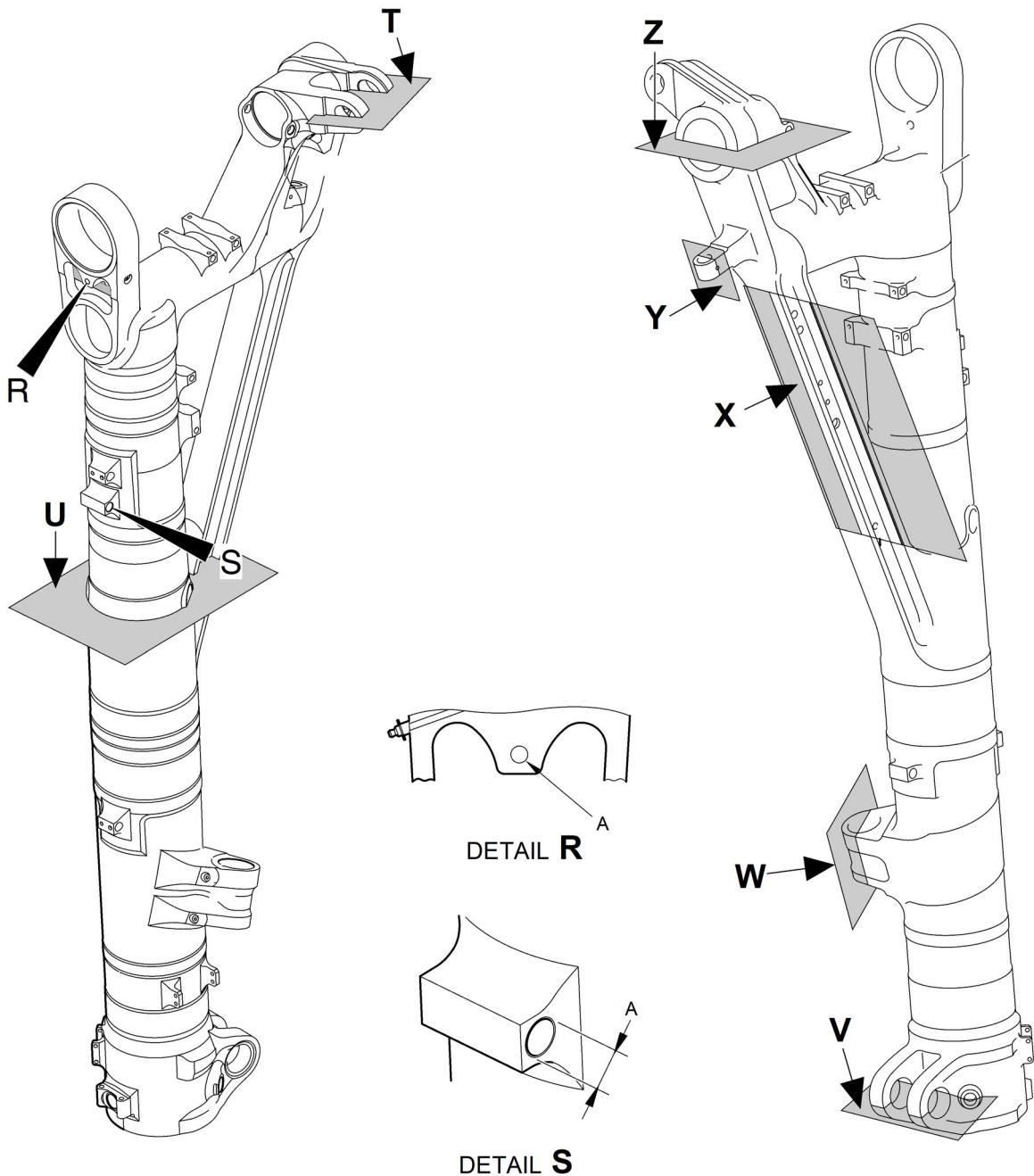
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-321222-0026-00

Uunlock Pin ([5-400A](#)) - Protective Treatment
Figure 637

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

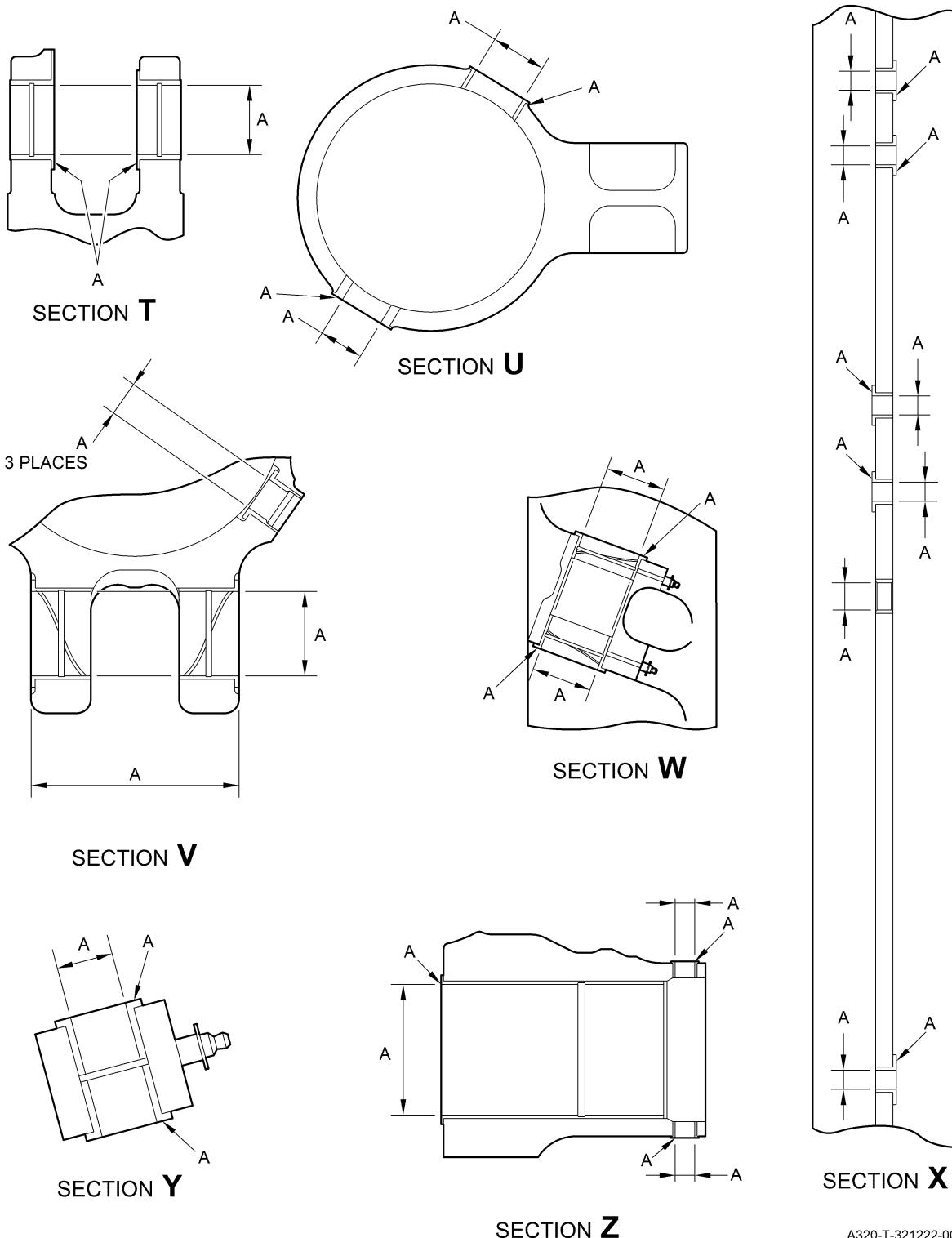


FOR ALL SECTION VIEWS SEE SHEET 2

A320-T-321222-0027

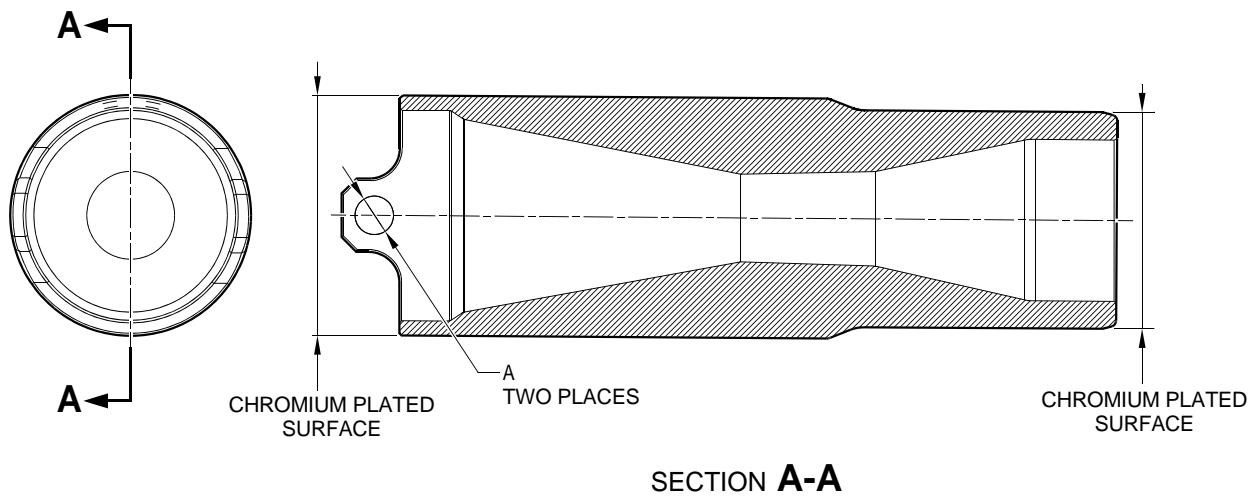
Main Fitting Subassembly (20-90B and 20-100B) - Protective Treatment
Figure 638 - Sheet 1

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A320-T-321222-0028

Main Fitting Subassembly (20-90B and 20-100B) - Protective Treatment
Figure 638 - Sheet 2

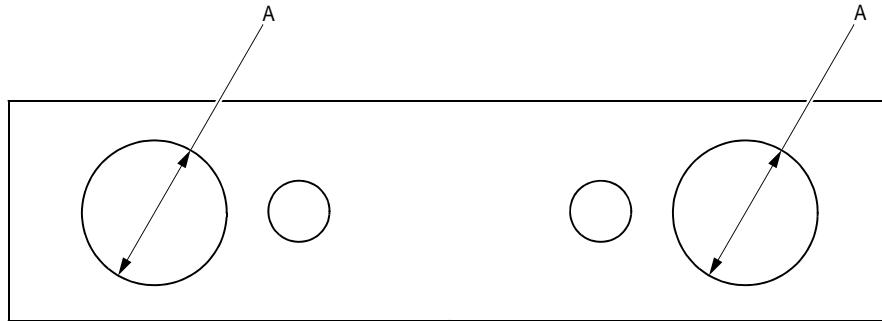
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

A321-T-32-12-22-124-0

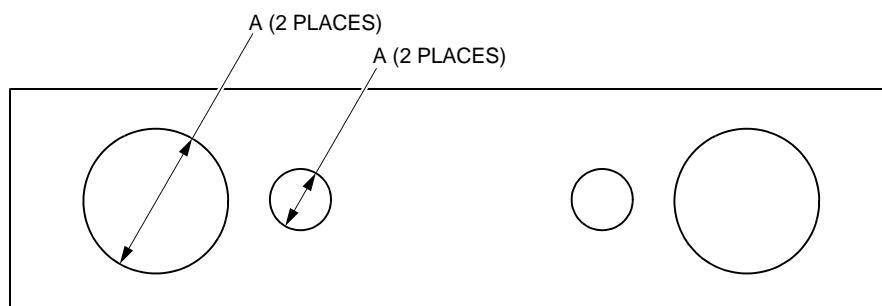
Forward Pintle Pin (1-60A) - Protective Treatment
Figure 639

32-12-22

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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

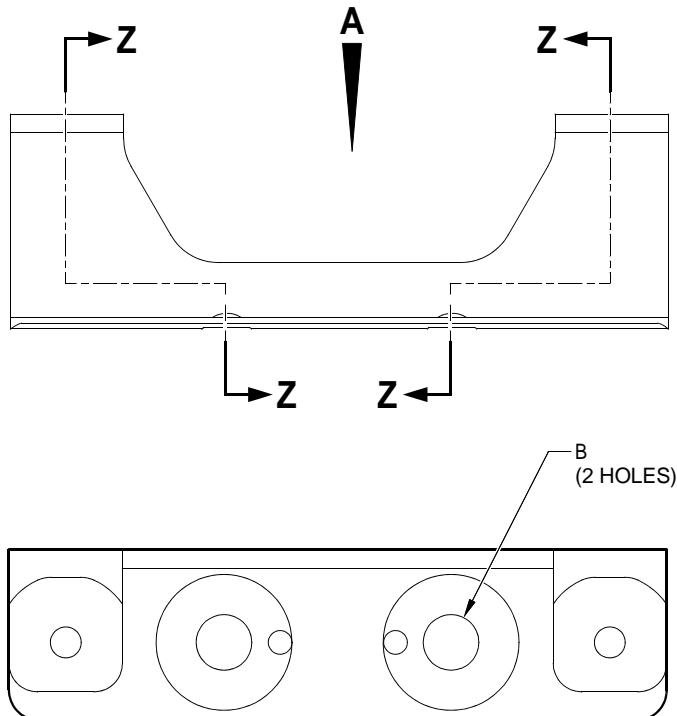
A321-T-32-12-22-131-00

Spacer (4-180) Only - Protective Treatment
Figure 640

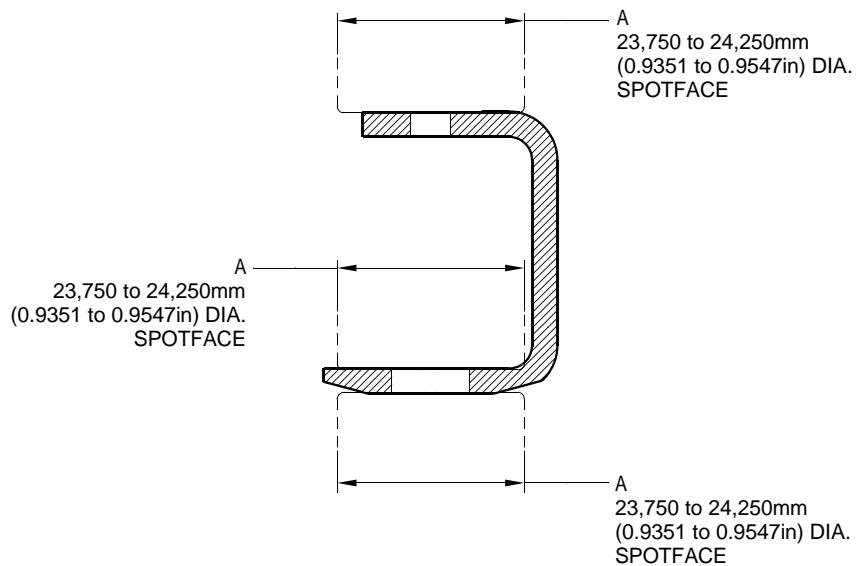
A321-T-32-12-22-132-00

Drag-arm Spacer (4-180A) - Protective Treatment
Figure 641

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



VIEW A

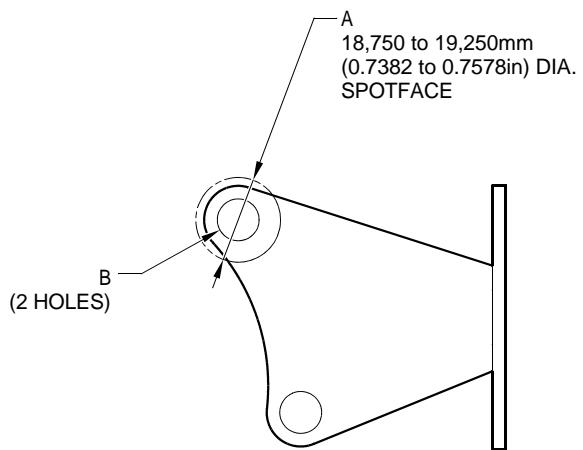
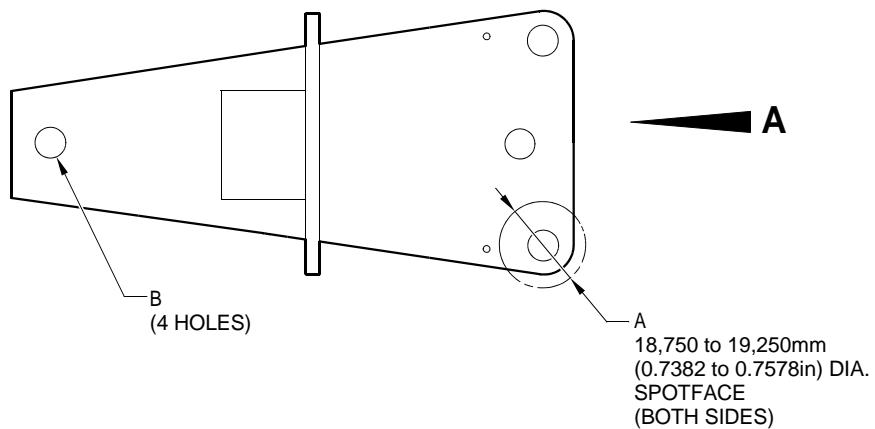


SECTION Z-Z
TYPICAL

A321-T-32-12-22-106-0

Bracket ([4-210](#)) - Protective Treatment
Figure 642

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

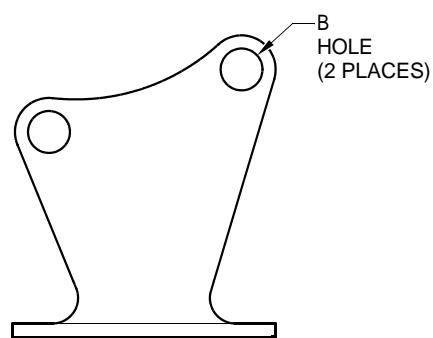
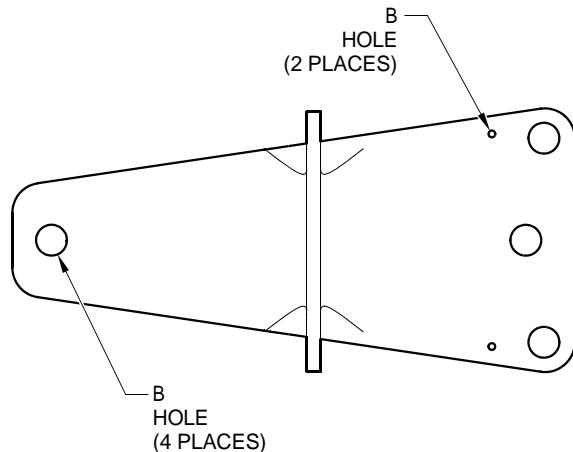
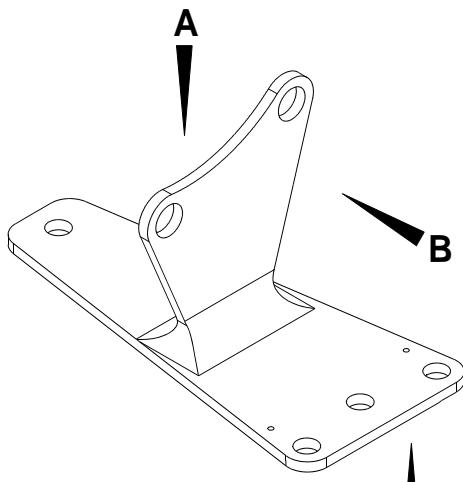


VIEW A

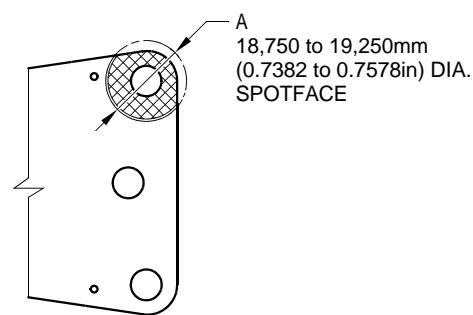
A321-T-32-12-22-103-0

Bracket (9-150) Only - Protective Treatment
Figure 643

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



VIEW B

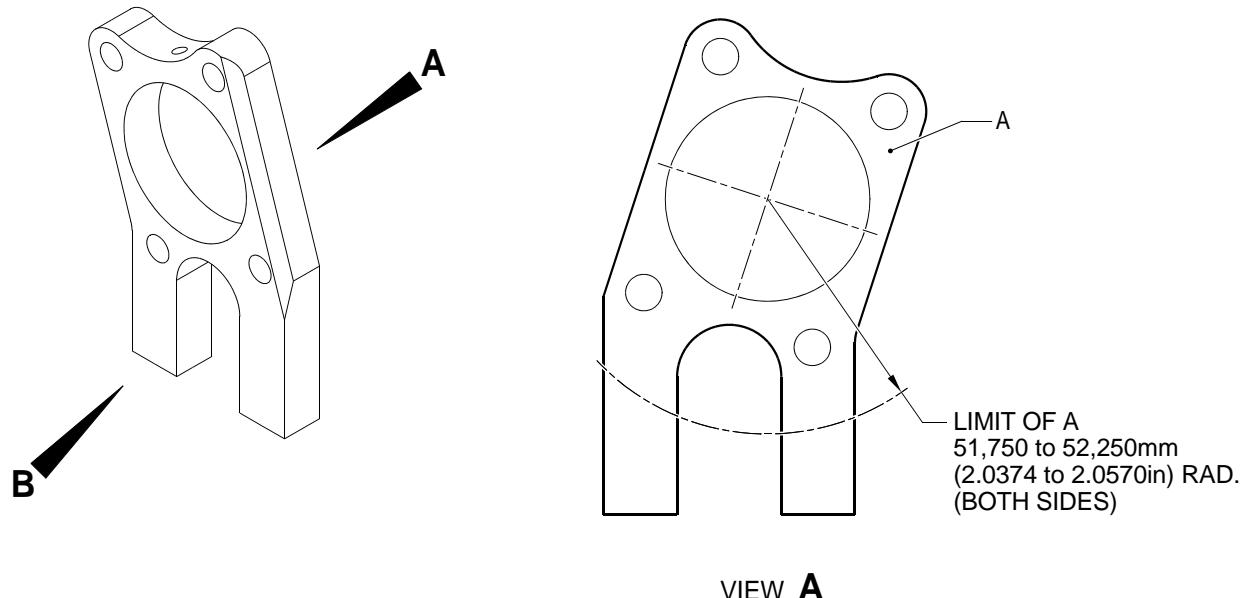


VIEW C

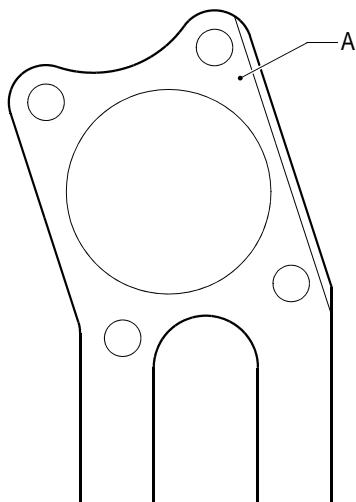
A321-T-32-12-22-105-0

Bracket ([9-150A](#)) - Protective Treatment
Figure 644

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



VIEW A



VIEW B

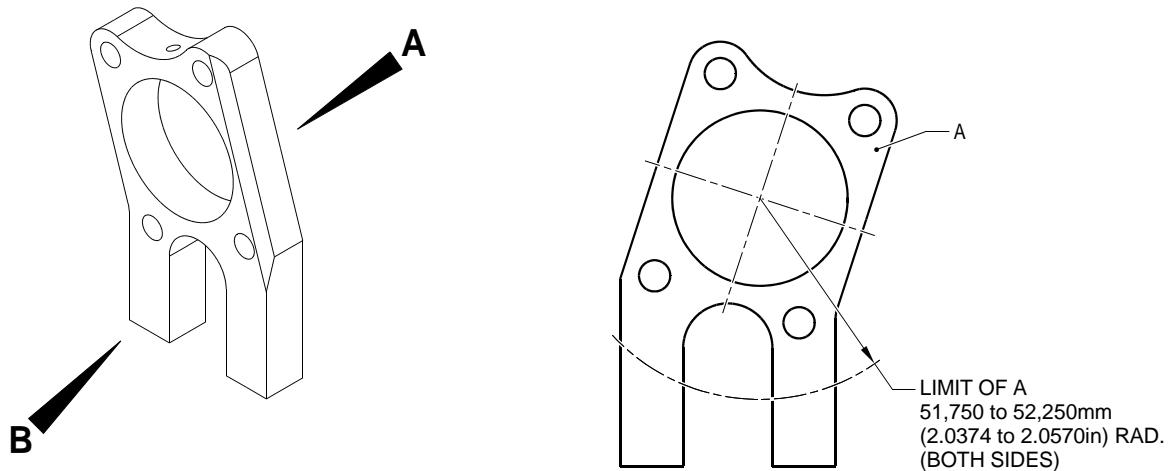
A321-T-32-12-22-102-0

Spacer (9-190) Only - Protective Treatment
Figure 645

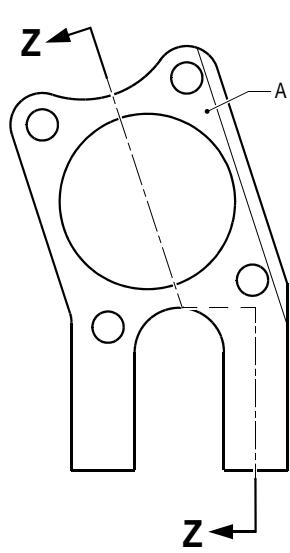
32-12-22

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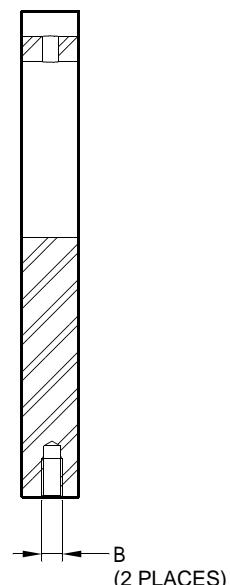
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



VIEW A



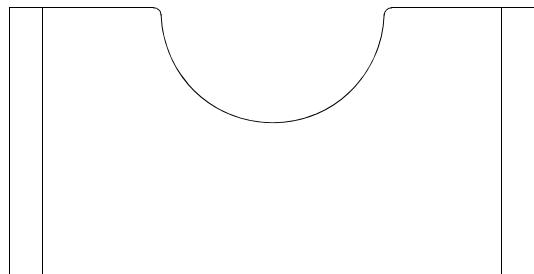
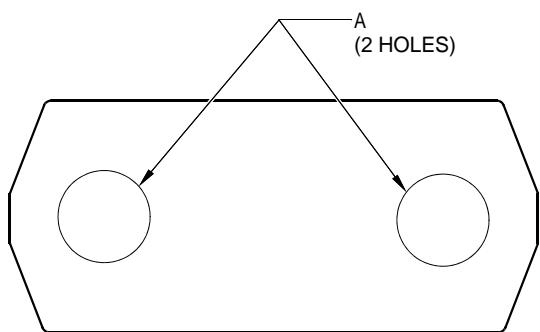
VIEW B



SECTION Z-Z

A321-T-32-12-22-104-0

Spacer ([9-190A](#)) - Protective Treatment
Figure 646

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG
A

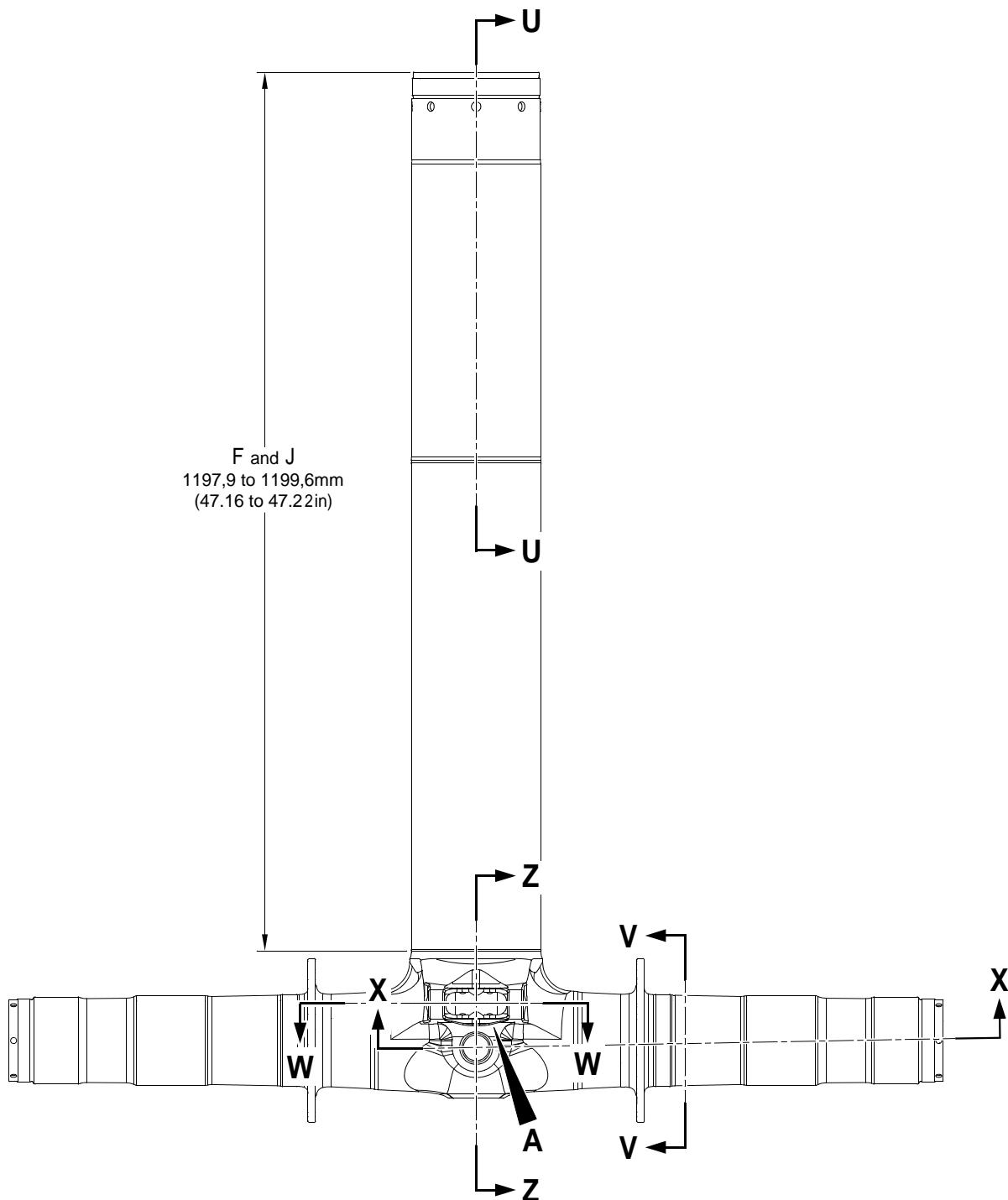
VIEW A

A321-T-32-12-22-101-0

Spacer (11-30) - Protective Treatment
Figure 647

32-12-22

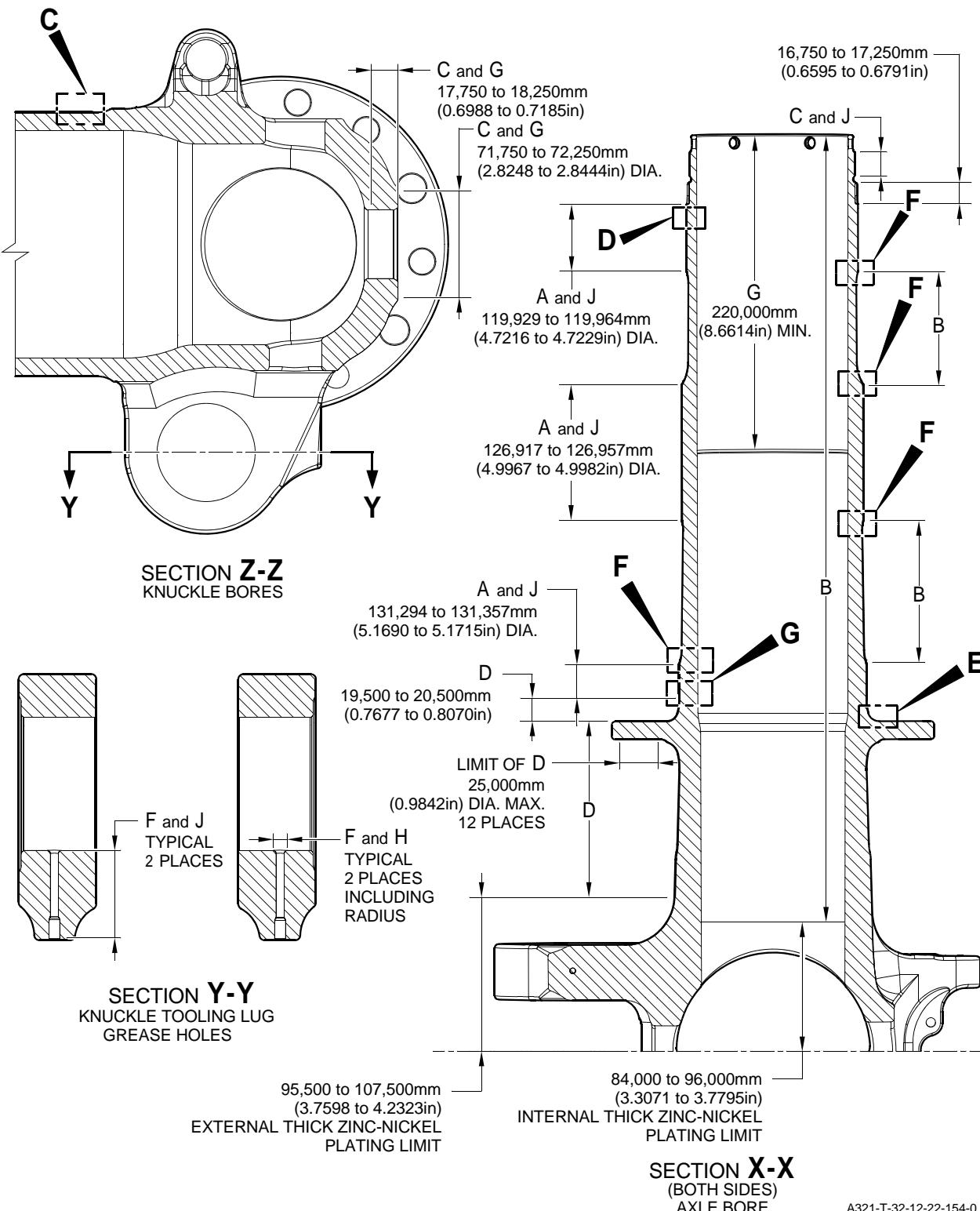
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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG


A321-T-32-12-22-153-0

 Sliding tube ([18-80D](#), [18-80E](#), [18-80F](#) and [18-80G](#)) - Protective Treatment
 Figure 648 - Sheet 1

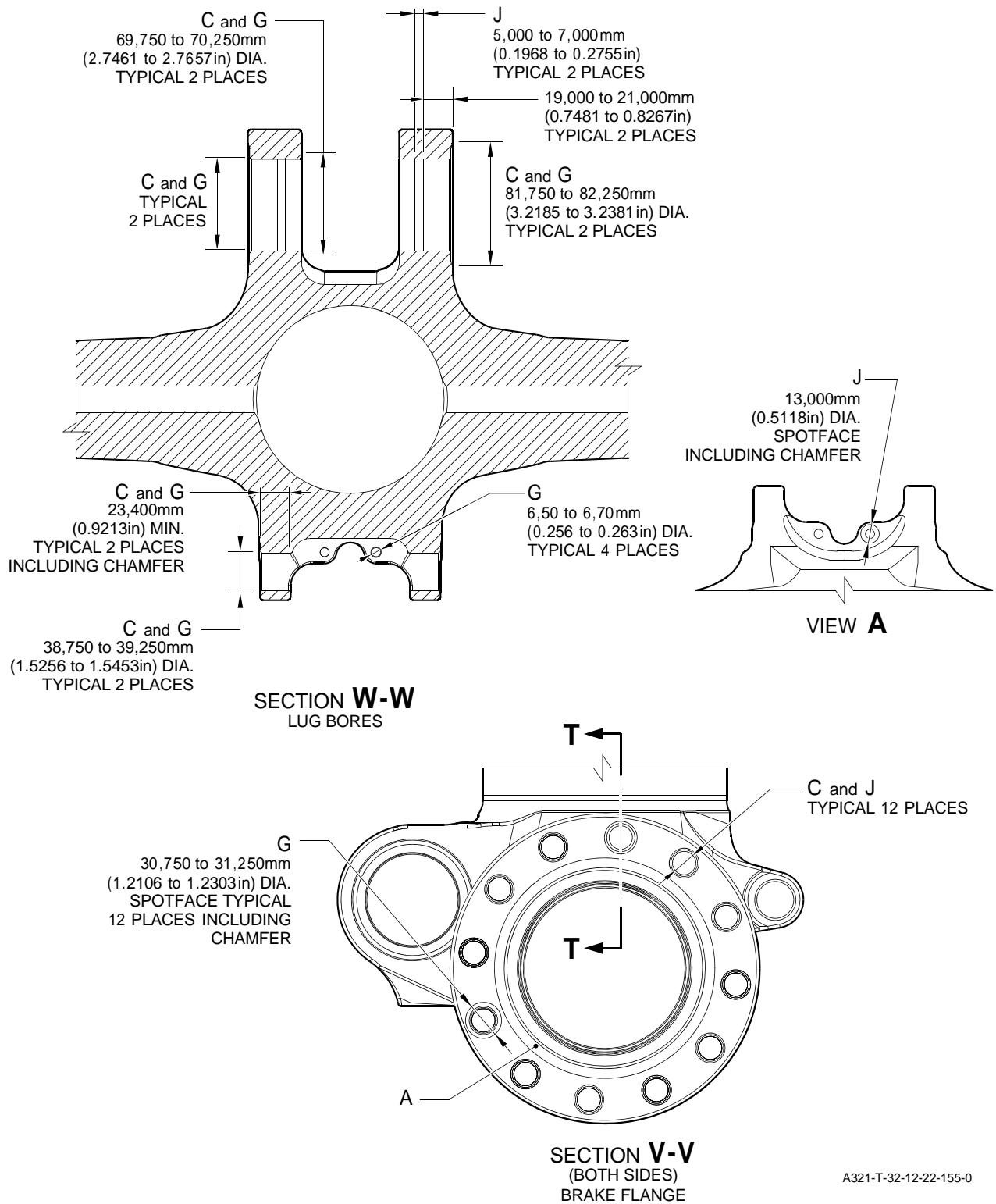
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-32-12-22-154-0

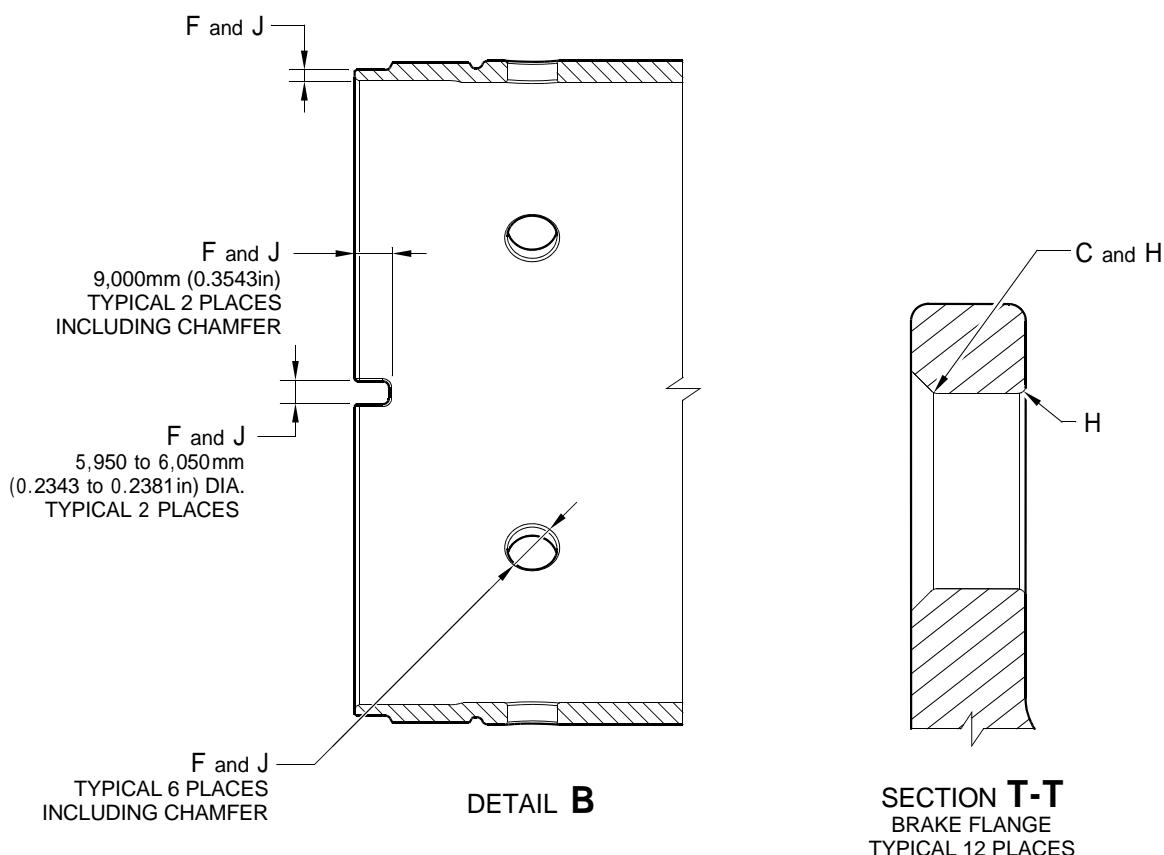
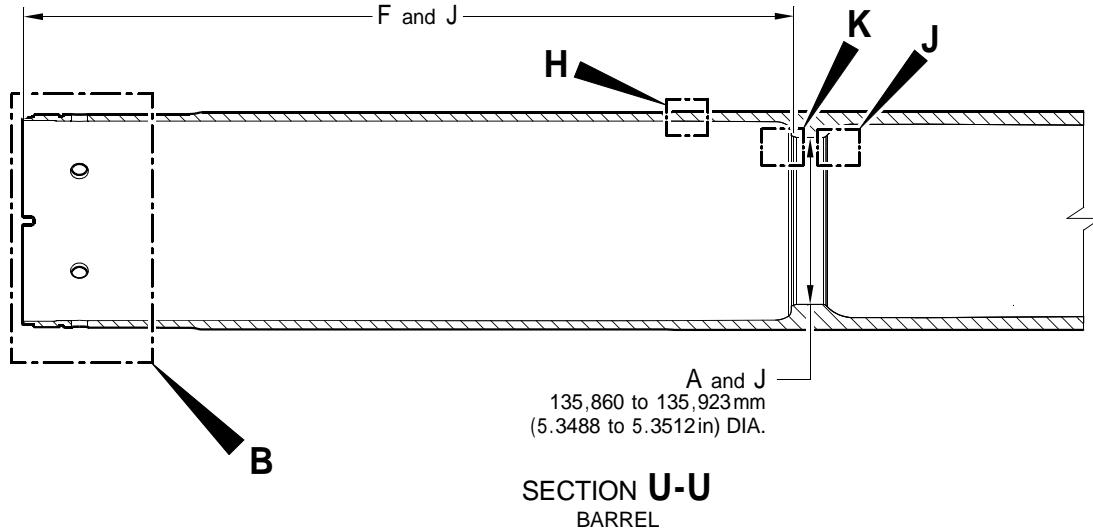
Sliding tube (18-80D, 18-80E, 18-80F and 18-80G) - Protective Treatment
Figure 648 - Sheet 2

**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**



Sliding tube (18-80D, 18-80E, 18-80F and 18-80G) - Protective Treatment
Figure 648 - Sheet 3

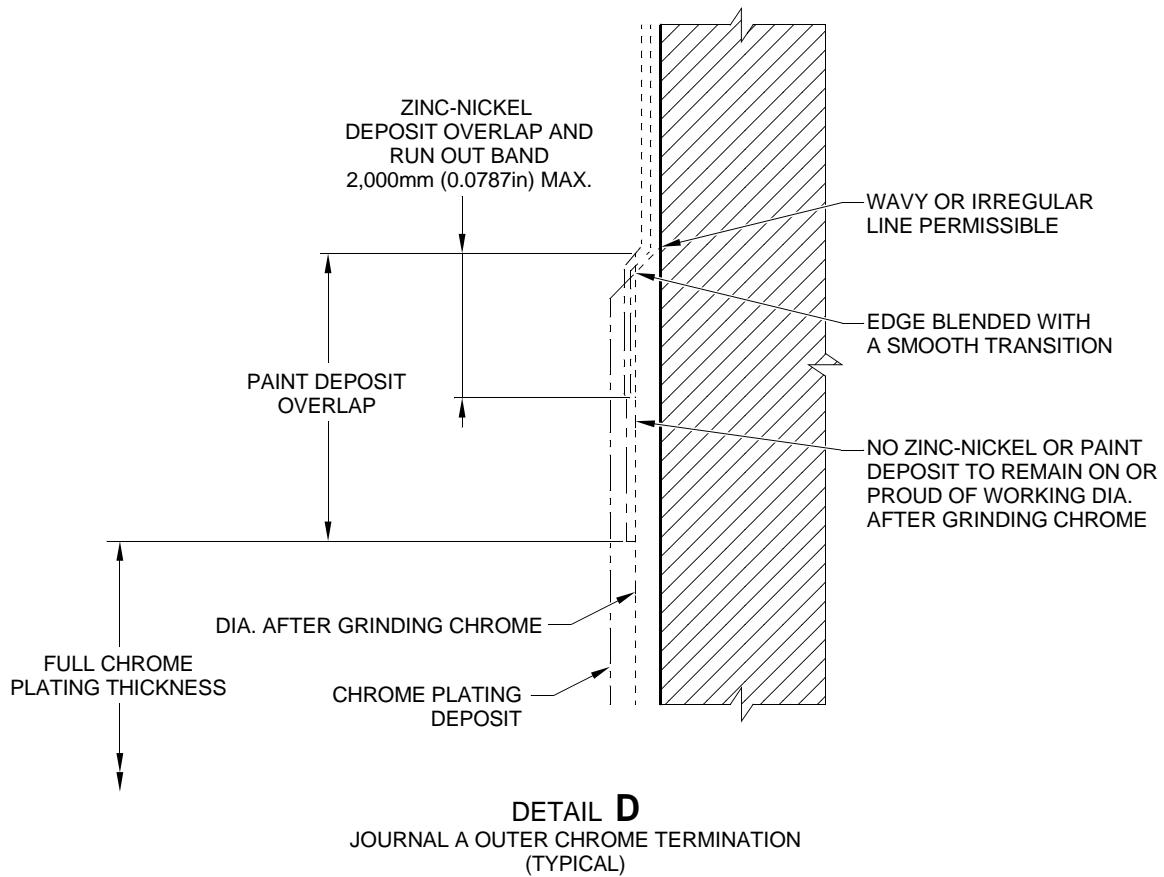
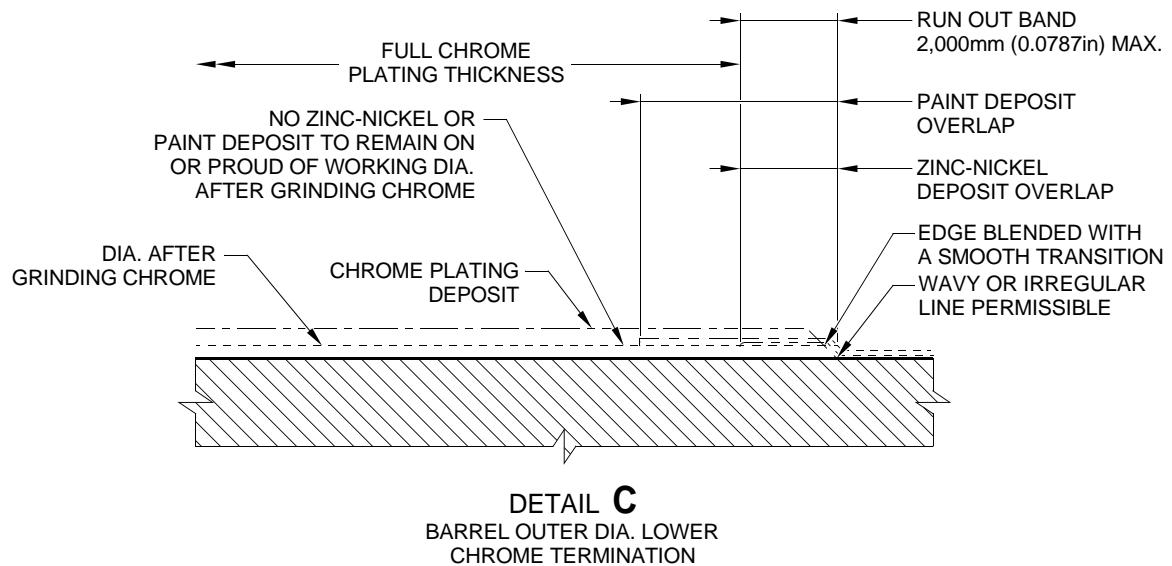
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-32-12-22-156-0

Sliding tube (18-80D, 18-80E, 18-80F and 18-80G) - Protective Treatment
Figure 648 - Sheet 4

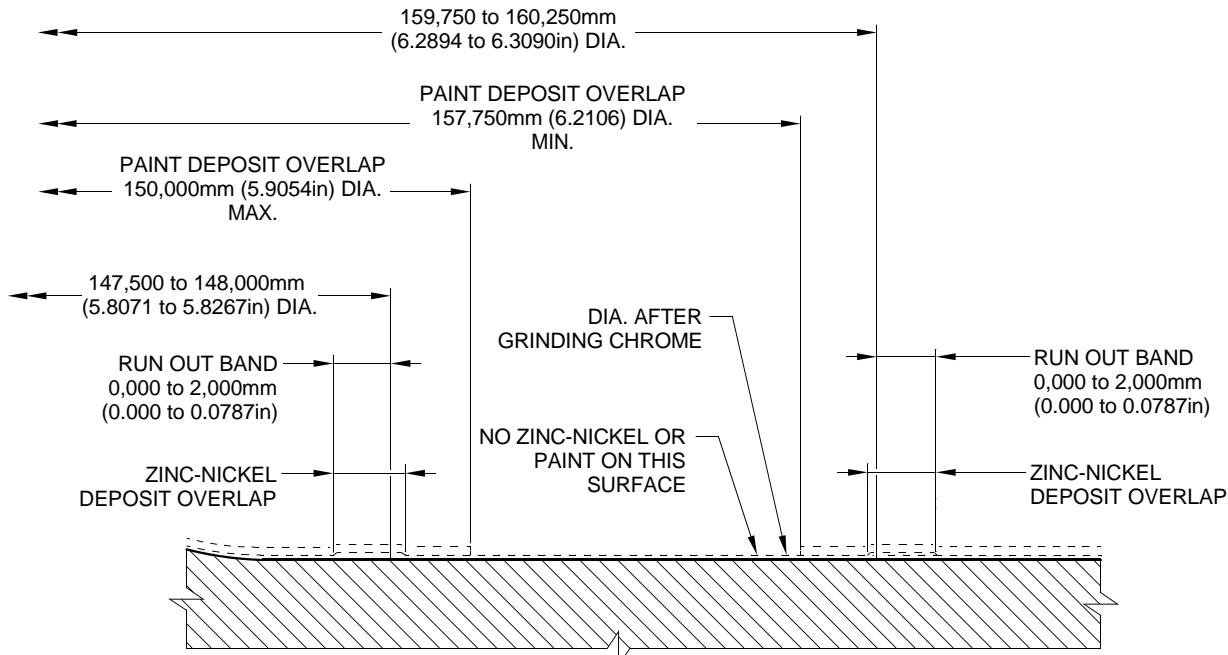
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



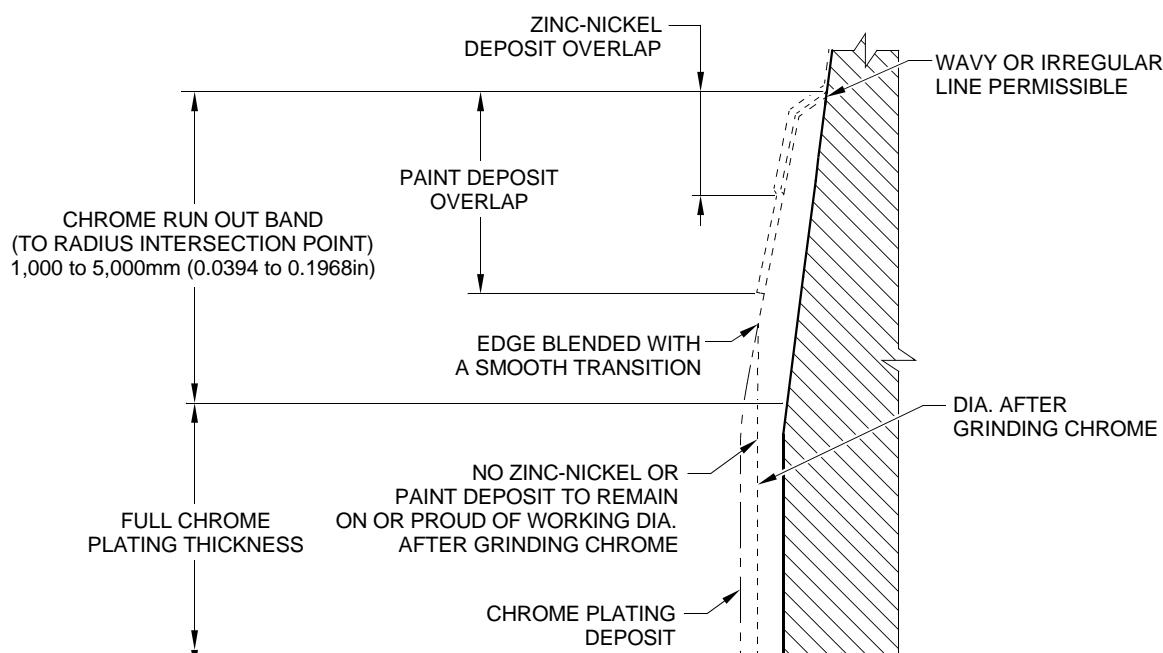
A321-T-32-12-22-157-0

Sliding tube (18-80D, 18-80E, 18-80F and 18-80G) - Protective Treatment
Figure 648 - Sheet 5

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



DETAIL E
BREAK FLANGE FACE CHROME TERMINATION
(TYPICAL)

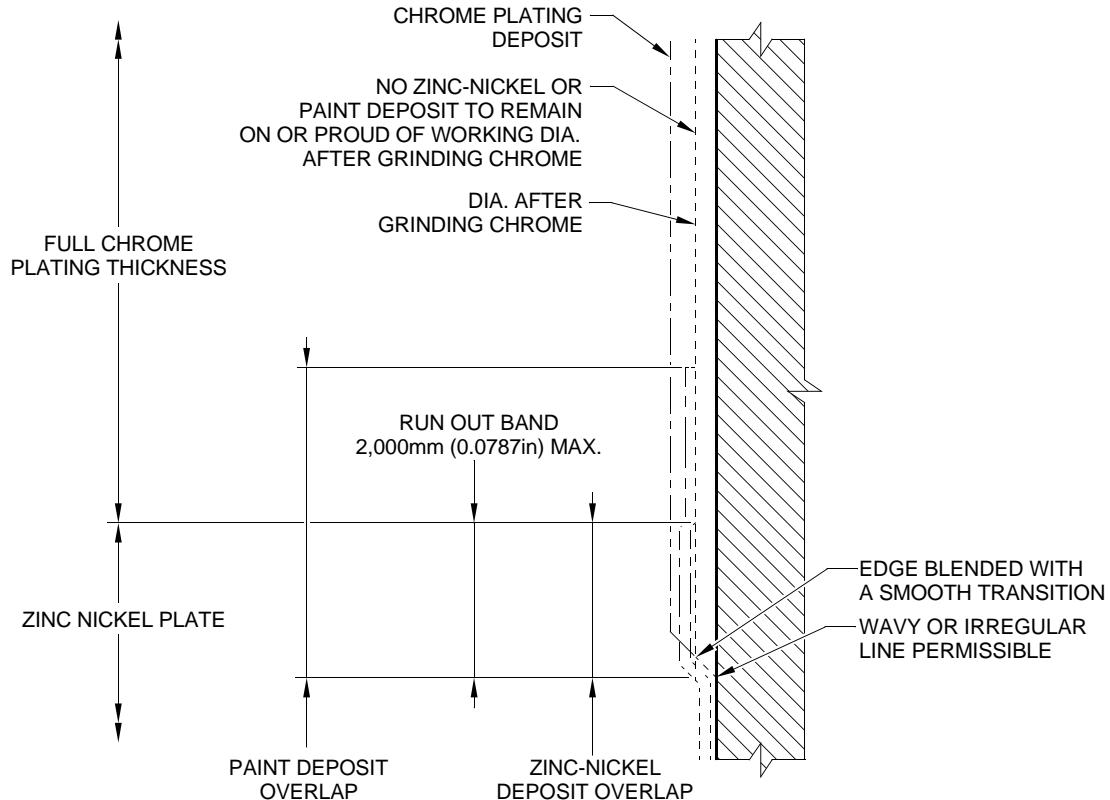


DETAIL F
JOURNAL A,B,C CHROME TERMINATION
(TYPICAL)

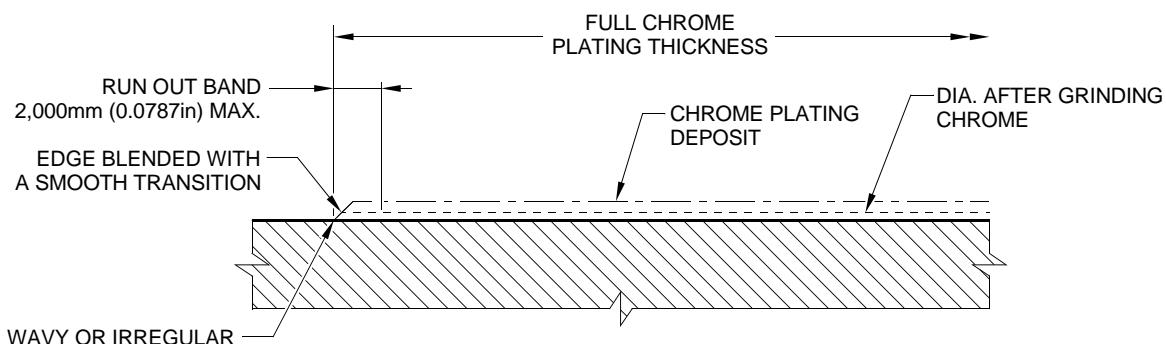
A321-T-32-12-22-158-0

Sliding tube ([18-80D](#), [18-80E](#), [18-80F](#) and [18-80G](#)) - Protective Treatment
Figure 648 - Sheet 6

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



DETAIL G
JOURNAL C INNER CHROME TERMINATION
(TYPICAL)

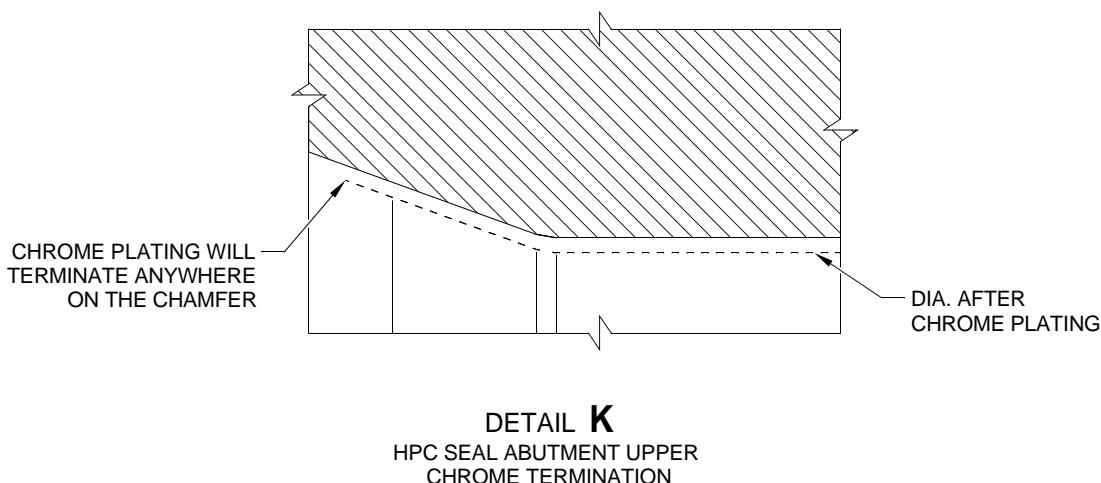
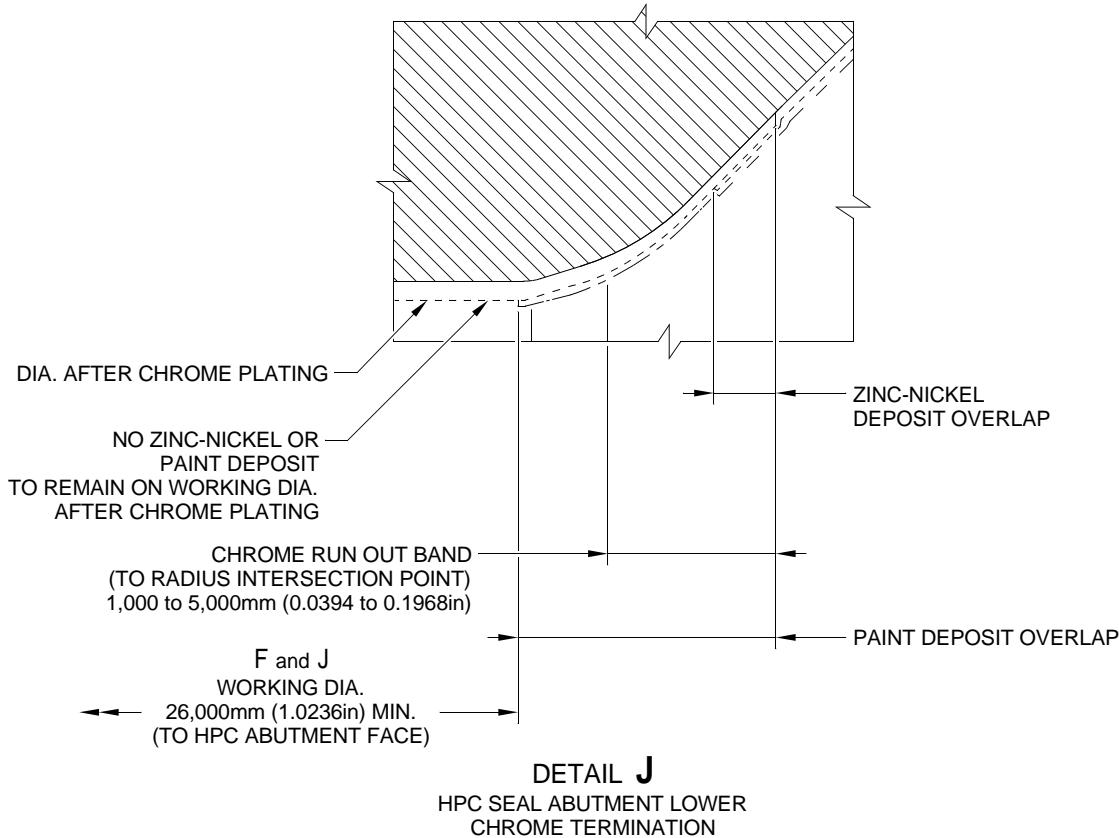


DETAIL H
BARREL OUTER DIA. UPPER
CHROME TERMINATION

A321-T-32-12-22-159-0

Sliding tube (18-80D, 18-80E, 18-80F and 18-80G) - Protective Treatment
Figure 648 - Sheet 7

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



A321-T-32-12-22-160-0

Sliding tube ([18-80D](#), [18-80E](#), [18-80F](#) and [18-80G](#)) - Protective Treatment
Figure 648 - Sheet 8

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG

 4. Approved Repairs

- A. Refer to Figures 649 to 657 and Table 602.

 Approved Repairs
 Table 602

Repair No.	Messier-Dowty Limited or Safran Landing Systems Repair No.	Applicable Part
1-1	450237790	Lower bearing subassembly (16-110)
1-2	450237610	Lower bearing subassembly (16-110)
2-1	450217145	Pin (13-190 and 13-190A)
3-1	450217385	Pivot pin (6-90)
4-1	450237490	Uplock pin (5-400)
5-1	450217170	Pin (3-50)
6-1	450258420	Pin (10-80)
6-2	450258260	Pin (10-80)
6-3	450266211	Pin (10-80)
7-1	450258410	Pin (11-130)
7-2	450258430	Pin (11-130)
8-1	450217195	Bracket (5-300)
8-2	450217205	Bracket (5-300)
9-1	450258460	Sliding tube (18-80 and 18-80A)
9-2	450266100	Sliding tube (18-80 and 18-80A)
9-3	450258400 (Superseded)	Sliding tube (18-80)
9-4	450266290	Sliding tube (18-80 and 18-80A)
9-5	450237720	Sliding tube (18-80 and 18-80A)
9-6	450258470	Sliding tube (18-80 and 18-80A)
9-7	450265140	Sliding tube (18-80 and 18-80A)
9-8	450266310	Sliding tube (18-80 and 18-80A)
9-9	450265180	Sliding tube (18-80 and 18-80A)
9-10	450258401	Sliding tube (18-80 and 18-80A)
9-11	450266295	Sliding tube (18-80 and 18-80A)
10-1	450266210	Pin (9-70)
11-1	450266060	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-2	450266070	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-3	450266020	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG
 Approved Repairs
 Table 602 (Continued)

Repair No.	Messier-Dowty Limited or Safran Landing Systems Repair No.	Applicable Part
11-4	450266075	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-5	450266080	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-6	450266085	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-7	450266045	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-8	450266010	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-9	450266030	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-10	450267270 (Withdrawn)	Main Fitting (20-410 and 20-420 Only)
11-11	450266015	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-12	450266035	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-13	450266050	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-14	450266110	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-15	450267230	Main Fitting (20-410 and 20-420 Only)
11-16	450237690	Main Fitting (20-410 and 20-420 Only)
11-17	450237695	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-18	450217235	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-19	450258210	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-20	450265100 (Withdrawn)	Main Fitting (20-410 and 20-420 Only)
11-21	450258230	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-22	450266450	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-23	450266400	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-24	450266390	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

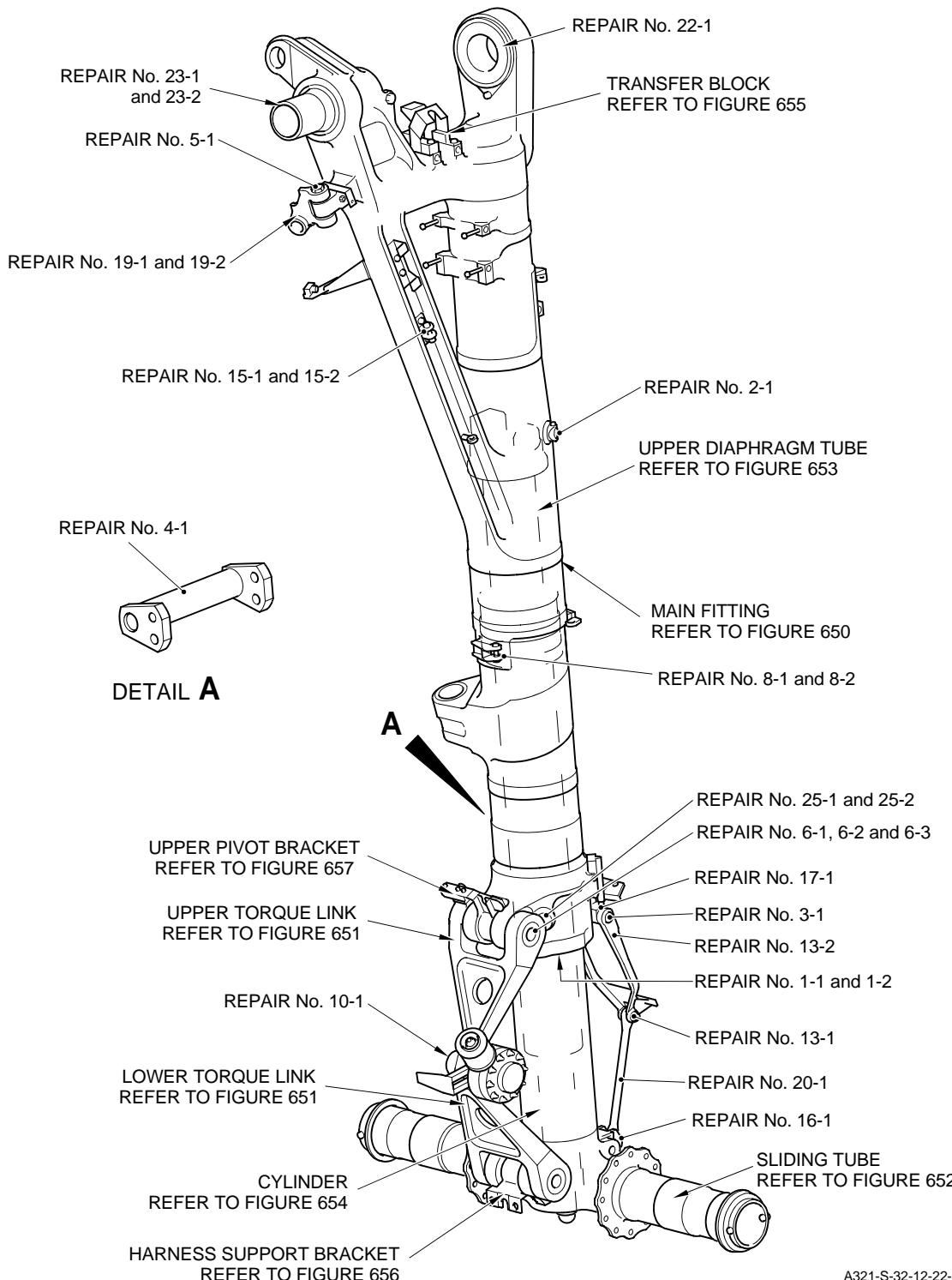
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
 MAIN LANDING GEAR LEG
 Approved Repairs
 Table 602 (Continued)

Repair No.	Messier-Dowty Limited or Safran Landing Systems Repair No.	Applicable Part
11-25	450266395	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-26	450267370	Main Fitting (20-410 and 20-420 Only)
11-27	450266040	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-28	450266405	Main Fitting (20-410, 20-410A, 20-420 and 20-420A)
11-29	450267275	Main Fitting (20-410A and 20-420A Only)
11-30	450267385	Main Fitting (20-410A and 20-420A Only)
11-31	64-4505236-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-32	64-4505233-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-33	64-4505109-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-34	64-4505112-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-35	64-4505111-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-36	64-4505234-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
11-37	64-4505126-00	Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)
12-1	450266350	Lower Torque Link (11-240)
12-2	450266340	Upper Torque Link (10-260)
12-3	450266345	Upper Torque Link (10-260)
12-4	450266355	Lower Torque Link (11-240)
12-5	450266525	Upper Torque Link (10-260)
13-1	450266215	Upper Slave Link (6-230 and 6-230A)

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 MAIN LANDING GEAR LEG
 Approved Repairs
 Table 602 (Continued)

Repair No.	Messier-Dowty Limited or Safran Landing Systems Repair No.	Applicable Part
13-2	450266216	Upper Slave Link (6-230 and 6-230A)
14-1	450266255	Upper Diaphragm Tube (15-390)
14-2	450266285	Upper Diaphragm Tube (15-390)
14-3	450266430	Upper Diaphragm Tube (15-390)
14-4	64-4505141-00	Upper Diaphragm Tube (15-390A)
15-1	450266095	Bracket (4-360)
15-2	450266096	Bracket (4-360)
16-1	450266360	Bracket (8-170)
17-1	450266365	Pivot Bracket (7-140)
18-1	450237795	Cylinder (17-230)
18-2	450258320	Cylinder (17-230)
18-3	450237480 (Withdrawn)	Cylinder (17-230)
18-4	450265290	Cylinder (17-230)
18-5	450266505	Cylinder (17-230)
18-6	450266425	Cylinder (17-230)
18-7	450267365	Cylinder (17-230)
18-8	64-4505242-00	Cylinder (17-230A)
19-1	450266104	Lock Stay Cardan (3-170)
19-2	450266105	Lock Stay Cardan (3-170)
20-1	450266270	Lower Slave Link (6-310)
21-1	450266410	Transfer Block (2-340) Only
21-2	450266415	Transfer Block (2-340) Only
21-3	450266420	Transfer Block (2-340) Only
21-4	450266411	Transfer Block (2-350) Only
21-5	450266416	Transfer Block (2-350) Only
21-6	450266421	Transfer Block (2-350) Only
22-1	450266520	Spherical Bearing (19-50)
23-1	450217290	Pintle Pin (1-60)
23-2	450258270	Pintle Pin (1-60)
24-1	450265230	Harness Support Bracket (11-140)
25-1	450266201	Retaining Pin (13-10A)
25-2	450266200	Retaining Pin (13-10)
26-1	450265250	Upper Pivot Bracket (10-160)

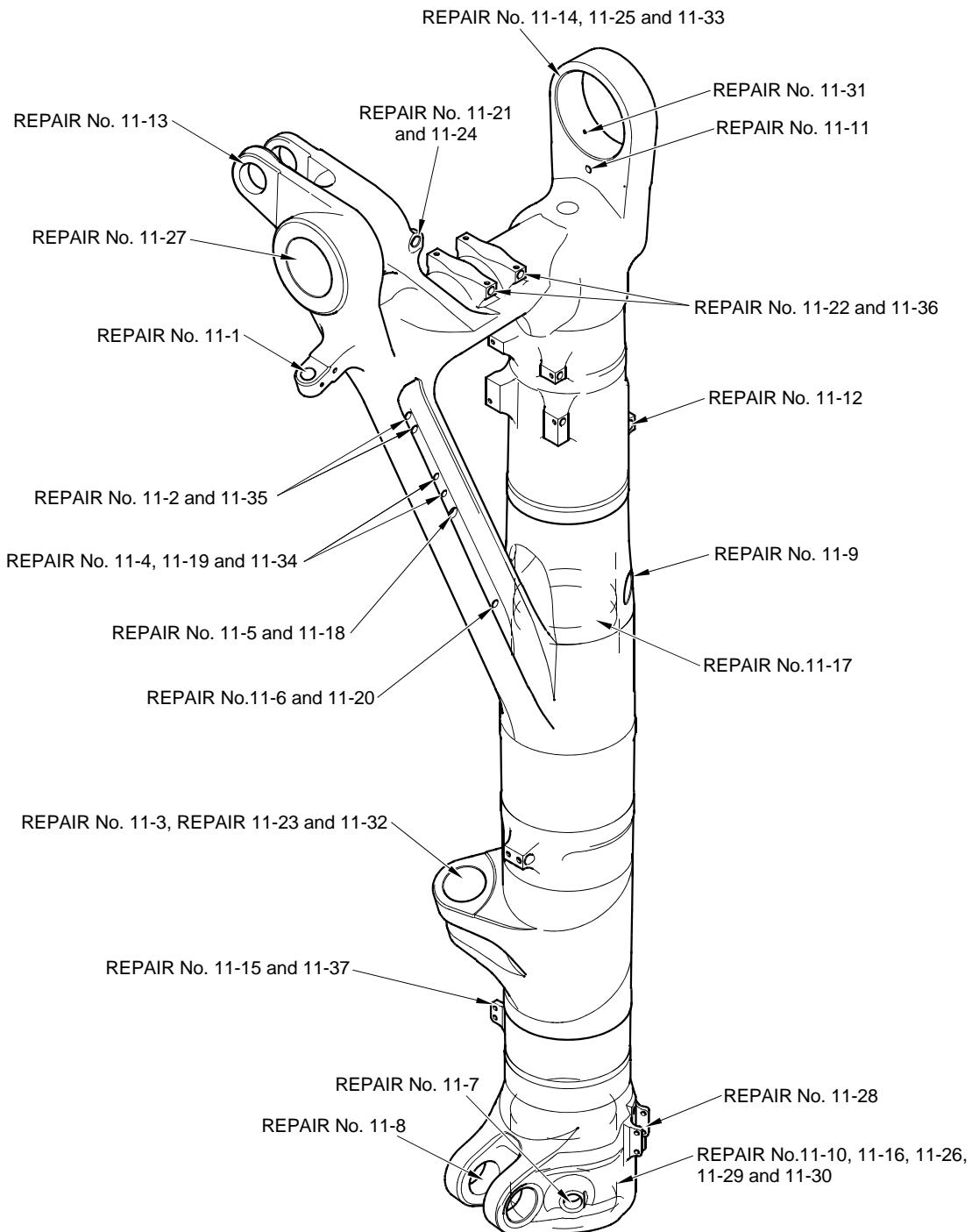
**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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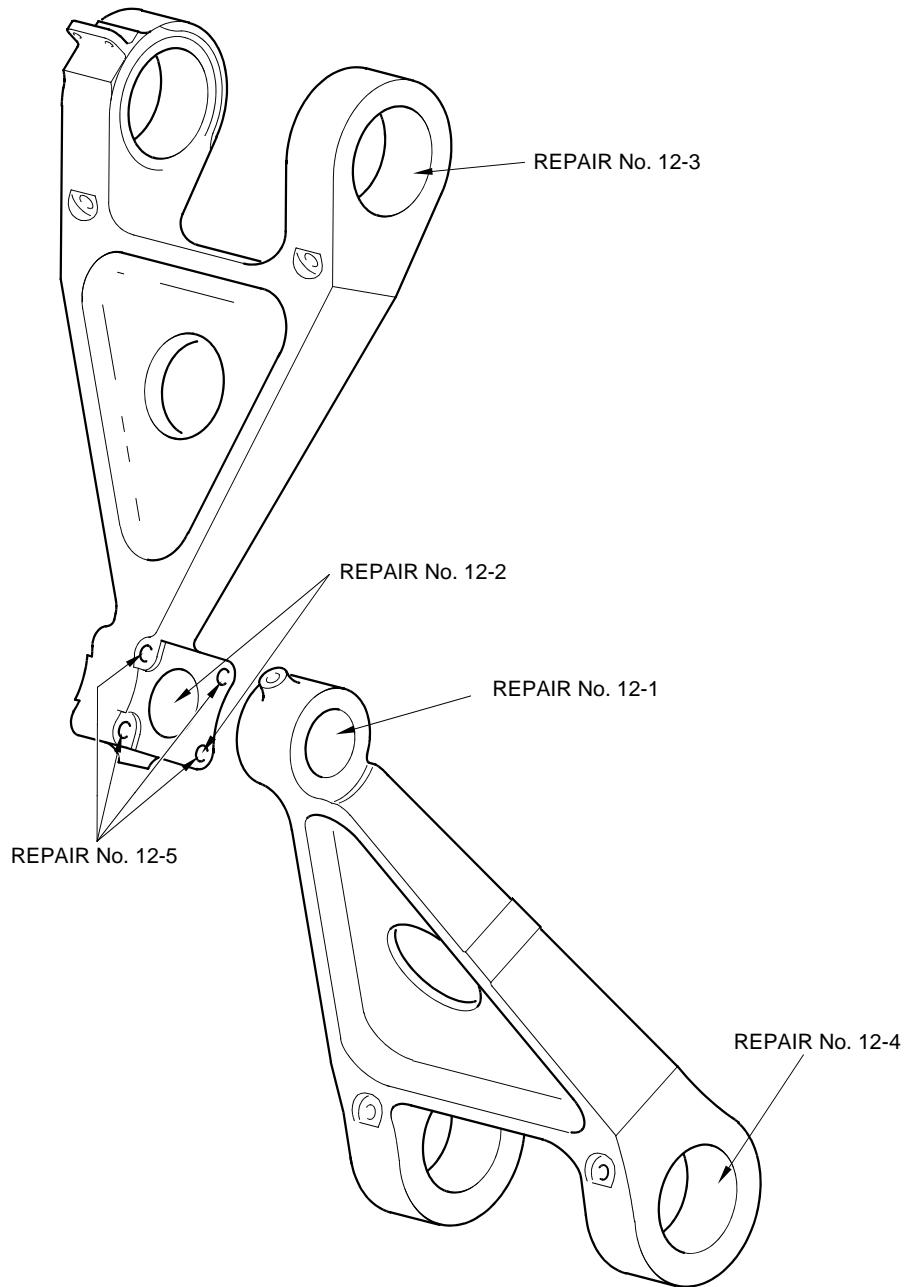
Approved Repairs - Key Diagram
Figure 649

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MAIN LANDING GEAR LEG**



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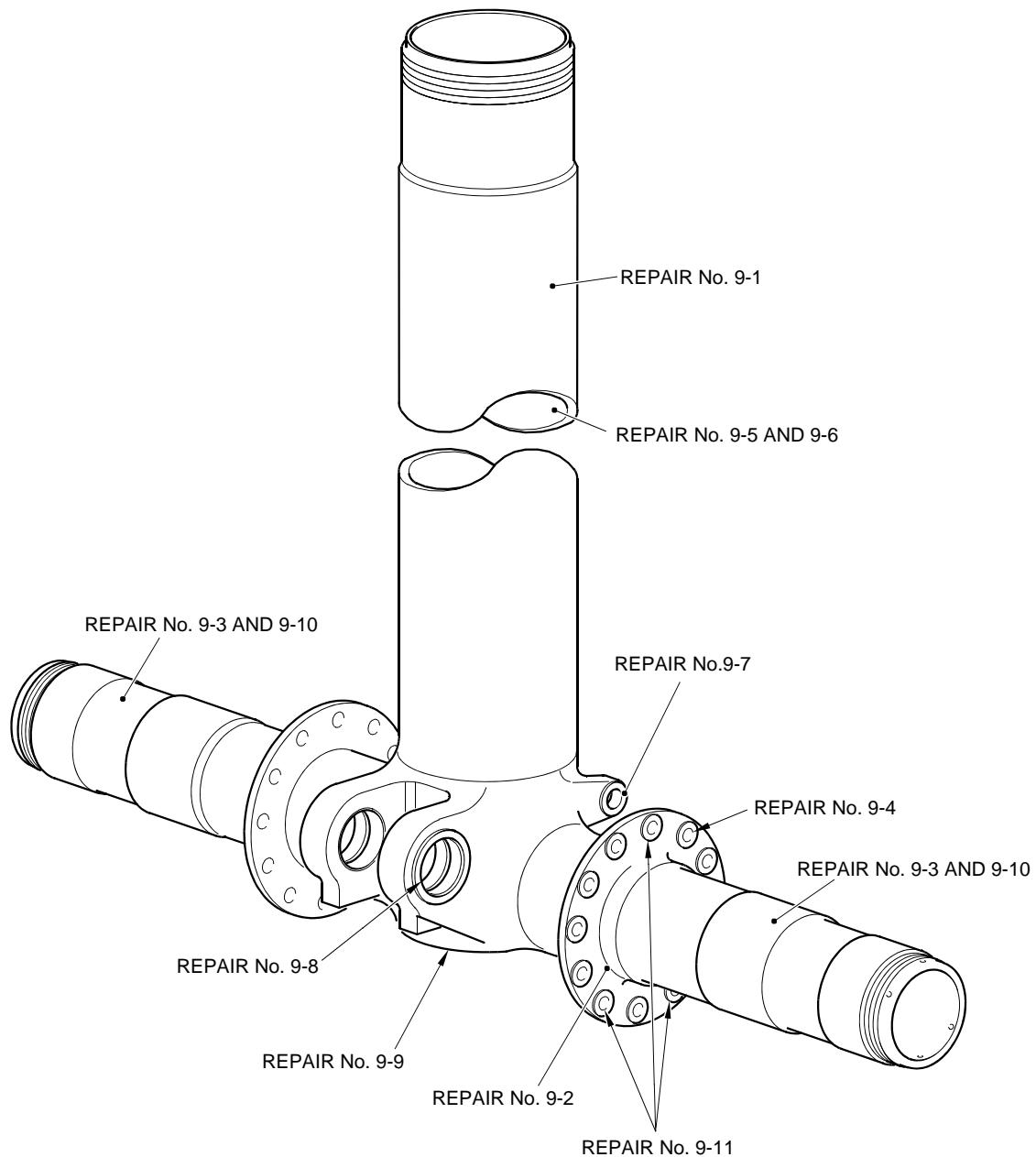
**Main Fitting Repairs - Key Diagram
Figure 650**

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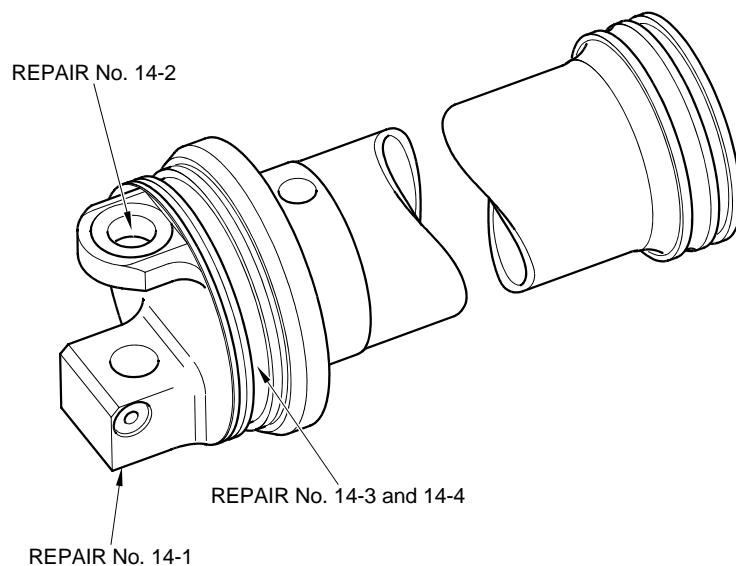
Torque Link Repairs - Key Diagram
Figure 651

PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



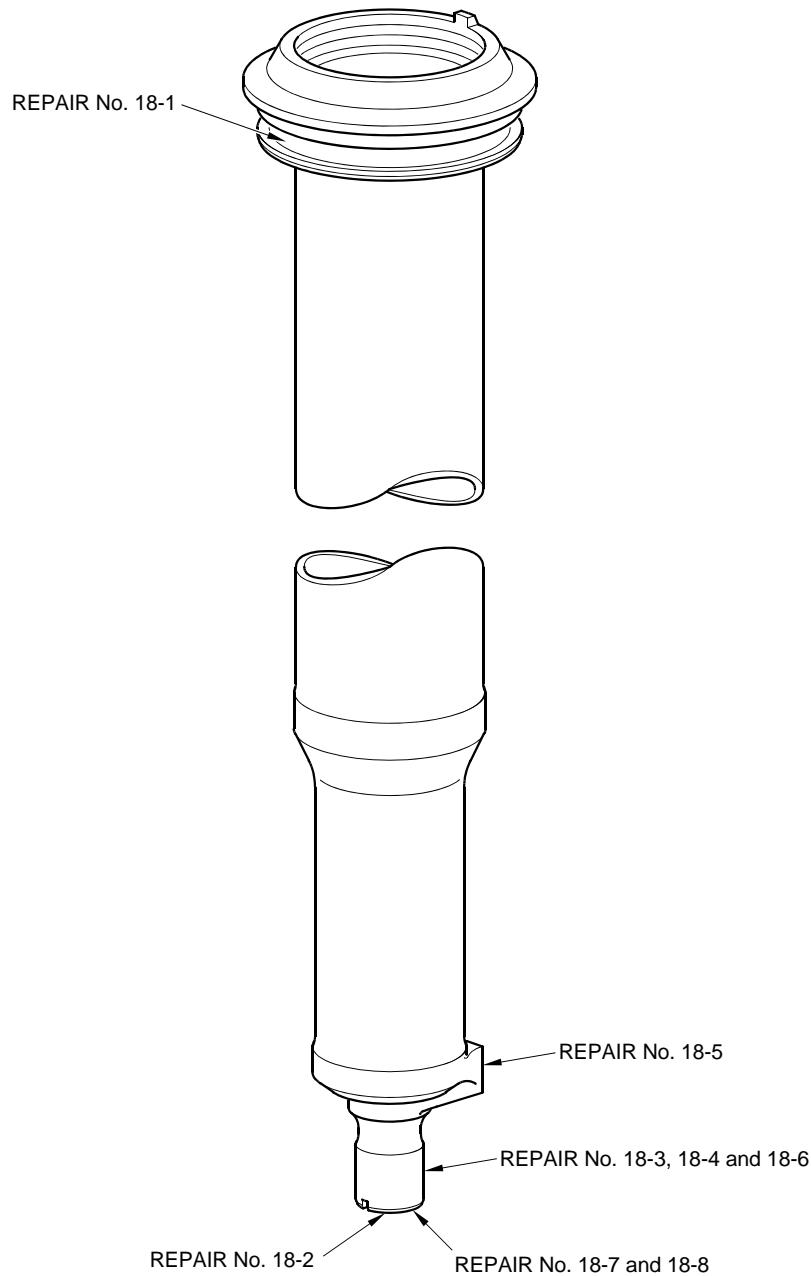
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Sliding Tube Repairs - Key Diagram
Figure 652

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Upper Diaphragm Tube Repairs - Key Diagram
Figure 653

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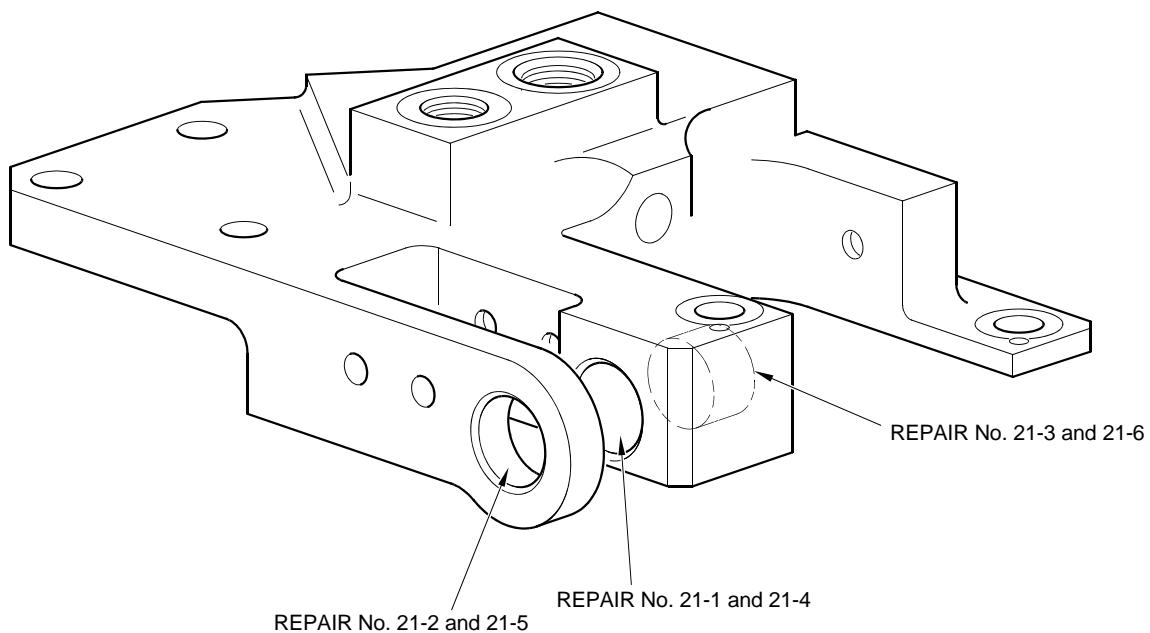
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Cylinder Repairs - Key Diagram
Figure 654

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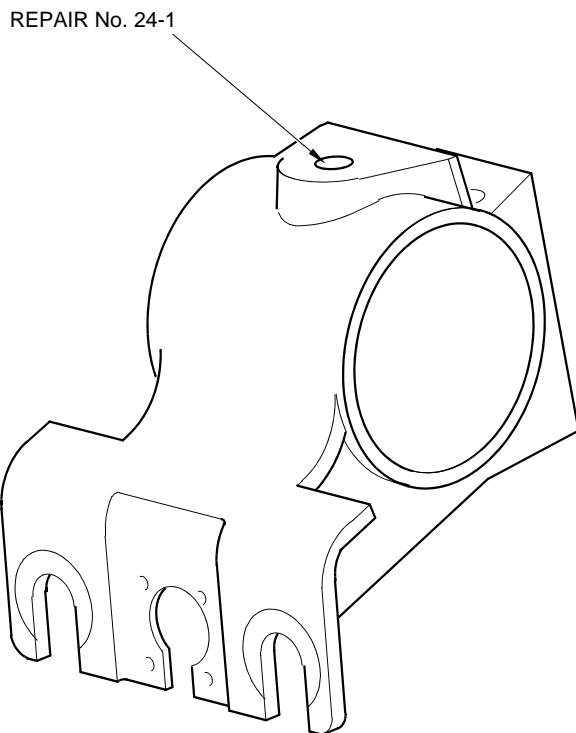
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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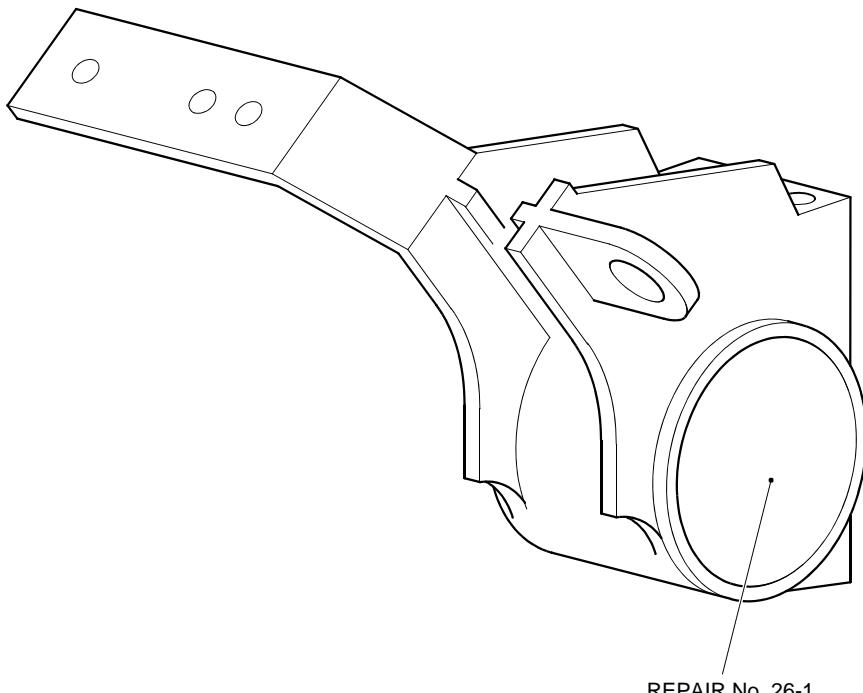
Transfer Block Repairs - Key Diagram
Figure 655

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MAIN LANDING GEAR LEG



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Harness Support Bracket Repairs - Key Diagram
Figure 656



REPAIR No. 26-1

A321-S-32-12-22-057-0

Upper Pivot Bracket Repairs - Key Diagram
Figure 657

**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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1. Repair No. 1-1 Lower Bearing Subassembly (16-110)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damaged or loose liner.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
16-140	Gland housing	Aluminium Alloy, 2024T35

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Accomet C
TBA	Adhesive PVC tape
TBA	Araldite, 2015
TBA	Cleaning tissues
TBA	Emery cloth, 60-100 grit
08-715	Masking tape
08-722	Adhesive
11-583	Cleaning agent
13-501	Alocrom

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237823	Repair liner	Fibreslip B40

E. Procedure (Refer to Figure 601)

- (1) Repair loose but undamaged liner:

- (a) Remove all of the adhesive from the external diameter of the gland housing and the internal diameter of the liner: refer to CLEANING.

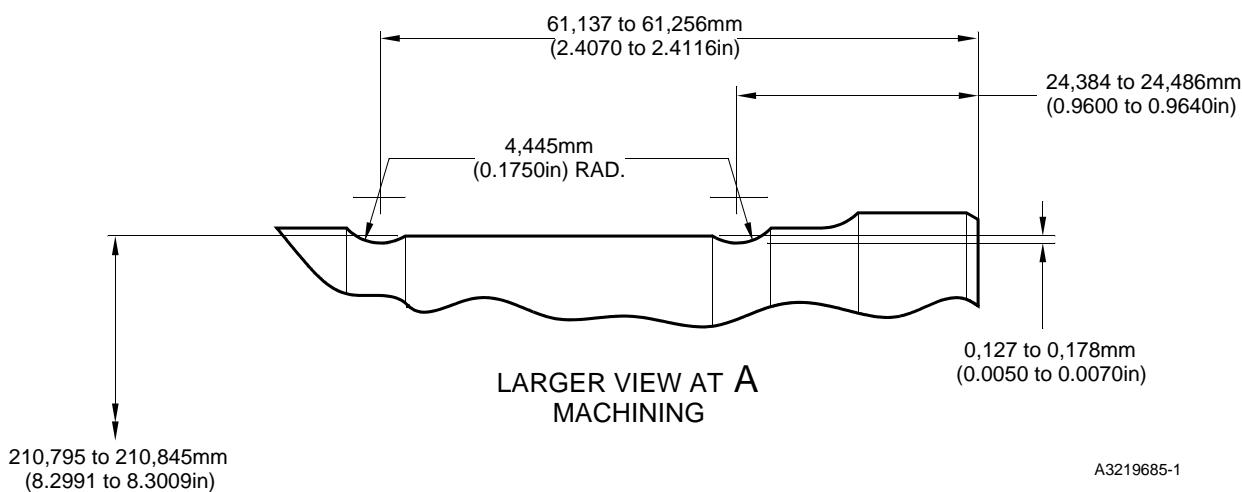
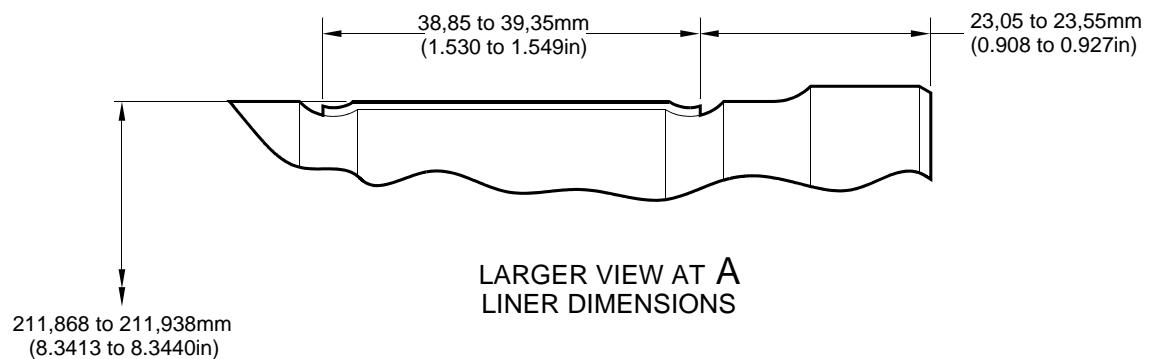
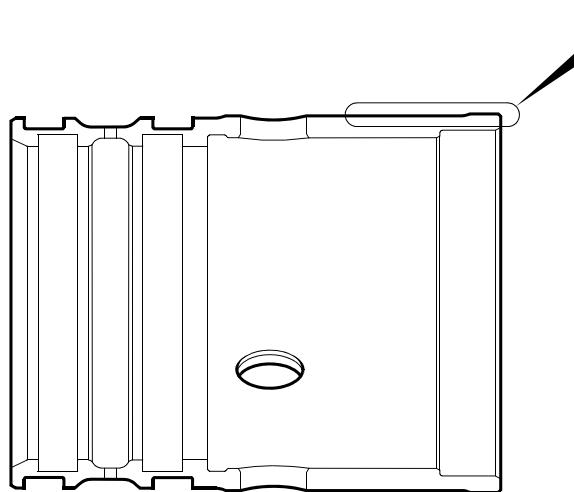
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG

- (b) Measure the diameter of the gland housing across the contact area: this must be between 211,328 and 211,368 mm (8.3200 and 8.3215 in).
 - (c) Temporarily put the liner in position on the gland housing. If necessary, cut the liner at the scarf joints to adjust its length.
 - (d) Remove the liner from the gland housing.
 - (e) Clean the contact surfaces of the liner and the gland housing: use the cleaning tissues, Material Ref. Item TBA, and the cleaning agent, Material Ref. Item 11-583.
 - (f) Apply adhesive, Material Ref. Item 08-722, to the contact surface of the liner near to the scarf joints: refer to M-DLPS724.
 - (g) Assemble the liner to the gland housing.
 - (h) Identify the part with the Messier-Dowty Limited repair number 450237790A adjacent to the part number: refer to PCS-6000-05.
 - (i) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (2) Repair damaged liner:
- (a) Remove the damaged liner and remove all of the adhesive from the external diameter of the gland housing: refer to **CLEANING**.
 - (b) Machine the gland housing to the dimensions given in [Figure 601](#) with a surface finish of 3,2 micrometers (125 micro-inches).
 - (c) Examine the gland housing for flaws: refer to M-DLNDT8.
 - (d) Apply Alocrom, Material Ref. Item 13-501, to the machined areas: refer to PCS-2220.
 - (e) Temporarily put the repair liner in position on the gland housing. If necessary, cut the repair liner at the scarf joints to adjust its length.
 - (f) Apply adhesive PVC tape, Material Ref. Item TBA, around the gland housing to the sides of and touching the repair liner. Make sure that the edges of the adhesive PVC tape, Material Ref. Item TBA, bond tightly to the gland housing.
 - (g) Remove the repair liner from the gland housing.
 - (h) Use the Emery cloth, 60-100 grit, Material Ref. Item TBA, to roughen the surfaces to be bonded. Do not damage the edges of the adhesive PVC tape, Material Ref. Item TBA.
 - (i) Use the cleaning agent, Material Ref. Item 11-583, and cleaning tissues, Material Ref. Item TBA, to clean the roughened surfaces.
 - (j) Preheat an oven to between 35 and 45 °C (95 and 113 °F).
 - (k) Prepare a surface treatment mixture of 1 part by volume of Accomet C, Material Ref. Item TBA, and 4 parts by volume of clean cold water.
 - (l) Use a brush to apply a smooth layer of the prepared surface treatment mixture to the contact surface of the gland housing.

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MAIN LANDING GEAR LEG

- (m) Put the gland housing in the preheated oven for a minimum of 4 minutes and until the applied surface treatment mixture is dry.
- (n) Alternative procedure for paragraphs (j) to (m): apply Alocrom to the contact surface of the gland housing: refer to PCS-2220, type 2.
- (o) Use a brush to apply Araldite, 2015, Material Ref. Item TBA, to the gland housing.
- (p) Assemble the repair liner to the gland housing and use masking tape, Material Ref. Item 08-715, to hold it in that position. Use one layer of masking tape, Material Ref. Item 08-715, at each side of the repair liner. The masking tape must be sufficiently wide to bond to the repair liner and the adhesive PVC tape, Material Ref. Item TBA: make sure the ends touch but do not overlap.
- (q) Clamp the repair liner to the gland housing using an applicable tool.
- (r) Put the gland housing in the preheated oven, kept at between 35 and 45 °C (95 and 113 °F), for 345 to 375 minutes.
- (s) Remove the gland housing from the oven and allow to cool for a minimum of 30 minutes.
- (t) Machine the diameter and width of the repair liner to the dimensions given in [Figure 601](#) then remove the adhesive PVC tape, Material Ref. Item TBA.
- (u) Remove all of the tape and clean the parts as necessary.
- (v) Identify the part with the Messier-Dowty Limited repair number 450237790B adjacent to the part number: refer to PCS-6000-05.
- (w) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG



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Repair to Lower Bearing Subassembly
Figure 601

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Repair No. 1-1
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MAIN LANDING GEAR LEG**

1. Repair No. 1-2 Lower Bearing Subassembly (16-110A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Loose or damaged liner.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
16-140	Gland housing	Aluminium Alloy, 2024T35

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Accomet C
TBA	Adhesive PVC tape
TBA	Araldite, 2015
TBA	Cleaning tissues
TBA	Emery cloth, 60-100 grit
08-715	Masking tape
08-722	Adhesive
11-583	Cleaning agent

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237823	Repair liner	Fibreslip, B40

E. Procedure (Refer to Figure 601)

- (1) Repair loose but undamaged liner:

- (a) Remove the used adhesive from the external diameter of the gland housing and the internal diameter of the liner: [refer to CLEANING](#).
- (b) Put the liner in position on the gland housing. If necessary, cut the liner at the scarf joints to adjust its length.
- (c) Remove the liner from the gland housing.

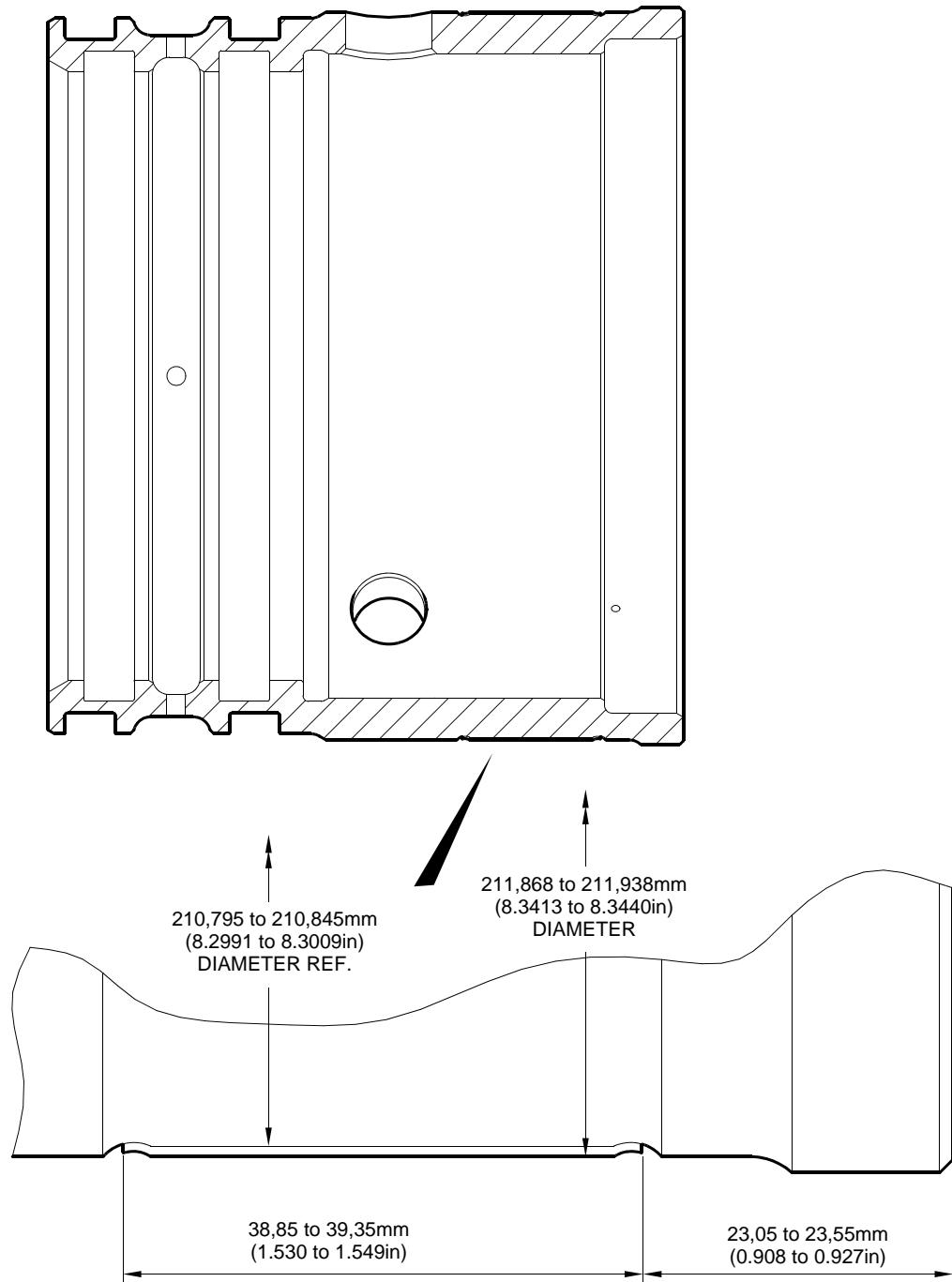
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MAIN LANDING GEAR LEG

- (d) Clean the surfaces of the liner and the gland housing that will touch: use the cleaning tissues, Material Ref. Item TBA and the cleaning agent, Material Ref. Item 11-583.
 - (e) Apply adhesive, Material Ref. Item 08-722, to the cleaned surface of the liner near to the scarf joints: refer to M-DLPS724.
 - (f) Assemble the liner to the gland housing.
 - (g) Identify the part with the Messier-Dowty Limited repair number 450237610A adjacent to the part number: refer to PCS-6000-05.
 - (h) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (2) Repair damaged liner:
- (a) Remove the damaged liner and remove the used adhesive from the external diameter of the gland housing: refer to **CLEANING**.
 - (b) Put the repair liner in position on the gland housing. If necessary, cut the repair liner at the scarf joints to adjust its length.
 - (c) Apply adhesive PVC tape, Material Ref. Item TBA, around the gland housing to the sides of and touching the repair liner. Make sure that the edges of the adhesive PVC tape, Material Ref. Item TBA, bond tightly to the gland housing.
 - (d) Remove the repair liner from the gland housing.
 - (e) Use the Emery cloth, 60-100 grit, Material Ref. Item TBA, to make rough, the surfaces that will bond. Do not damage the edges of the adhesive PVC tape, Material Ref. Item TBA.
 - (f) Use the cleaning agent, Material Ref. Item 11-583, and cleaning tissues, Material Ref. Item TBA, to clean the surfaces made rough.
 - (g) Set the temperature of an oven to between 35 and 45 °C (95 and 113 °F).
 - (h) Prepare a mixture of 1 part by volume of Accomet C, Material Ref. Item TBA, and 4 parts by volume of clean cold water.
 - (i) Use a brush to apply a flat layer of the prepared mixture to the surfaces of the gland housing made rough.
 - (j) Put the gland housing in the oven for a minimum of 4 minutes and until the applied mixture is dry.
 - (k) Alternative procedure for paragraphs (g) to (j): apply Alocrom to the contact surface of the gland housing: refer to PCS-2220, type 2.
 - (l) Use a brush to apply Araldite, 2015, Material Ref. Item TBA, to the gland housing.
 - (m) Assemble the repair liner to the gland housing and hold it tightly with the masking tape, Material Ref. Item 08-715. Bond the masking tape, Material Ref. Item 08-715, to the adjacent adhesive PVC tape, Material Ref. Item TBA. Use one layer of the masking tape, Material Ref. Item 08-715, only at each side of the repair liner: make sure that the ends touch but do not overlap.
 - (n) Use a clamp to attach the repair liner to the gland housing.
 - (o) Put the gland housing in the oven, kept at between 35 and 45 °C (95 and 113 °F), for 345 to 375 minutes.

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- (p) Remove the gland housing from the oven and let its temperature decrease for a minimum of 30 minutes.
- (q) Machine the diameter and width of the repair liner to the dimensions shown before you remove the adhesive PVC tape, Material Ref. Item TBA.
- (r) Remove all of the tape and clean the parts as necessary.
- (s) Identify the part with the Messier-Dowty Limited repair number 450237610B adjacent to the part number: refer to PCS-6000-05.
- (t) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG



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Repair to Lower Bearing Subassembly
Figure 601

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Repair No. 1-2
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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG1. Repair No. 2-1 Pin (13-190 and 13-190A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameters A and B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
13-190 and 13-190A	Pin	Steel, 35NCD16

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

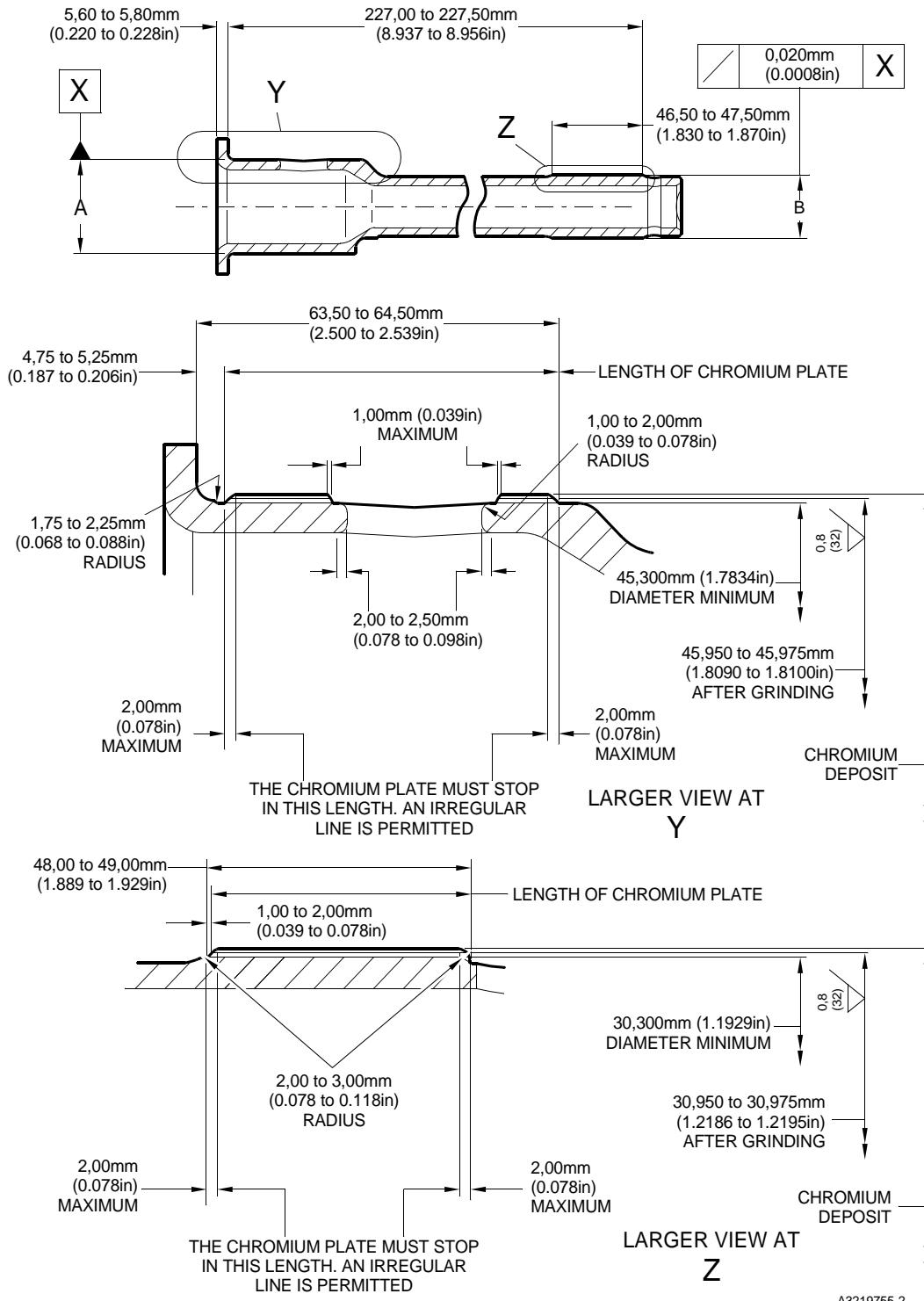
D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure ([Refer to Figure 601](#))

- (1) Remove the chromium plate from diameters A and B.
- (2) Machine the diameters A and B to remove damage or wear after removal of the chromium plate. Remove the minimum amount of material necessary, to the dimensions shown in Figure 601, to remove the damage or wear.
- (3) Examine the pin for flaws: refer to PCS-3600 and PCS-3100 inclusion class 3.
- (4) Shot peen the machined areas: refer to M-DLPS123.
- (5) Apply chromium plate to the diameters A and B: refer to M-DLPS101-2. Make sure the chromium plate terminations are smooth: refer to M-DLPS1031.
- (6) Finish grind the pin to the dimensions shown in Figure 601.
- (7) Examine the pin for flaws: refer to M-DLNNDT3.
- (8) Identify the part with the Messier-Dowty Limited repair number 450217145 adjacent to the part number: refer to PCS-6000-05.
- (9) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin Figure 601

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Repair No. 2-1
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MAIN LANDING GEAR LEG1. Repair No. 3-1 Pivot Pin (6-90)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
6-90	Pivot Pin	Steel, S99

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

- (1) Remove the chromium plate only from the diameter A to show the parent metal.

- (2) If the parent metal is not damaged or worn:

- (a) Examine the pivot pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 3.

- (b) Apply chromium plate to the diameter A: refer to PCS-2110 Type B. Refer to [Figure 601](#) for chromium plate termination information.

- (c) Grind the diameter A to between 15,960 and 15,987 mm (0.6284 and 0.6294 in). The surface finish must be 0,8 micrometers (32 micro-inches).

- (d) Examine the pivot pin for flaws: refer to PCS-3002, PCS-3100, inclusion class 3 and PCS-3600.

- (e) Identify the part with the Messier-Dowty Limited repair number 450217385A adjacent to the part number: refer to PCS-6000-05.

- (f) Examine the part to make sure that you have obeyed all the repair instructions correctly.

- (3) If the parent metal is damaged or worn:

- (a) Machine the diameter A sufficiently to remove damage and wear, down to a minimum of 15,377 mm (0.6054 in).

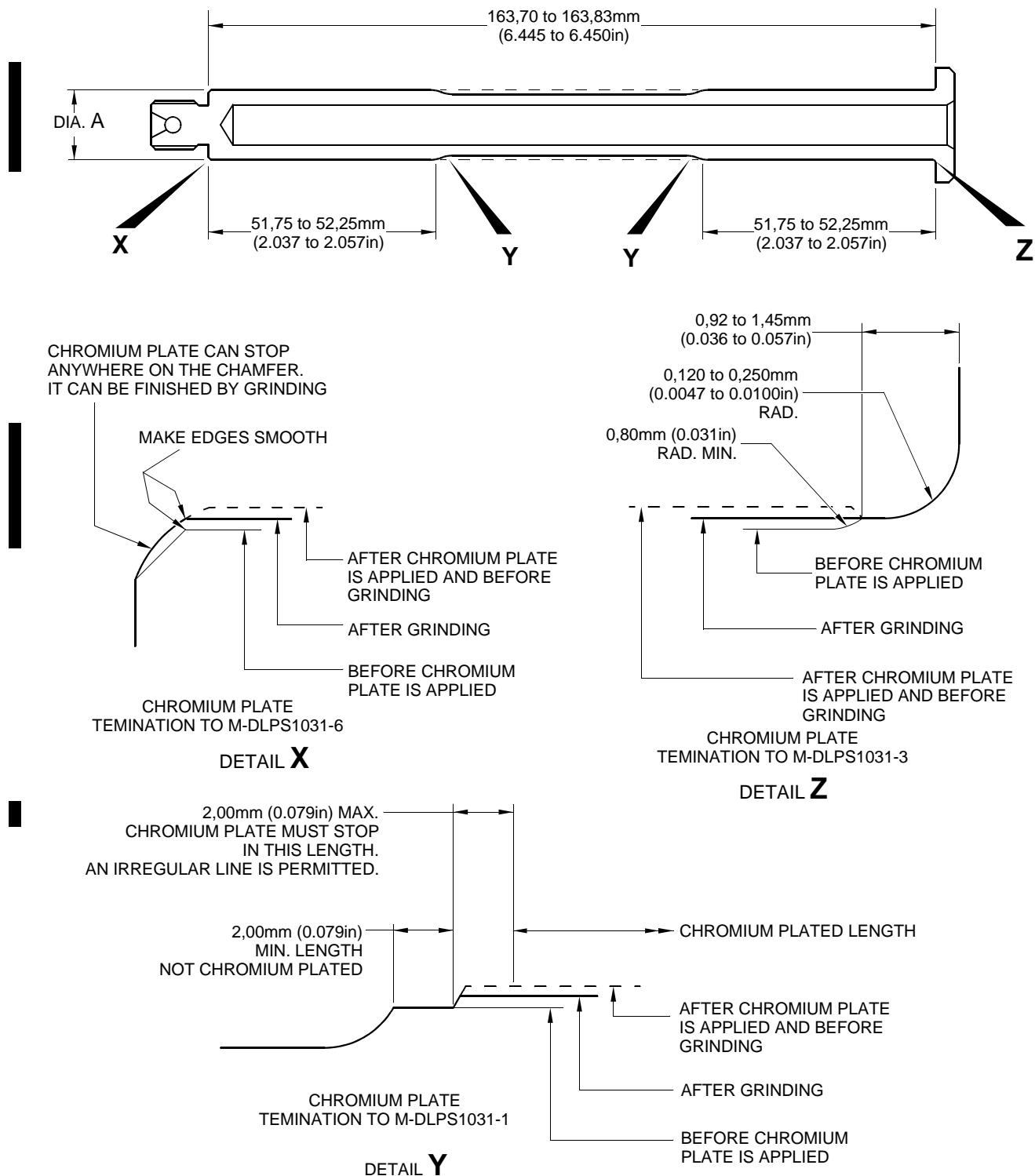
- (b) Examine the pivot pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 3.

- (c) Apply chromium plate to the diameter A: refer to PCS-2110 Type B. Refer to [Figure 601](#) for chromium plate termination information.

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- (d) Grind the diameter A to between 15,960 and 15,987 mm (0.6284 and 0.6294 in).
The surface finish must be 0,8 micrometers (32 micro-inches).
- (e) Examine the pivot pin for flaws: refer to PCS-3002, PCS-3100, inclusion class 3 and PCS-3600.
- (f) Identify the part with the Messier-Dowty Limited repair number 450217385B adjacent to the part number: refer to PCS-6000-05.
- (g) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pivot Pin
Figure 601

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Repair No. 3-1
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MAIN LANDING GEAR LEG1. Repair No. 4-1 Uunlock Pin (5-400)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
5-400	Uunlock pin	Steel, S99

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

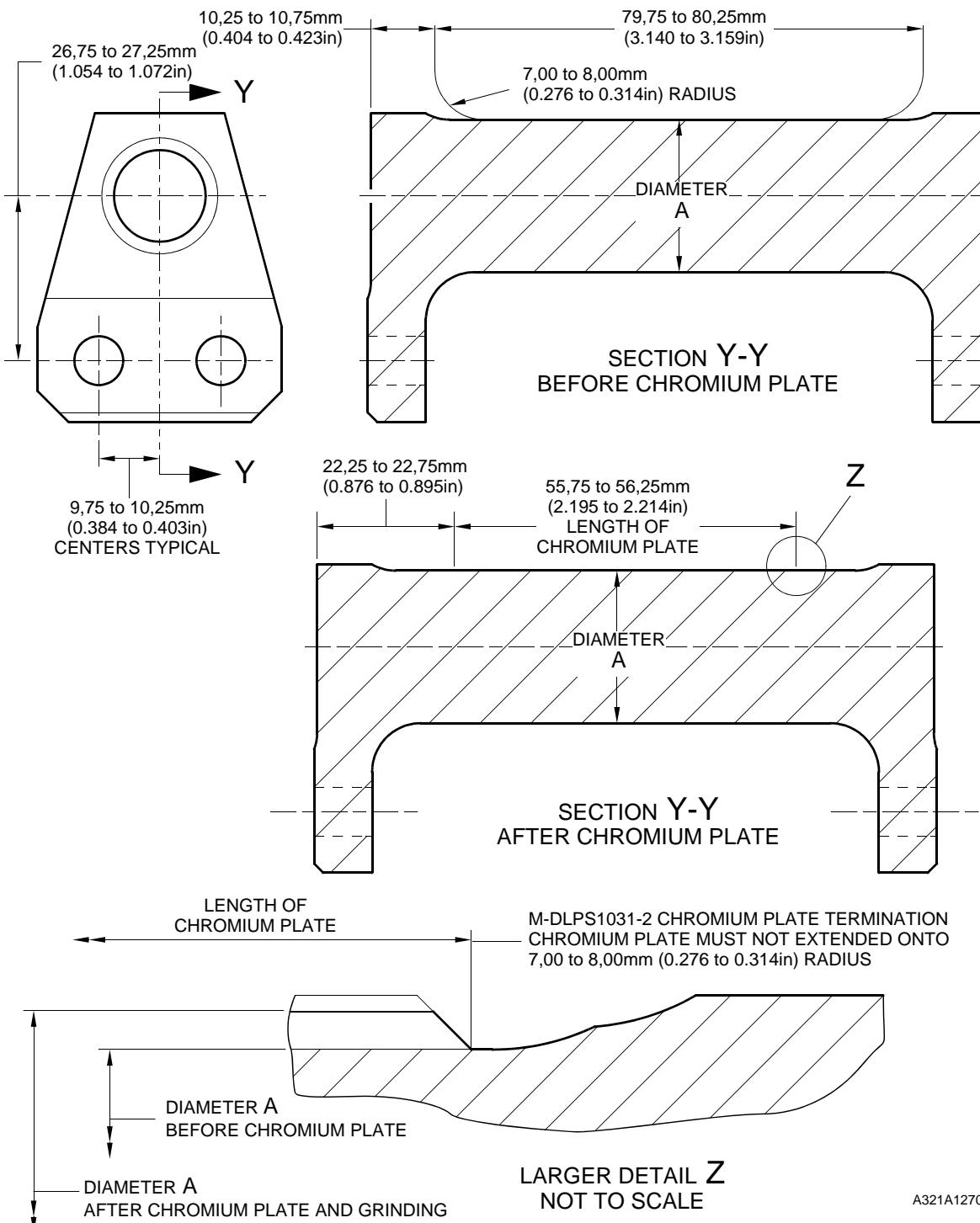
D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure ([Refer to Figure 601](#))

- (1) Remove the chromium plate from diameter A.
- (2) Machine diameter A to remove the damage or wear after removal of the chromium plate. The minimum diameter is 24,36 mm (0.960 in) and the surface finish must be 0,4 micrometers (16 micro-inches).
- (3) Examine the uplock pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 3.
- (4) If diameter A has been machined (see para (2)), shot peen the machined area: refer to M-DLPS123.
- (5) Apply chromium plate to diameter A as shown with a minimum chromium plate thickness of 0,075 mm (0.0030 in): refer to M-DLPS101-2.
- (6) Machine diameter A to between 24,947 and 24,980 mm (0.9822 and 0.9834 in) with a surface finish of 0,4 micrometers (16 micro-inches).
- (7) Examine the chromium plated surface for flaws: refer to M-DLNNT3.
- (8) Apply cadmium plate to the machined areas but not where chromium plated: refer to PCS-2141.
- (9) Spray primer paint lightly on the cadmium plated surface: refer to PCS-2500.
- (10) Refer to PCS-6000-07 and identify the part with the applicable Messier-Dowty Limited repair number, adjacent to the part number, after painting:
 - 450237490A if only the chromium plate has been repaired, or
 - 450237490B if chromium plate and parent metal have been repaired.
- (11) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Uplock Pin
Figure 601

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Repair No. 4-1
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MAIN LANDING GEAR LEG1. Repair No. 5-1 Pin (3-50)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
3-50	Pin	Steel, S99

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

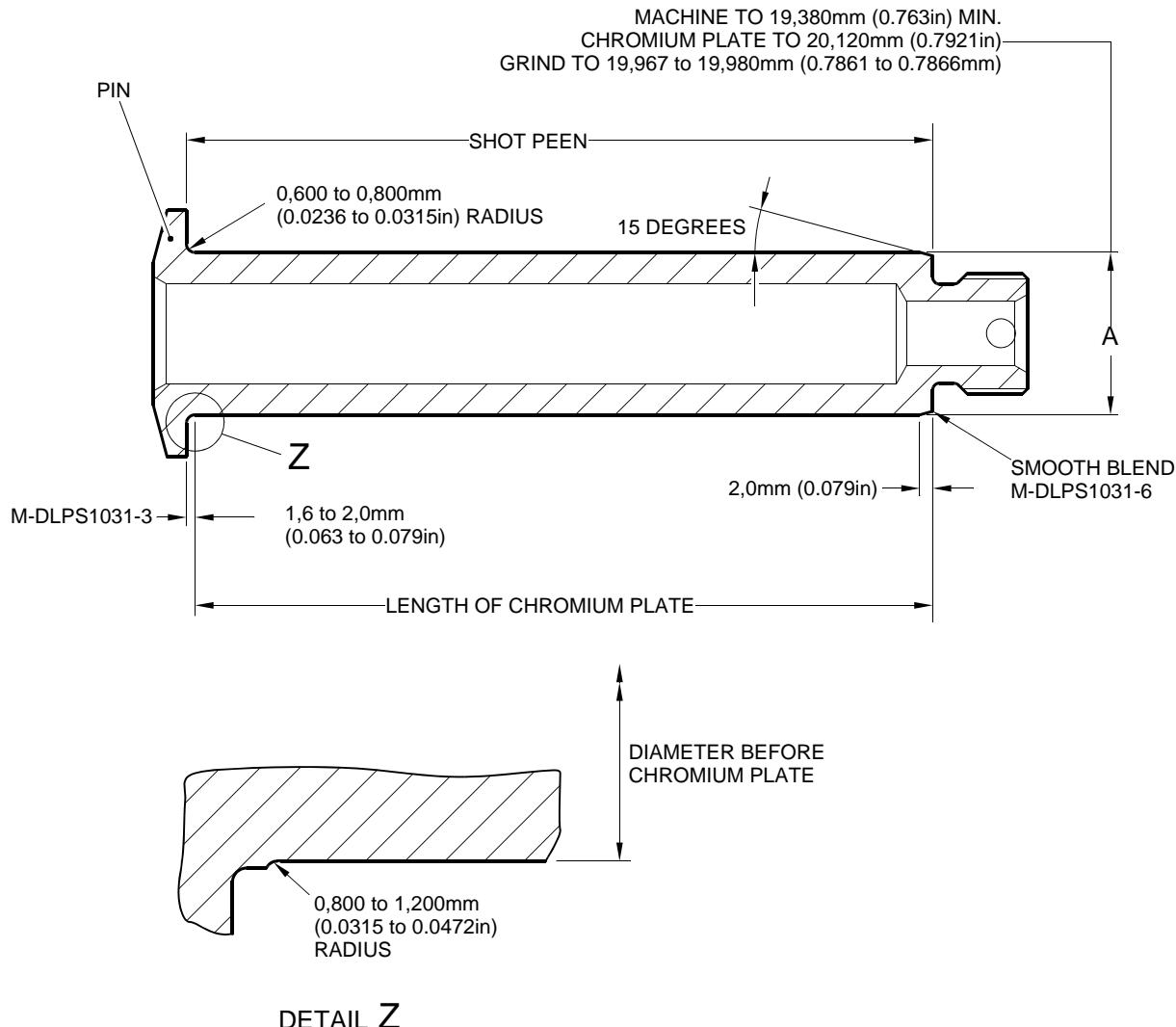
D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure ([Refer to Figure 601](#))

- (1) Machine diameter A sufficiently to remove the damage or wear and to the dimensions shown in [Figure 601](#).
- (2) Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 2.
- (3) Shot peen the pin: refer to M-DLPS123.
- (4) Apply chromium plate to diameter A to give a minimum diameter of 20,120 mm (0.7921 in): refer to M-DLPS101-2P.
- (5) Grind diameter A to the dimensions shown with a surface finish of 0,4 micrometers (16 micro-inches). Refer to M-DLPS1031-3 and M-DLPS1031-6 for the chromium plate terminations where shown.
- (6) Examine the pin for flaws: refer to M-DLNNDT3.
- (7) Identify the part with the Messier-Dowty Limited repair number 450217170 adjacent to the part number: refer to PCS-6000-05.
- (8) Apply cadmium plate all over the pin, but not on the chromium plated areas: refer to M-DLPS100-2 or PCS-2141.
- (9) Paint the pin all over, but not on the threads, the thread undercut and the chromium plated areas: refer to PCS-2500.
- (10) Examine the part to make sure that you have obeyed the repair instructions correctly.

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Repair to Pin
Figure 601

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Repair No. 5-1
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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG1. Repair No. 6-1 Pin (10-80)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
10-80	Pin	UHT Steel (300M), MTL 1201

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

(1) Remove the chromium plate from diameter A: refer to PCS-2110.

(a) If the bare metal is not damaged or corroded:

1 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

2 Shot peen diameter A: refer to M-DLPS123.

3 Apply chromium plate to diameter A: refer to PCS-2110, Type C. Refer to [Figure 601](#) for chromium plate termination information.

4 Grind diameter A to between 59,951 and 59,970 mm (2.3603 and 2.3610 in). The surface finish must be 0,8 micrometers (32 micro-inches).

5 Examine the ground chromium plate for flaws: refer to PCS-3100, inclusion class 4 and PCS-3002.

6 Identify the part with the Messier-Dowty Limited repair number 450258420A adjacent to the part number: refer to PCS-6000-04 and PCS-6000-07.

7 Examine the part to make sure that you have obeyed all the repair instructions correctly.

(b) If the bare metal is damaged or corroded:

1 Machine diameter A just sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1. The diameter must not be less than 59,370 mm (2.3374 in). The surface finish must be 1,6 micrometers (63 micro-inches).

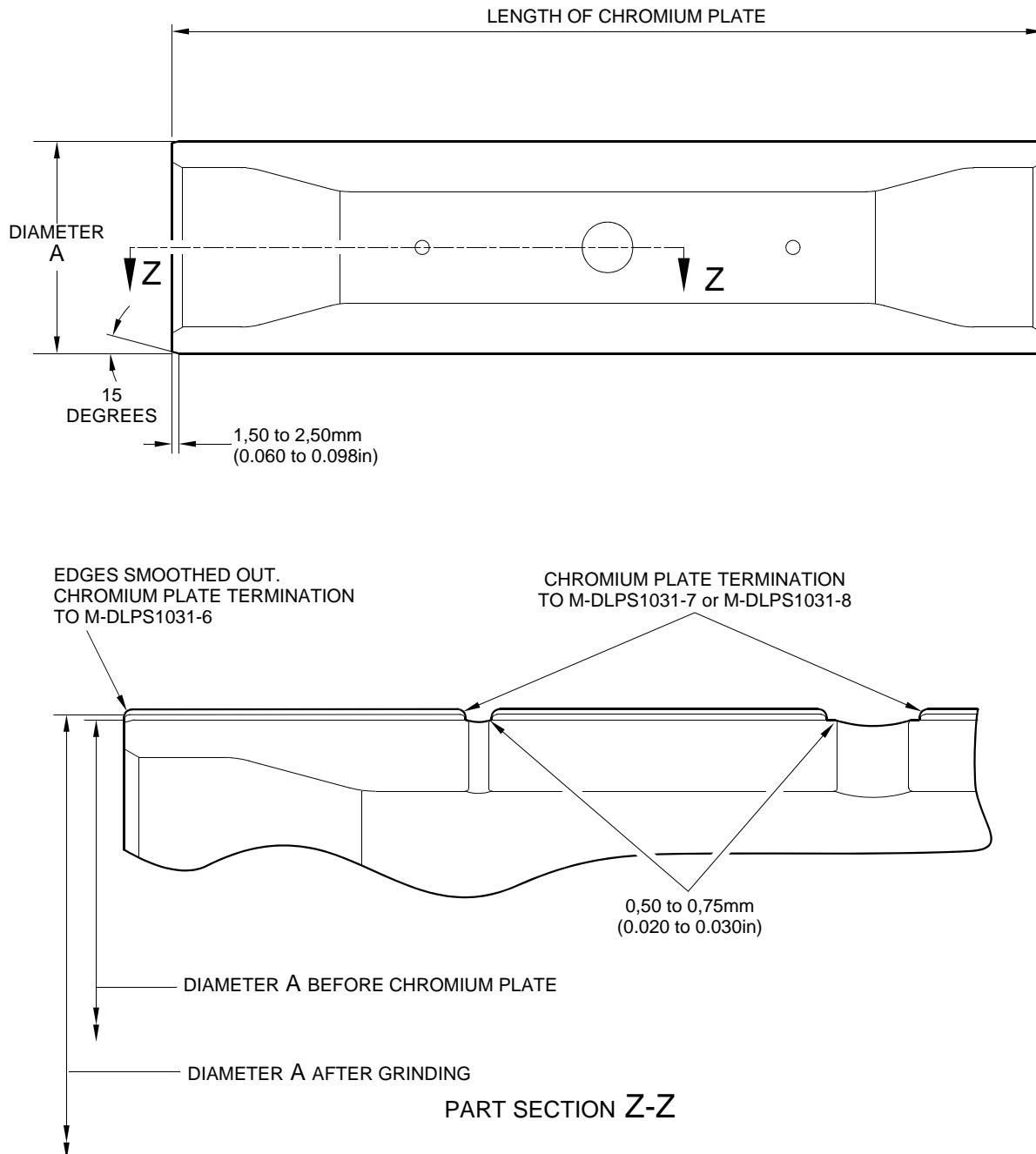
2 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

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- 3 Shot peen and apply chromium plate to diameter A: refer to M-DLPS123 and PCS-2110, Type C. Refer to [Figure 601](#) for chromium plate termination information.
- 4 Grind diameter A to between 59,951 and 59,970 mm (2.3603 and 2.3610 in). The surface finish must be 0,8 micrometers (32 micro-inches).
- 5 Examine the ground chromium plate for flaws: refer to PCS-3100, inclusion class 4 and PCS-3002.
- 6 Identify the part with the Messier-Dowty Limited repair number 450258420B adjacent to the part number: refer to PCS-6000-04 and PCS-6000-07.
- 7 Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin
Figure 601

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Repair No. 6-1
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MAIN LANDING GEAR LEG**

1. Repair No. 6-2 Pin (10-80)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
10-80	Pin	Steel, MTL 1201

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-665	Adhesive

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258261	Repair bush (Qty 2)	Steel, S154

E. Procedure (Refer to [Figure 601](#))

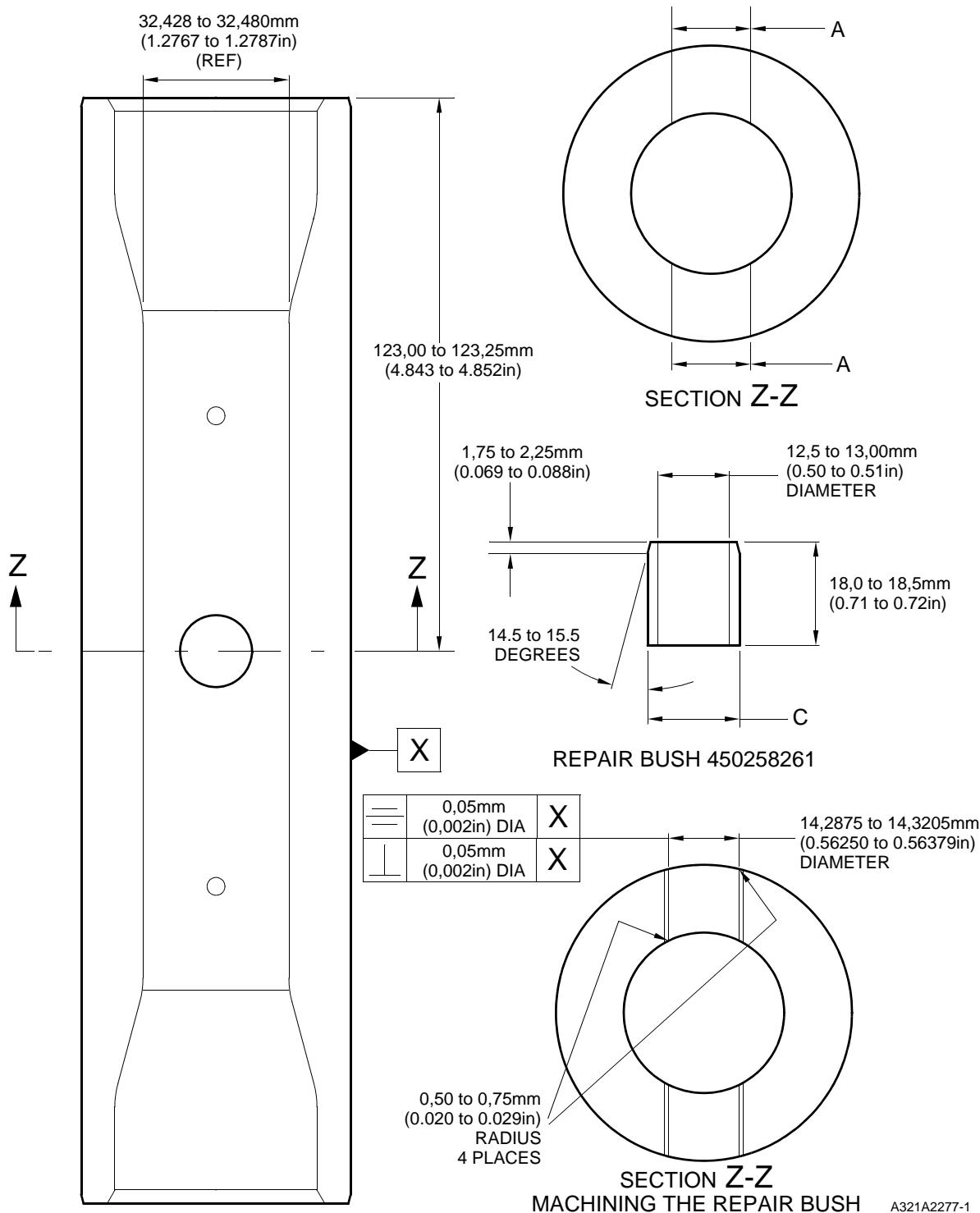
- (1) Machine diameter A sufficiently to remove the damage or wear and to between 15,90 and 16,50 mm (0.626 and 0.649 in): refer to M-DLPS1004-4-1. Machine a surface finish of 1,6 micrometers (63 micro-inches).
- (2) Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (3) Shot peen the machined areas: refer to M-DLPS123.
- (4) Measure the new diameter A.
- (5) Apply cadmium plate to the machined areas: refer to PCS-2141.
- (6) Calculate diameter C of the repair bushes:

$$C = A \text{ (as measured)} + 0,010 \text{ to } 0,039 \text{ mm (0.0004 to 0.0015 in)}$$
- (7) Machine the repair bushes to the dimensions shown and calculated. Machine a surface finish of 1,6 micrometers (63 micro-inches).
- (8) Examine the repair bushes for flaws: refer to PCS-3100, inclusion class 3.

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- (9) Apply cadmium plate to all surfaces of the repair bushes: refer to M-DLPS100-1.
- (10) Apply adhesive, Material Ref. Item 08-665, to the outside diameter of the repair bushes: refer to M-DLPS709-6.
- (11) Install the repair bushes to diameter A until aligned with the outside diameter of the pin: refer to M-DLPS1011-5.
- (12) Machine the repair bushes to the contour of the pin and the dimensions shown.
- (13) Identify the part with the Messier-Dowty Limited repair number 450258260 adjacent to the part number: refer to PCS-6000-04 and PCS-6000-07.
- (14) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin
Figure 601

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MAIN LANDING GEAR LEG1. Repair No. 6-3 Pin (10-80)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
10-80	Pin	Steel, MTL1201

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LIMITED: REFER TO GUIDE-CS-001.

- (1) Remove the cadmium plate from the pin: refer to PCS-2100.
- (2) Machine the diameter A to remove the minimum amount of material necessary to remove the damage or wear, restore the 20,00 mm (0.787 in) radius in two places as shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Do not machine diameter A more than 33,99 mm (1.3383 in). Make the surface finish 1,6 micrometers (63 micro-inches).
- (3) Machine the radii to the dimensions as shown: refer to [Figure 601](#).
- (4) Examine the part for flaws: refer to PCS-3100 inclusion class 4 and PCS-3600.
- (5) Shot peen the reworked areas over lapping adjacent angled surface by at least 6,35 mm (0.250 in). Almen A intensity to be 0,20 to 0,030 mm (0.008 to 0.012 in): refer to M-DLPS123.
- (6) Grit blast the reworked areas: refer to PCS-2610.
- (7) Apply sulphamate nickel plate to the reworked areas: refer to MIL STD 868A solution 2, PCS-2120 and [Figure 601](#). The sulphamate nickel plate thickness must be sufficient to get the correct diameter after machining. Make sure that the cross hole and the lubrication holes are sufficiently masked: refer to [Figure 601](#).

NOTE: The above procedure includes de-embrittle for 23 hours at 185°C to 195°C (366°F to 383°F).

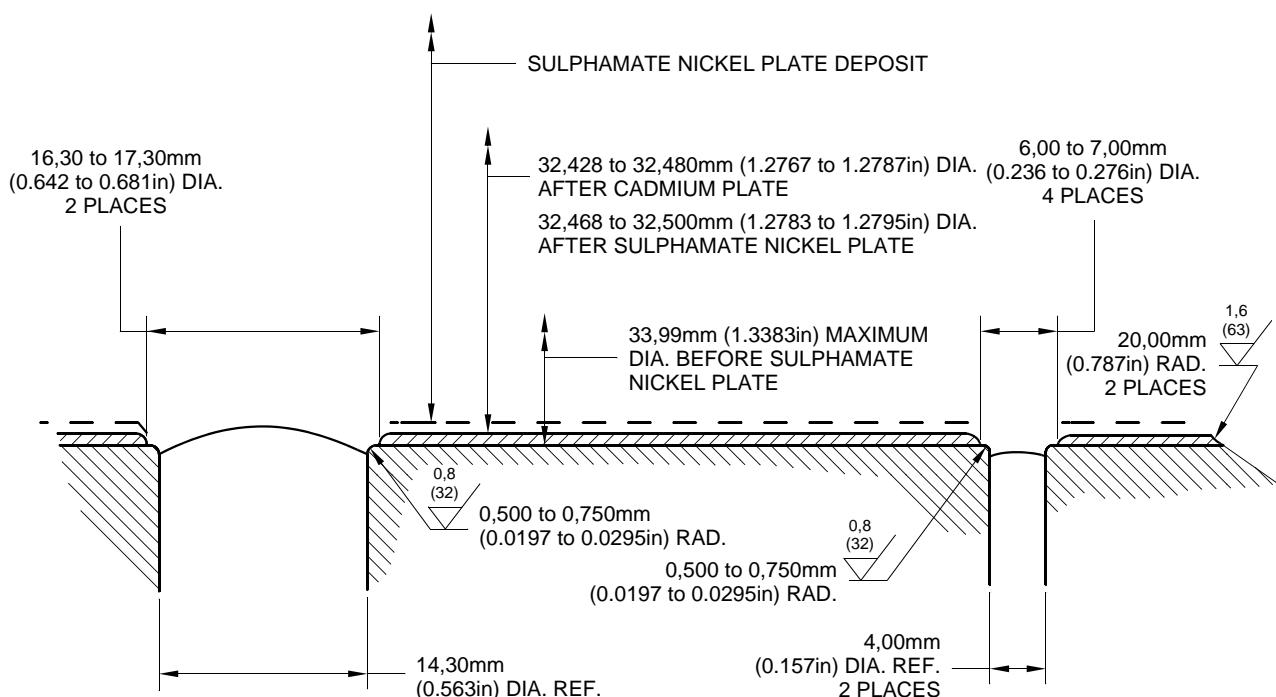
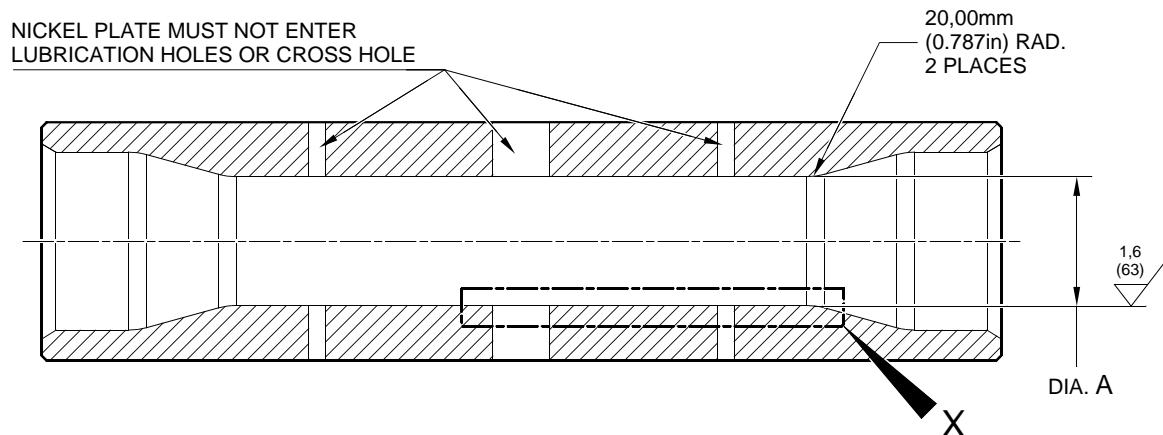
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- (8) Machine (do not grind) the sulphamate nickel plate to get the bore diameter of 32,468 to 32,500 mm (1.2783 to 1.2795 in): refer to [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (9) Machine the 20,000 mm (0.7874 in) radii as shown: refer to [Figure 601](#).
- (10) If the pin base metal has been machined, examine the machined areas for flaws: refer to PCS-3600.

NOTE: The above procedure includes de-embrittle for 4 hours at 185°C to 195°C (366°F to 383°F).

- (11) Grit blast the sulphamate nickel area: refer to PCS-2610. Make sure that the remainder of the pin is sufficiently masked.
- (12) Examine the edges of sulphamate nickel plate to make sure they are properly bonded: use 5 or 10X magnification.
- (13) If there is evidence of delamination, remove the sulphamate nickel plate and do the repair again.
- (14) Apply cadmium plate all over the pin except where chromium plated: refer to PCS-2100 and [Figure 601](#). The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in). Make sure the sulphamate nickel plate is fully encapsulated by cadmium plate.
- (15) Identify the part with the Messier-Dowty Limited repair number 450266211 adjacent to the part number: refer to PCS-6000-04.
- (16) Apply paint to the reworked areas: refer to [REPAIR](#) and PCS-2500.
- (17) Identify the part with the Messier-Dowty Limited repair number 450266211 adjacent to the part number: refer to PCS-6000-07.
- (18) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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DETAIL X

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Repair to Pin
Figure 601

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Repair No. 6-3
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1. Repair No. 7-1 Pin (11-130)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
11-130	Pin	UHT Steel (300M), MTL 1201

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LTD: REFER TO GUIDE-CS-001.

(1) Remove the chromium plate from diameter A: refer to PCS-2110.

(a) If the bare metal is not damaged or corroded:

1 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

2 Shot peen diameter A: refer to M-DLPS123.

3 Apply chromium plate to diameter A: refer to PCS-2110, Type C. Refer to [Figure 601](#) for chromium plate termination information.

4 Grind diameter A to between 59,951 and 59,970 mm (2.3603 and 2.3610 in). The surface finish must be 0,8 micrometers (32 micro-inches).

5 Examine the ground chromium plate for flaws: refer to PCS-3100, inclusion class 4 and PCS-3002.

6 Identify the part with the Messier-Dowty Limited repair number 450258410A adjacent to the part number: refer to PCS-6000-04 and PCS-6000-07.

7 Examine the part to make sure that you have obeyed all the repair instructions correctly.

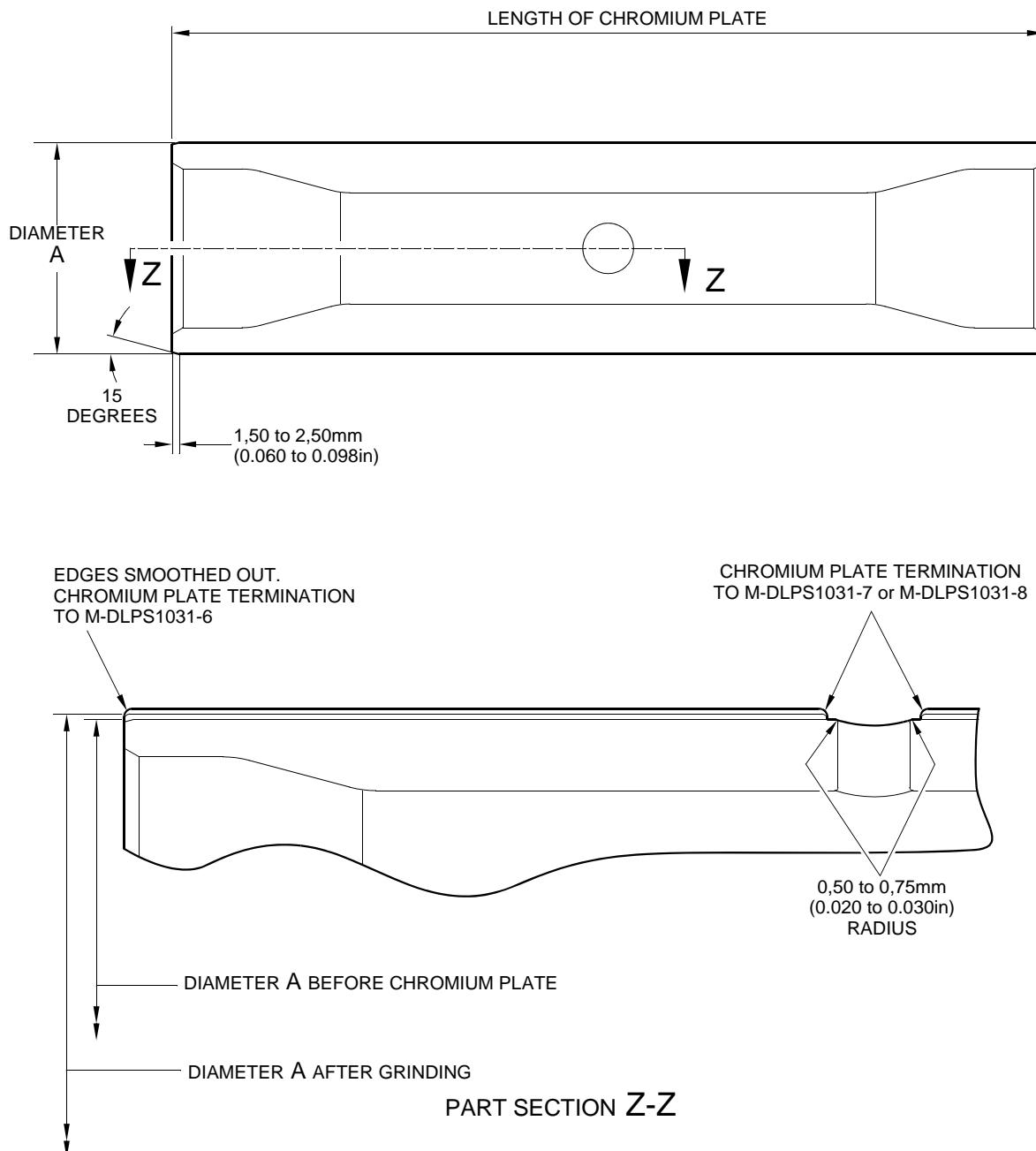
(b) If the bare metal is damaged or corroded:

1 Machine diameter A just sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1. The diameter must not be less than 59,370 mm (2.3374 in). The surface finish must be 1,6 micrometers (63 micro-inches).

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- 2 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- 3 Shot peen and apply chromium plate to diameter A: refer to M-DLPS123 and PCS-2110, Type C. Refer to [Figure 601](#) for chromium plate termination information.
- 4 Grind diameter A to between 59,951 and 59,970 mm (2.3603 and 2.3610 in). The surface finish must be 0,8 micrometers (32 micro-inches).
- 5 Examine the ground chromium plate for flaws: refer to PCS-3100, inclusion class 4 and PCS-3002.
- 6 Identify the part with the Messier-Dowty Limited repair number 450258410B adjacent to the part number: refer to PCS-6000-04 and PCS-6000-07.
- 7 Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin
Figure 601

Repair No. 7-1
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1. Repair No. 7-2 Pin (11-130)

- A. Specified Damage and Material Specification.
 - (1) Specified Damage
 - (a) Damage or corrosion to diameter A.
 - (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
11-130	Pin	UHT Steel (300M), MTL 1201

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-665	Adhesive (Loctite Grade 601)

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258431	Repair sleeve (Qty 2)	Steel, S154

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LTD: REFER TO GUIDE-CS-001.

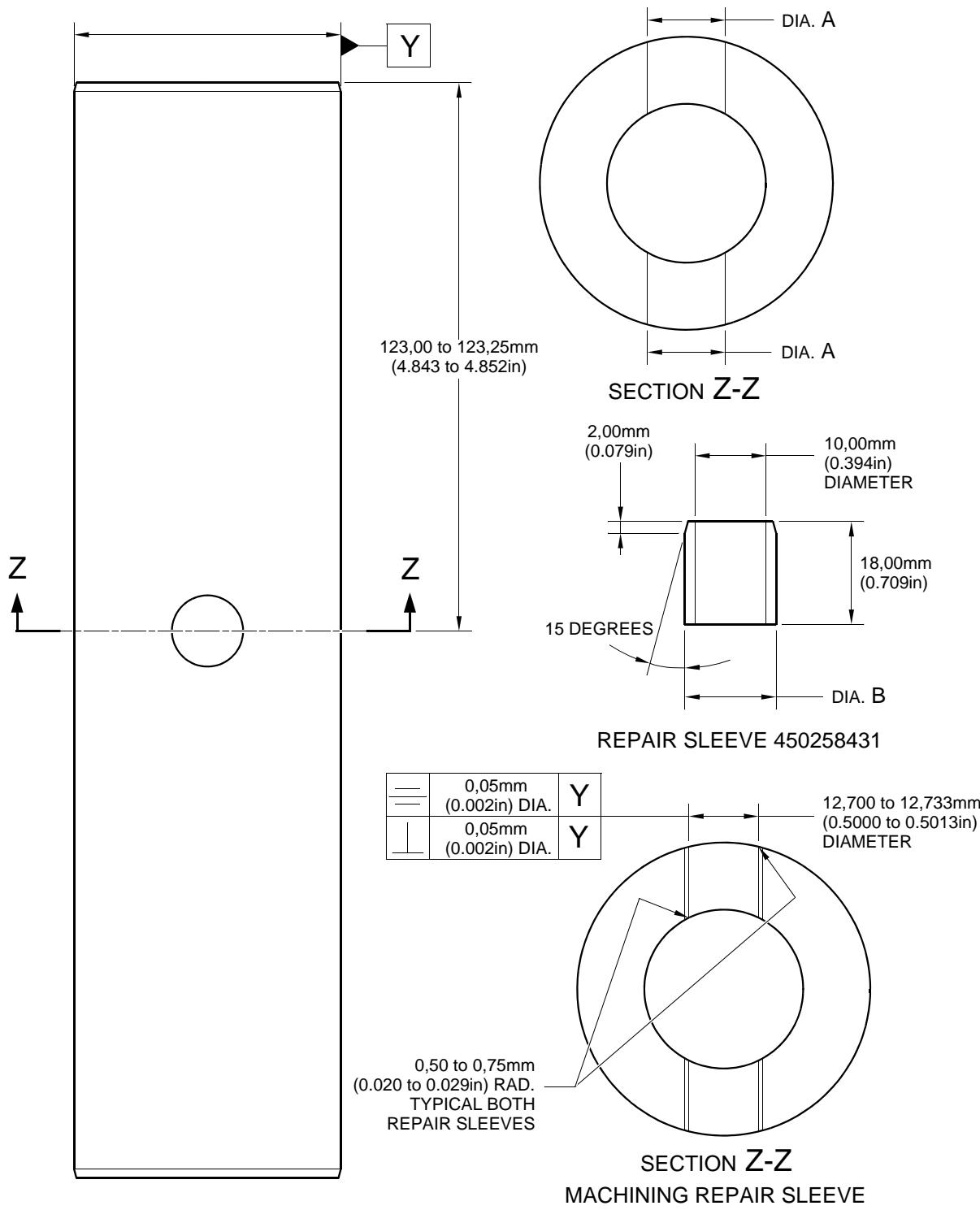
- (1) Machine diameter A just sufficiently to remove the damage or corrosion and to between 14,25 and 14,75 mm (0.561 and 0.581 in): refer to M-DLPS1004-4-1. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (3) Measure and record the new diameters A.
- (4) Shot peen the reworked areas: refer to M-DLPS123 and [Figure 601](#).
- (5) Locally apply cadmium plate to the reworked areas: refer to PCS-2141.
- (6) Identify the part with the Messier-Dowty Limited repair number 450258430 adjacent to the part number: refer to PCS-6000-04.
- (7) Calculate diameter B of the repair sleeves:

Dia. B = Dia. A (as measured) + 0,010 to 0,039 mm (0.0004 to 0.0015 in).

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- (8) Refer to [Figure 601](#) and machine the repair sleeves to the dimensions shown and calculated.
- (9) Apply cadmium plate to the outside diameter and the chamfer of the repair sleeves: refer to PCS-2101.
- (10) Apply adhesive, Material Ref. Item 08-665, to the outside diameter of the repair sleeves: refer to PCS-5303.
- (11) Install the repair sleeves to diameters A until aligned with the outside diameter of the pin: refer to M-DLPS1011-5.
- (12) Machine the bores of the repair sleeves to a diameter between 12,700 and 12,733 mm (0.5000 and 0.5013 in). Machine the inner and outer ends of both sleeves to inner and outer profile of the pin. Make the radius between 0,5 and 0,75 mm (0.020 and 0.029 in) at inside and outside of both the sleeves: refer to [Figure 601](#).
- (13) Locally apply cadmium plate to the reworked areas of the sleeves: refer to PCS-2141.
- (14) Identify the part with the Messier-Dowty Limited repair number 450258430 adjacent to the part number: refer to PCS-6000-07.
- (15) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin
Figure 601

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1. Repair No. 8-1 Bracket (5-300)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to the diameter A and/or the adjacent inside face.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
5-300	Bracket	Aluminium Alloy, L168T6511

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/85	Press Pad	Install oversize bearing
460004331/7	Drift	Use with 460004330/85

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450217858	Oversize bearing	Steel, S145

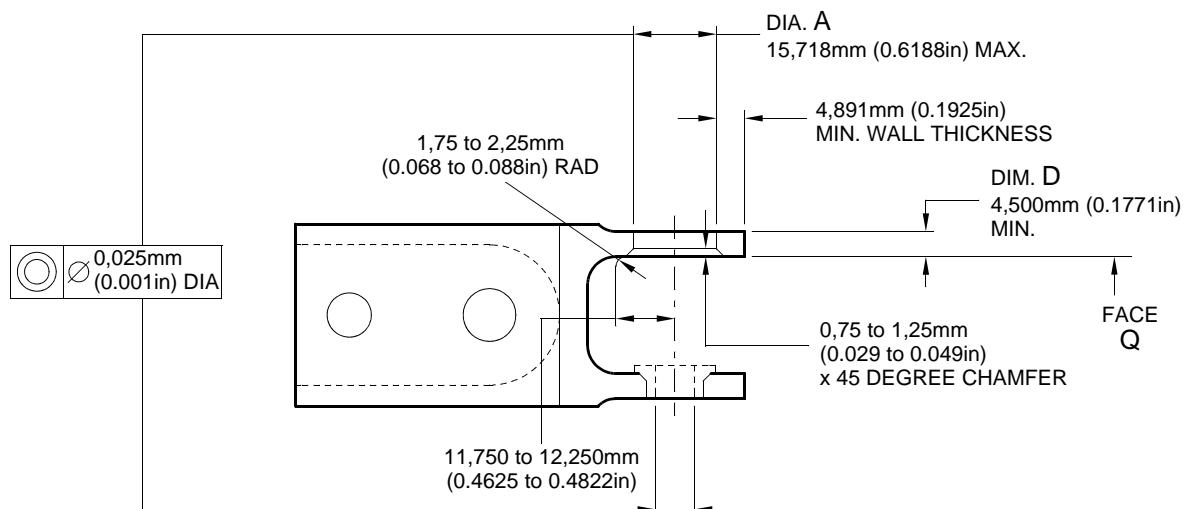
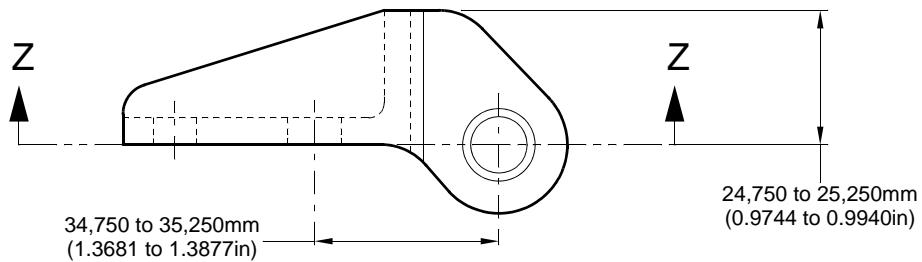
E. Procedure ([Refer to Figure 601](#))

- (1) Machine the diameter A to remove the minimum amount of material necessary to remove the damage or wear: refer to [Figure 601](#) for the dimensions. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Machine the face Q as necessary to remove damage or wear: refer to [Figure 601](#) for the dimensions. The surface finish must be 1,6 micrometers (63 micro-inches).
- (3) Machine the chamfer to the dimensions shown in [Figure 601](#).
- (4) Measure and make a record of the new diameter A and the thickness of the lug D.
- (5) Examine the bracket for flaws: refer to PCS-3200.

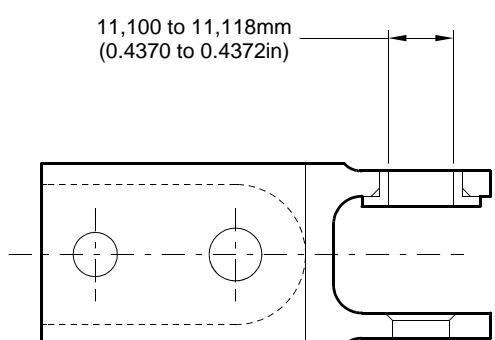
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- (6) Prepare the machined surfaces of the bracket:
 - anodize the surfaces: refer to M-DLPS102-1, or
 - apply Alocrom to the surfaces: refer to PCS-2220.
- (7) Calculate the diameter B and the dimension C of the oversize bearing:
 $B = A$ (as measured) - 0,006 to + 0,023 mm (- 0.0002 to + 0.0009 in)
 $C = D$ (as measured) - 0,15 to - 0,25 mm (- 0.006 to - 0.010 in).
- (8) Machine the oversize bearing to the dimensions shown and calculated: the surface finish must be 1,6 micrometers (63 micro-inches).
- (9) Passivate the oversize bearing: refer to M-DLPS124.
- (10) Apply cadmium plate to the oversize bearing, but not on the internal diameter. The thickness of the cadmium plate must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in): refer to M-DLPS100-2S.
- (11) Use the Press Pad 460004330/85 and Drift 460004331/7 to install the oversize bearing to the bracket: refer to M-DLPS1011-14. Check line ream the oversize bearing to the dimension shown in [Figure 601](#).
- (12) Apply sealant, Material Ref. Item 09-510A, to seal between the ends of the oversize bearing and the bracket: refer to M-DLPS709-19.
- (13) Identify the part with the Messier-Dowty Limited repair number 450217195 adjacent to the part number: refer to PCS-6000-05 and PCS-6000-07.
- (14) Examine the part to make sure that you have obeyed all the repair instructions correctly.

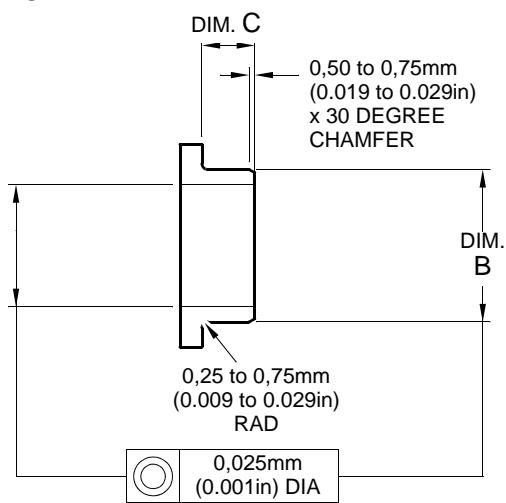
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SECTION Z-Z WITHOUT BEARING



SECTION Z-Z WITH BEARING



Oversize bearing - MACHINING

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Repair to Bracket
Figure 601

32-12-22

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1. Repair No. 8-2 Bracket (5-300)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to the diameter A and/or the adjacent inside face.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
5-300	Bracket	Aluminium Alloy, L168T6511

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/136	Press Pad	Install the oversize bearing
460004331/7	Drift	Use with 460004330/136

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450217859	Oversize bearing	Steel, S145

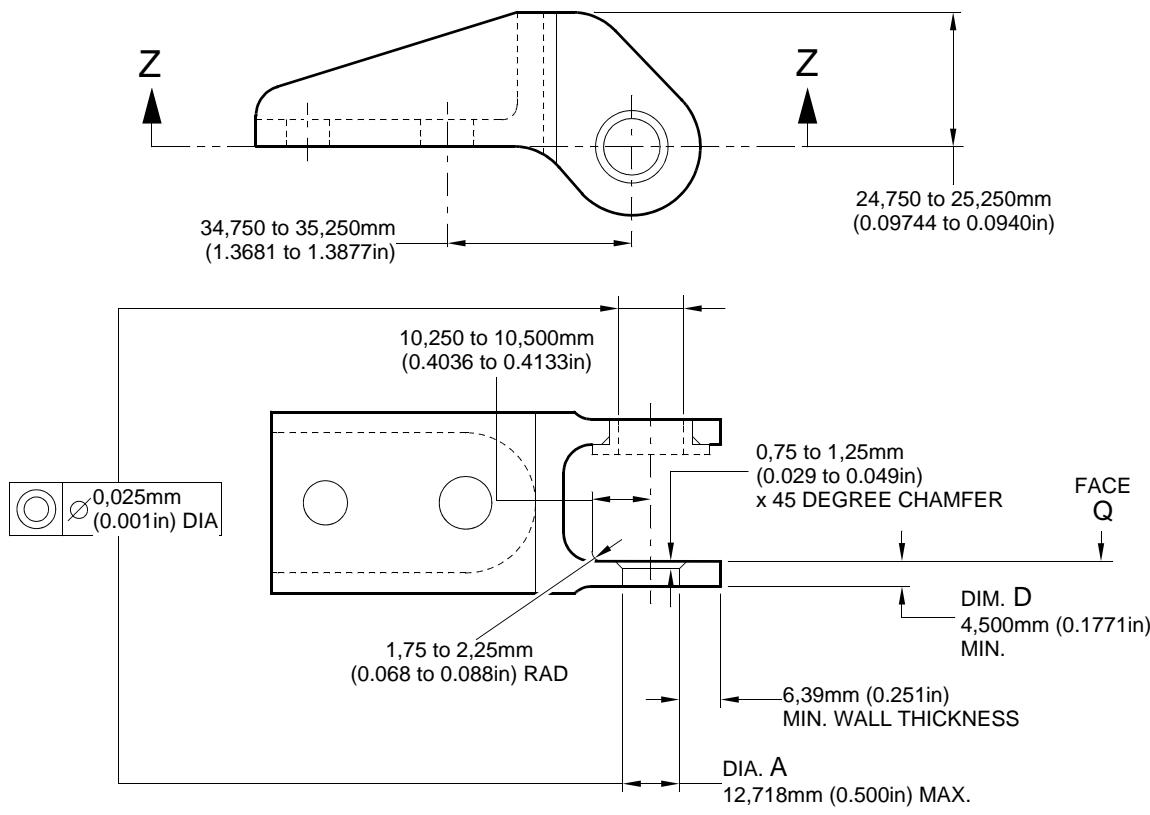
E. Procedure ([Refer to Figure 601](#))

- (1) Machine the diameter A sufficiently to remove the damage or wear: refer to [Figure 601](#) for the dimensions. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Machine the face Q as necessary to remove the damage or wear: refer to [Figure 601](#) for the dimensions. The surface finish must be 1,6 micrometers (63 micro-inches).
- (3) Machine the chamfer to the dimensions shown in [Figure 601](#).
- (4) Measure and make a record of the new diameter A and the thickness of the lug D.
- (5) Examine the bracket for flaws: refer to PCS-3200.

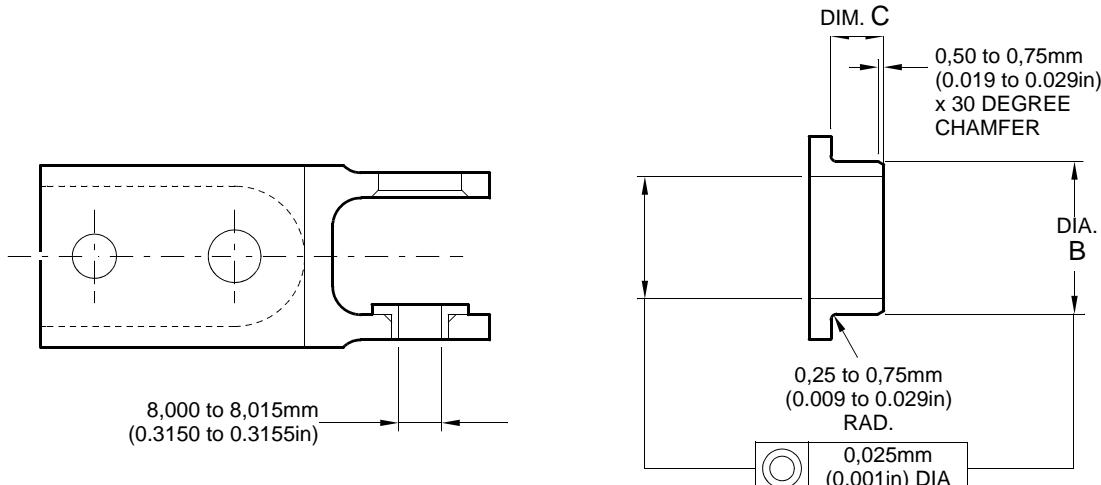
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- (6) Prepare the machined surfaces of the bracket:
 - anodize the surfaces: refer to M-DLPS102-1, or
 - apply Alocrom to the surfaces: refer to PCS-2220.
- (7) Calculate the diameter B and the dimension C of the oversize bearing:
 $B = A$ (as measured) - 0,006 to + 0,023 mm (- 0.0002 to + 0.0009 in)
 $C = D$ (as measured) - 0,30 to - 0,40 mm (- 0.011 to - 0.015 in).
- (8) Machine the oversize bearing to the dimensions shown and calculated: the surface finish must be 1,6 micrometers (63 micro-inches).
- (9) Passivate the oversize bearing: refer to M-DLPS124.
- (10) Apply cadmium plate to the oversize bearing, but not on the internal diameter. The thickness of the cadmium plate must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in): refer to M-DLPS100-2S.
- (11) Use the Press Pad 460004330/136 and Drift 460004331/7 to install the oversize bearing to the bracket: refer to M-DLPS1011-14. Check line ream the oversize bearing to the dimension shown in [Figure 601](#).
- (12) Apply sealant, Material Ref. Item 09-510A, to seal between the ends of the oversize bearing and the bracket: refer to M-DLPS709-19.
- (13) Identify the part with the Messier-Dowty Limited repair number 450217205 adjacent to the part number: refer to PCS-6000-05.
- (14) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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SECTION Z-Z WITHOUT BEARING



SECTION Z-Z WITH BEARING

OVERSIZE BEARING - MACHINING

A321A3511-1

Repair to Bracket
Figure 601

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■ 1. Repair No. 9-1 Sliding Tube ([18-80](#) and [18-80A](#))

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding tube	Steel, S155 (300M)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to Figures [601](#) and [602](#))

- (1) Remove the chromium plate from diameter A: refer to PCS-2110.

- (a) If the base metal is not damaged or corroded:

- 1 Examine the sliding tube for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- 2 Apply chromium plate to diameter A: refer to PCS-2110 Type C. Refer to [Figure 601](#) for chromium plate termination information.
- 3 Grind diameter A to between 177,68 and 177,72 mm (6.995 and 6.997 in). The surface finish must be 0,25 micrometers (10 micro-inches).
- 4 Examine the ground chromium plate for flaws: refer to M-DLNDT3.
- 5 Identify the part with the Safran Landing Systems repair number 450258460A adjacent to the part number: refer to PCS-6000-19 and PCS-6000-07.
- 6 Examine the part to make sure that you have obeyed all the repair instructions correctly.

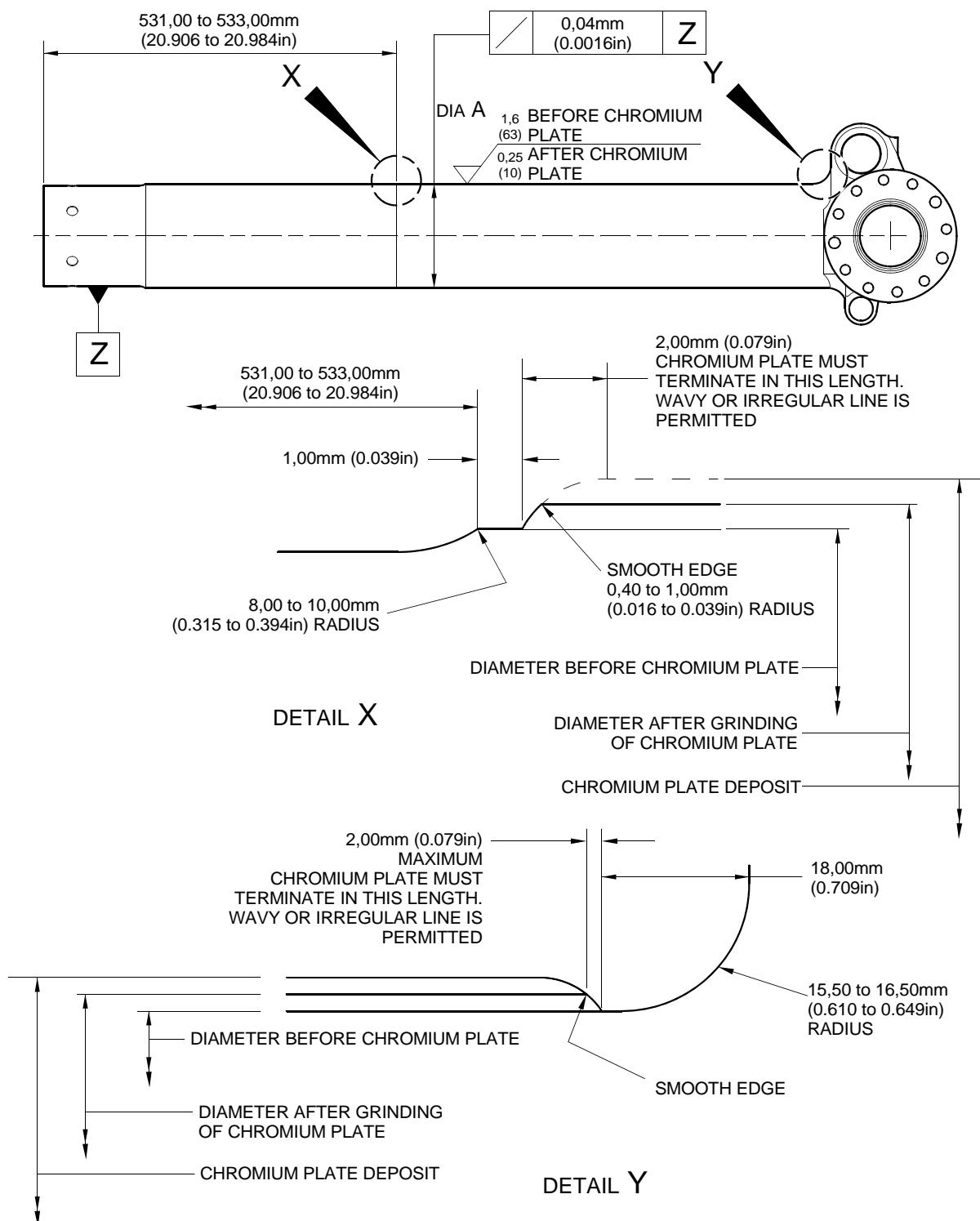
- (b) If the base metal is damaged or corroded:

- 1 Machine diameter A just sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1. The diameter must not be less than 177,07 mm (6.971 in). The surface finish must be 1,6 micrometers (63 micro-inches).
- 2 Examine the sliding tube for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- 3 Shot peen the machined areas: refer to PCS-2300.

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- 4** Apply chromium plate to diameter A: refer to PCS-2110 Type C. Refer to M-DLPS1031 and [Figure 602](#) for chromium plate termination information.
- 5** Grind diameter A to between 177,68 and 177,72 mm (6.995 and 6.997 in). The surface finish must be 0,25 micrometers (10 micro-inches).
- 6** Examine the ground chromium plate for flaws: refer to M-DLNNDT3.
- 7** Identify the part with the Safran Landing Systems repair number 450258460B adjacent to the part number: refer to PCS-6000-19 and PCS-6000-07.
- 8** Examine the part to make sure that you have obeyed all the repair instructions correctly.

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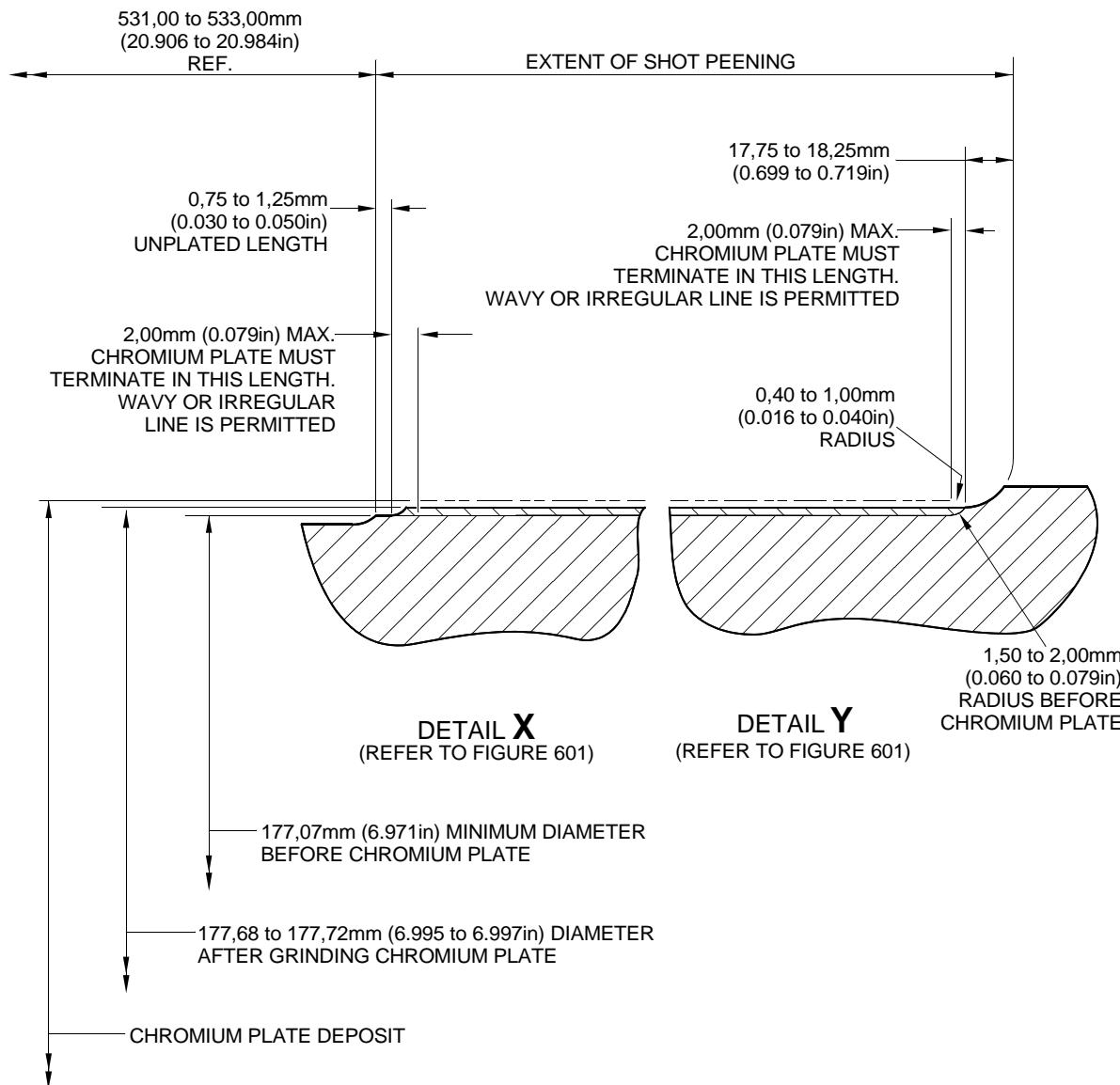
A321-S-32-12-22-025-0

Repair to Sliding Tube
Figure 601

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A321-S-32-12-22-026-0

Repair to Sliding Tube
Figure 602

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Repair No. 9-1
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■ 1. Repair No. 9-2 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the chromium plate band(s) on one or both brake flanges.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding tube	Steel, S155 (300M)

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: REPAIR WILL NOT BE PERMITTED BEYOND THE LIMITS OF THIS REPAIR SCHEME.

(1) Remove the chromium plate band(s) from the brake flange(s): refer to M-DLPS101.

(2) Remove the Sermetel W surface treatment from the sliding tube: refer to M-DLPS637.

(3) Do this procedure if there is no damage to the parent metal:

(a) Examine the sliding tube for flaws: refer to M-DLNLT6 and M-DLNLT2, inclusion class 4.

(b) Stress relieve the sliding tube for 4 hours at 185 to 195 °C (366 to 384 °F).

(c) Apply chromium plate to make new band(s) on the flange face(s) using one of these procedures: refer to [Figure 601](#).

1 Apply chromium plate bands to the flange(s): refer to M-DLPS101-7. Grind the chromium plate to get the dimensions shown in [Figure 601](#): the surface finish must be 2,5 micrometers (100 micro-inches). Examine the ground chromium plate for flaws: refer to M-DLNLT3.

OR

2 Apply chromium plate bands to the flange(s) to get a deposit that agrees with the dimensions shown in [Figure 601](#): refer to M-DLPS101-7. The surface finish must be 2,5 micrometers (100 micro-inches).

(d) Apply Sermetel W protective treatment: refer to M-DLPS637 and [REPAIR, Protective Treatment](#).

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MAIN LANDING GEAR LEG

- (e) Identify the part with the Safran Landing Systems repair number 450266100A adjacent to the part number: refer to M-DLPS405-4.
 - (f) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (4) Do this procedure if there is corrosion or damage to the parent metal not more than 0,25 mm (0.010 in) deep.

CAUTION: DO NOT MACHINE ALL OF THE FLANGE FACE.

- (a) Locally make the area smooth and polish just sufficiently to remove the corrosion or damage from the surface: the minimum flange width is 11,6 mm (0.456 in).
 - (b) Examine the sliding tube for flaws: refer to M-DLNLT6 and M-DLNLT2, inclusion class 4.
 - (c) Stress relieve the sliding tube for 4 hours at 185 to 195 °C (366 to 384 °F).
 - (d) Locally shot peen the sliding tube: refer to M-DLPS123.
 - (e) Refer to [Figure 601](#) and M-DLPS101-7. Apply chromium plate to make new bands on the brake flange surface: make the chromium plate thicker in the areas where the corrosion or damage has been removed.
 - (f) Grind the chromium plate to the dimension shown: refer to [Figure 601](#). The surface finish must be 2,5 micrometers (100 micro-inches).
 - (g) Examine the chromium plate surface: refer to M-DLNLT3.
 - (h) Apply Sermetel W protective treatment: refer to M-DLPS637 and [REPAIR](#), Protective Treatment.
 - (i) Identify the part with the Safran Landing Systems repair number 450266100B adjacent to the part number: refer to M-DLPS405-4.
 - (j) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (5) Do this procedure if there is corrosion or damage to the parent metal more than 0,25 mm (0.010 in) deep.

CAUTION: DO NOT MACHINE ALL OF THE FLANGE FACE.

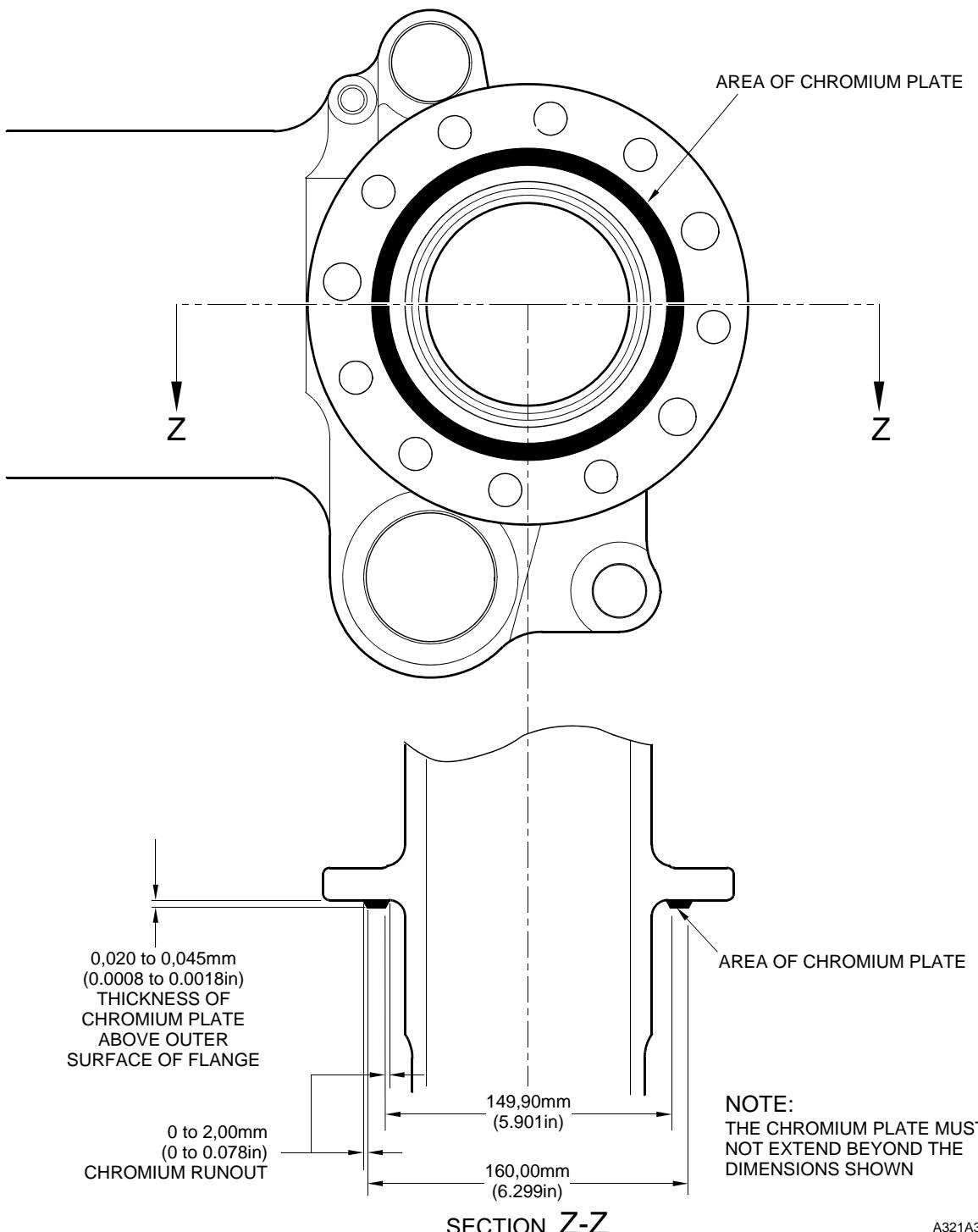
- (a) Locally make the area smooth and polish just sufficiently to remove the corrosion or damage from the face, the minimum flange width is 11,6 mm (0.456 in).
- (b) Examine the sliding tube for flaws: refer to M-DLNLT6 and M-DLNLT2, inclusion class 4.
- (c) Stress relieve the sliding tube for 4 hours at 185 to 195 °C (366 to 384 °F).
- (d) Locally shot peen the sliding tube: refer to M-DLPS123, Almen A intensity of 0,010 to 0,014 mm (0.0004 to 0.0006 in).
- (e) Refer to M-DLPS200-4 and locally grit blast the sliding tube: give protection from the grit blast to the areas adjacent to the flanges.

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- (f) Apply sulphamate nickel plate to the smoothed and polished areas. The sulphamate nickel plate must fill the smoothed and polished areas and be 0,25 mm (0.010 in) above the flange face. Refer to MIL STD 868A, solution 2.
- (g) De-embrittle the sliding tube for 23 hours at 185 to 195°C (366 to 384°F).
- (h) Machine the sulphamate nickel plate (do not grind), the machined surface must be 0,00 to 0,05 mm (0.000 to 0.002 in) above the brake flange surface. The surface finish must be 1,6 micrometers (63 micro-inches).
- (i) Examine the sliding tube: refer to M-DLNDT6.
- (j) De-embrittle the sliding tube for 4 hours at 185 to 195°C (366 to 384°F).
- (k) If the parent metal was machined at para (h), examine the affected area for flaws: refer to M-DLNDT2, inclusion class 4.
- (l) Shot peen the flange face(s) including the sulphamate nickel plated areas: refer to M-DLPS123, Almen A intensity of 0,010 to 0,014 mm (0.0004 to 0.0006 in).
- (m) Refer to M-DLPS200-4 and locally grit blast the sliding tube: give protection from the grit blast to the areas adjacent to the flanges.
- (n) Use 5 or 10 times magnification to examine the sulphamate nickel plate to make sure the bond is satisfactory: do the repair again if the bond is not satisfactory.
- (o) Apply chromium plate to make new band(s) on the flange face(s) using one of these procedures: refer to [Figure 601](#).
 - 1 Apply chromium plate to the bands: refer to M-DLPS101-7. Grind the chromium plate to get the dimensions shown: the surface finish must be 2,5 micrometers (100 micro-inches). Examine the ground chromium plate for flaws: refer to M-DLNDT3.
OR
 - 2 Apply chromium plate to the band to the dimensions shown: refer to M-DLPS101-7. The surface finish must be 2,5 micrometers (100 micro-inches).
- (p) Apply Sermetel W protective treatment: refer to M-DLPS637 and [REPAIR, Protective Treatment](#).
- (q) Identify the part with the Safran Landing Systems repair number 450266100C adjacent to the part number: refer to M-DLPS405-4.
- (r) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Sliding Tube
Figure 601

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Repair No. 9-2
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MAIN LANDING GEAR LEG1. Repair No. 9-3 Sliding Tube (18-80)

- A. This Repair, Messier-Dowty Limited Repair No. 450258400, has been superseded by [Repair No. 9-10](#), Messier-Dowty Limited Repair No. 450258401.



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■ 1. Repair No. 9-4 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to the diameter(s) A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel, 300M

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special tool	Function
460004330/105	Press Pad	Install the repair bush(es)

C. Material.

(1) Materials are not necessary.

D. Repair Parts

(1) These repair parts are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Repair Part	Material Specification
450266336	Repair Bush (Qty 18)	Stainless Steel, AMS 5643 or 5659

E. Procedure (Refer to Figures 601 and 602).

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

(1) Do this procedure if there is a wear or damage to diameter(s) A:

(a) Remove the paint locally from the sliding tube: refer to PCS-2700.

(b) Remove the sermetel from the sliding tube: refer to M-DLPS637.

(c) Remove the chromium plate locally from the sliding tube: refer to PCS-2110, type C and [Figure 601](#).

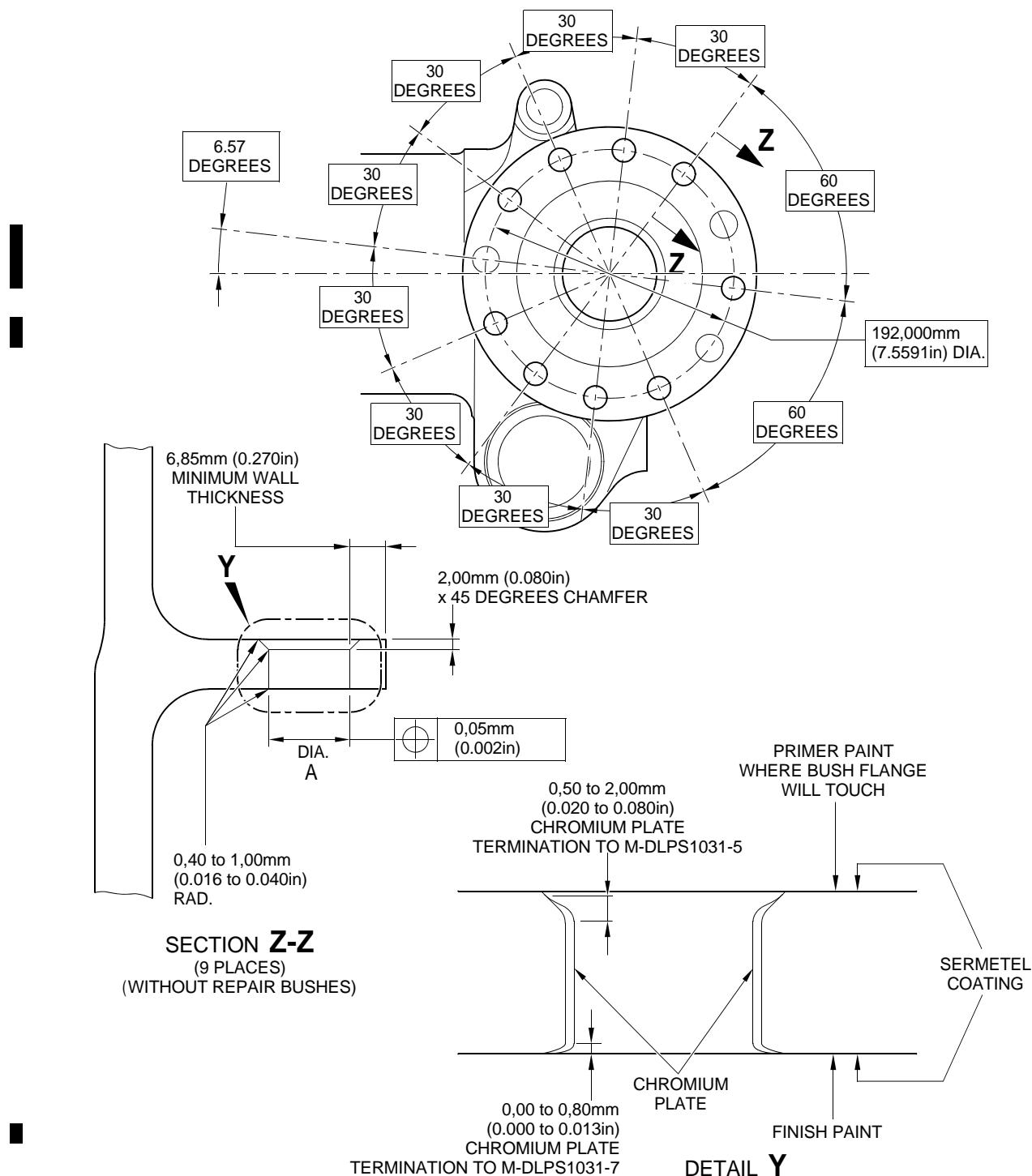
(d) Machine diameter(s) A sufficiently to remove the damage or wear: refer to M-DLPS900, M-DL PS1000 and [Figure 601](#). Do not make diameter(s) A more than 18,568 mm (0.7310 in). Make the surface finish 1,6 micrometers (63 micro-inches).

(e) Machine the chamfers and radii to the dimensions shown: refer to [Figure 601](#).

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- (f) Measure and record the new diameter(s) A.
- (g) Examine the sliding tube for flaws: refer to PCS-3100 inclusion class 4 and PCS-3600.
- (h) If necessary, shot peen the machined surfaces: refer to M-DLPS123.
- (i) Apply chromium plate to the reworked diameter(s) A: refer to PCS-2110, type C, M-DLPS1031-5, M-DLPS1031-7 and [Figure 601](#). Make the chromium plate thickness between 0,020 and 0,025 mm (0.0008 and 0.0010 in).
- (j) Apply sermetel to the sliding tube: refer to [REPAIR](#) and M-DLPS637.
- (k) Identify the part with the Safran Landing Systems repair number 450266290 adjacent to the part number: refer to PCS-6000-05.
- (l) Calculate diameter C for the repair bushes, use the formula:
$$\text{Dia. C} = \text{Dia. A} (\text{as measured}) + 0,034 \text{ to } -0,004 \text{ mm } (+ 0.0013 \text{ to } -0.0002 \text{ in}).$$
- (m) Machine the face B to produce a flange thickness of 2,00 to 2,05 mm (0.079 to 0.080 in): refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (n) Machine the repair bushes to the dimensions shown and calculated: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (o) Passivate the repair bushes: refer to AMS 2700.
- (p) Apply IVD alloy coating with chromation yellow all over the bushes, but not to the bores: refer to ICT 40-893-01MD and [Figure 602](#). The thickness of the coating must be between 0,007 and 0,012 mm (0.0003 and 0.0005 in).
- (q) Apply primer paint to the sliding tube where the bush flanges will touch: refer to PCS-2500.
- (r) Use the Press Pad 460004330/105 and install the repair bushes: refer to M-DLPS1011-20.
- (s) Check the bore diameter of the repair bushes: refer to [Figure 602](#).
- (t) If necessary, hone the bore diameter of repair bushes with a surface finish of 2,5 micrometers (100 micro-inches): refer to [Figure 602](#).
- (u) Apply paint locally to the sliding tube: refer to [REPAIR](#) and PCS-2500.
- (v) Identify the part with the Safran Landing Systems repair number 450266290 adjacent to the part number: refer to PCS-6000-07.
- (w) Examine the part to make sure that you have obeyed all the repair instructions correctly.

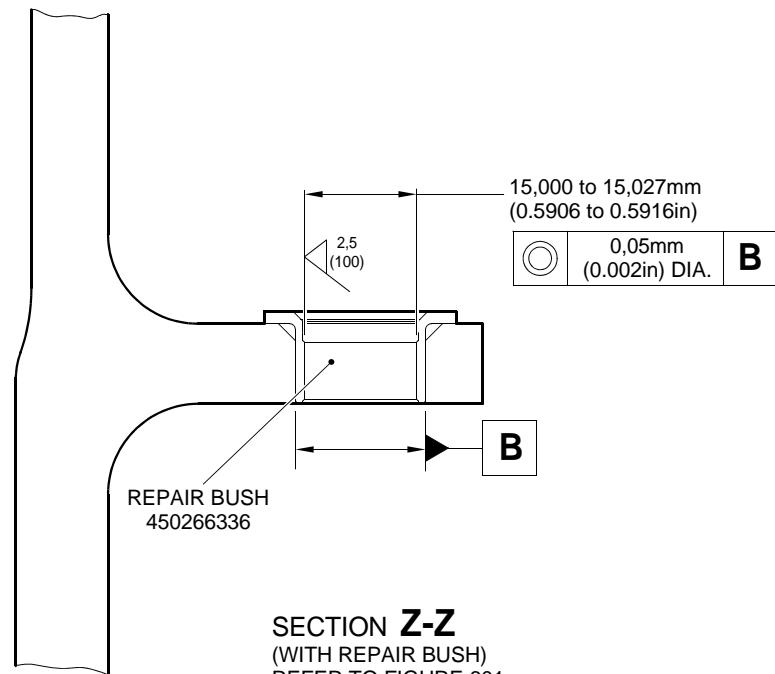
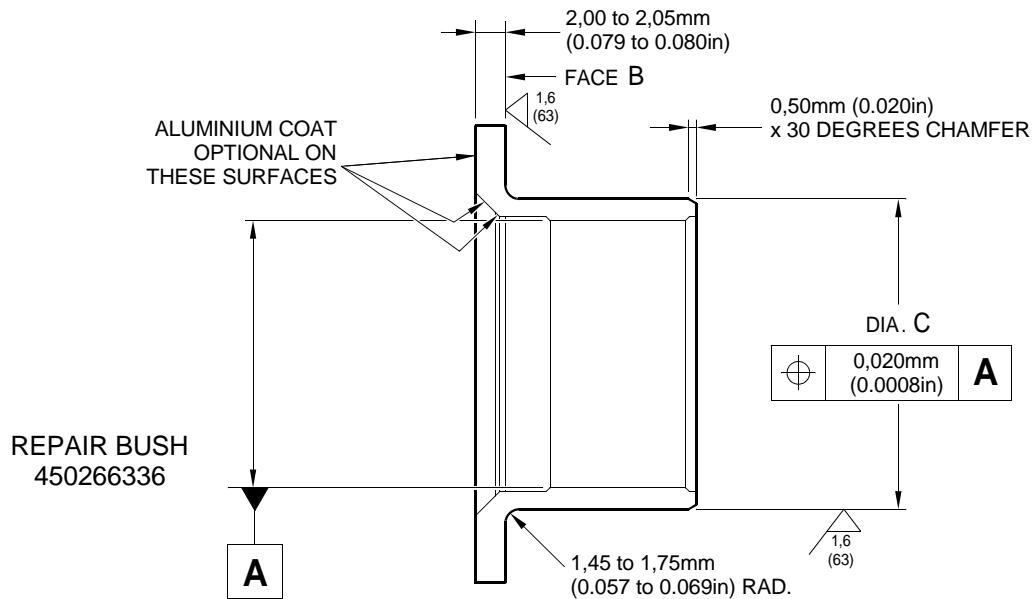
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Repair to Sliding Tube - Machining
Figure 601

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A321A5545-2

Repair Bush - Machining and Installation
Figure 602

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■ 1. Repair No. 9-5 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding tube	Steel, 300M

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

- (1) Do this procedure only if the base metal is not damaged.

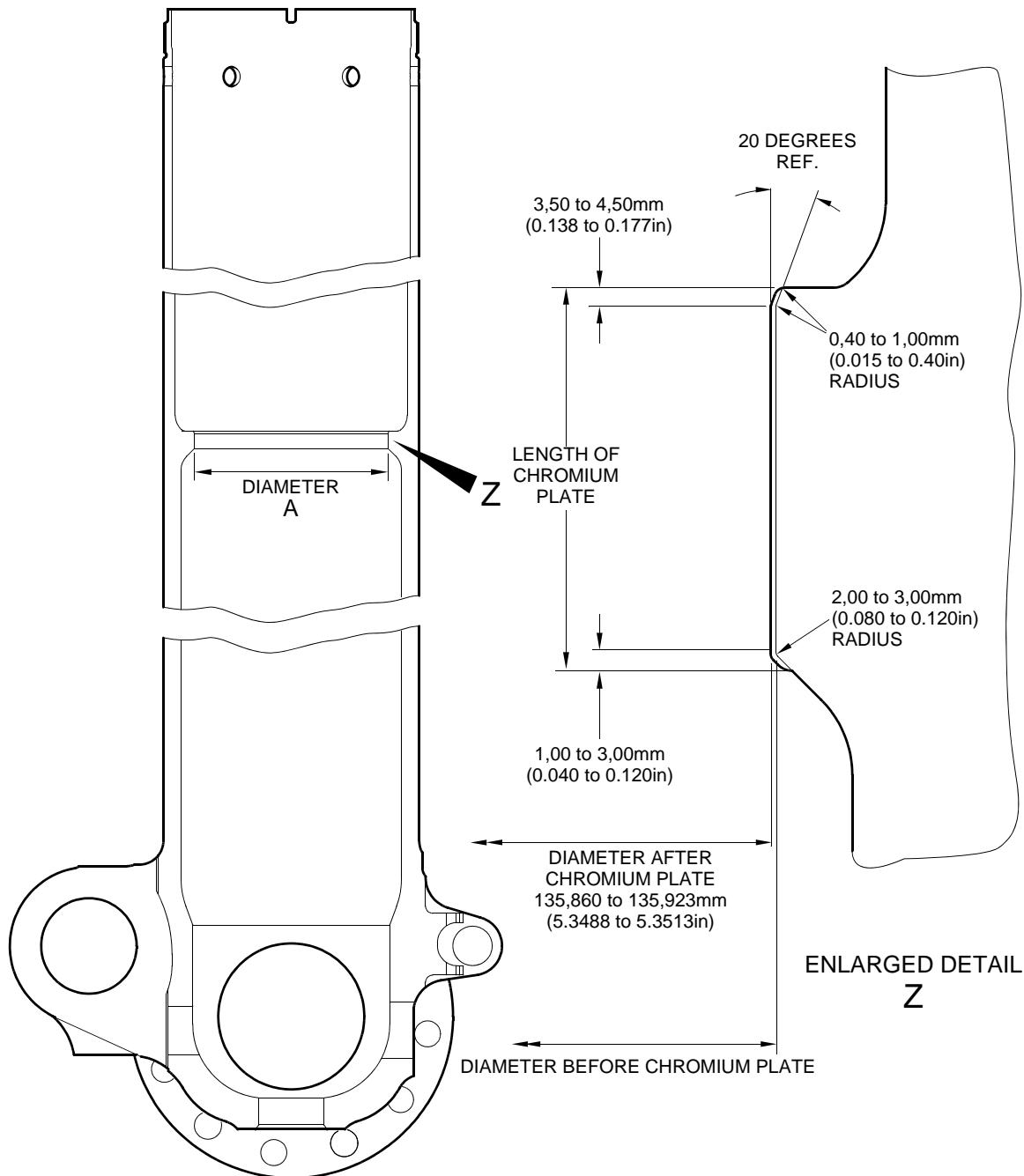
CAUTION: REPAIR WILL NOT BE PERMITTED BEYOND THE LIMITS OF THIS REPAIR SCHEME.

- (a) Remove the chromium plate from sliding tube: refer to PCS-2110, type C.
- (b) Examine the sliding tube for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH.

- (c) Apply chromium plate to the diameter A: refer to PCS-2110, type C and [Figure 601](#). Make the surface finish 1,6 micrometers (64 micro-inches). The chromium plate thickness must be between 0,020 and 0,025 mm (0.0008 and 0.0010 in).
- (d) Identify the part with the Safran Landing Systems repair number 450237720 adjacent to the part number: refer to PCS-6000-19.
- (e) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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A321A5714-1

Repair to Sliding Tube
Figure 601

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Repair No. 9-5
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■ 1. Repair No. 9-6 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and item No.	Name	Material Specification
18-80 and 18-80A	Sliding tube	Steel, S155 (300M)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

- (1) Do this procedure if both the chromium plate and the base metal are damaged.

NOTE: Refer to Repair No. 9-5, if only the chromium plate is damaged.

- (a) Machine diameter A to remove the damage or corrosion within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#).

- (b) Machine the radii to the dimensions as shown: refer to [Figure 601](#).

- (c) Identify the part with the Safran Landing Systems repair number 450258470 adjacent to the part number: refer to PCS-6000-04.

- (d) Examine the reworked area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

- (e) Shot peen the machined areas: refer to M-DLPS123.

- (f) Apply Sulphamate Nickel plate to diameter A: refer to PCS-2120 for sequence of operations and to MIL-STD-868A solution 2 and [Figure 601](#).

NOTE: This operation includes 23 hours de-embrittle at 177 to 205 °C (350 to 400 °F).

- (g) Machine (do not grind) the sulphamate nickel plate to the dimensions shown: refer to [Figure 601](#).

- (h) Only required, if the parent metal was machined at step (g), examine the machined area for flaws: refer to PCS-3600.

NOTE: This operation includes 4 hours de-embrittle at 177 to 205 °C (350 to 400 °F).

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- (i) Only required, if the parent metal was machined at step (g), examine the machined area for flaws: refer to PCS-3100, inclusion class 4.
- (j) Shot peen the machined areas: refer to M-DLPS123.
- (k) Grit blast the shot peened area: refer to PCS-2610. Make sure that the sliding tube is correctly masked.
- (l) Examine the edges of sulphamate nickel plate to make sure they are properly bonded: use 5 or 10X magnification.
- (m) If there is evidence of delamination, remove the sulphamate nickel plate and do the repair again.

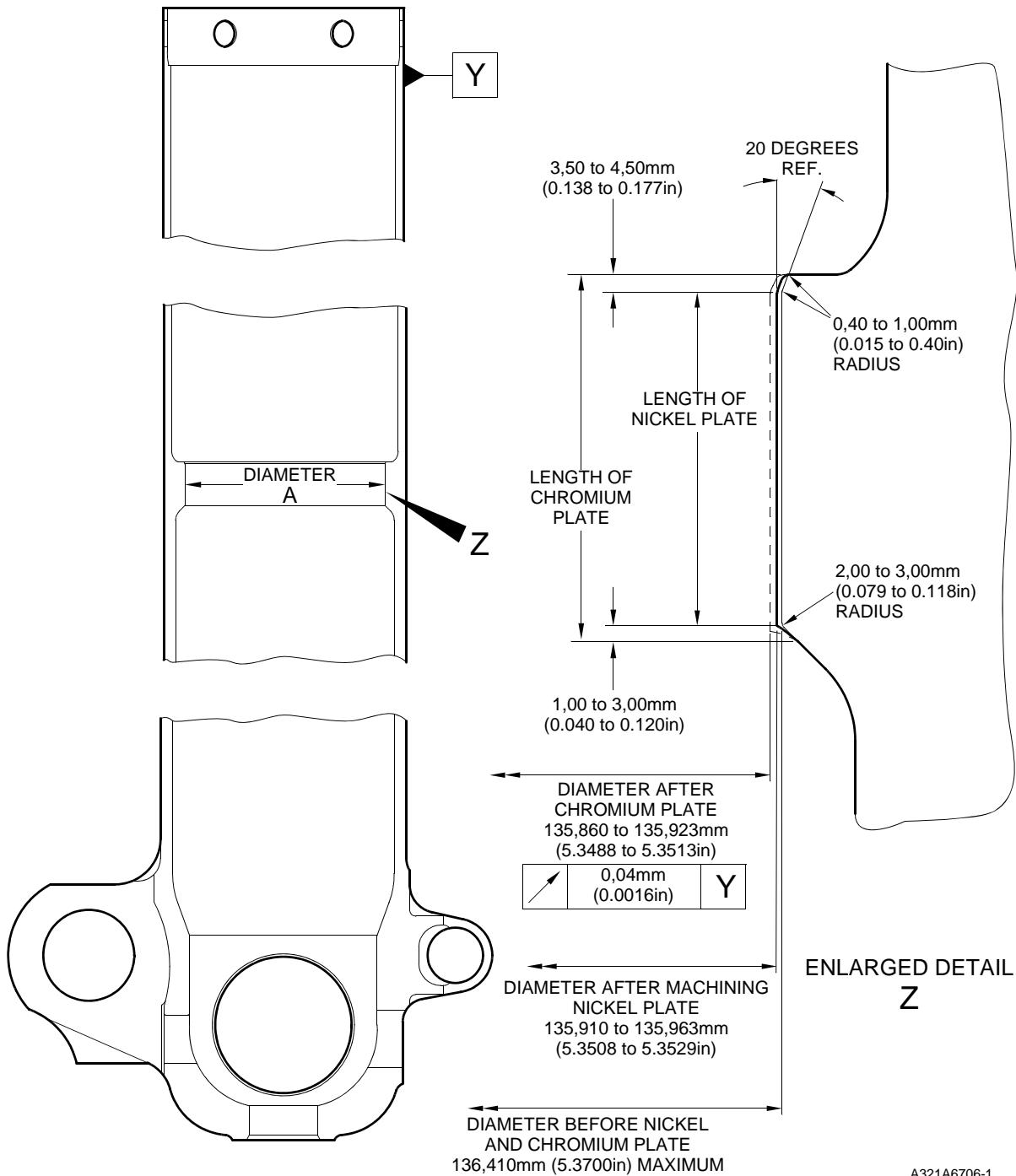
CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH.

- (n) Apply chromium plate to the diameter A: refer to PCS-2110 type C and [Figure 601](#). Make the chromium plate thickness between 0,020 and 0,025 mm (0.0008 and 0.0010 in). Make the surface finish 1,6 micrometers (63 micro-inches).

NOTE: This operation includes 18 hours de-embrittle at 177 to 205 °C (350 to 400 °F).

- (o) Identify the part with the Safran Landing Systems repair number 450258470 adjacent to the part number: refer to PCS-6000-07.
- (p) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Sliding Tube
Figure 601

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■ 1. Repair No. 9-7 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to diameter(s) A and faces D and E.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel to 300M

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/117	Press Pad	Install oversize bushes

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc Powder
05-533	Mastinox D40
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258028	Repair bush (Qty 2)	Aluminium Bronze

E. Procedure (Refer to Figures 601 and 602)

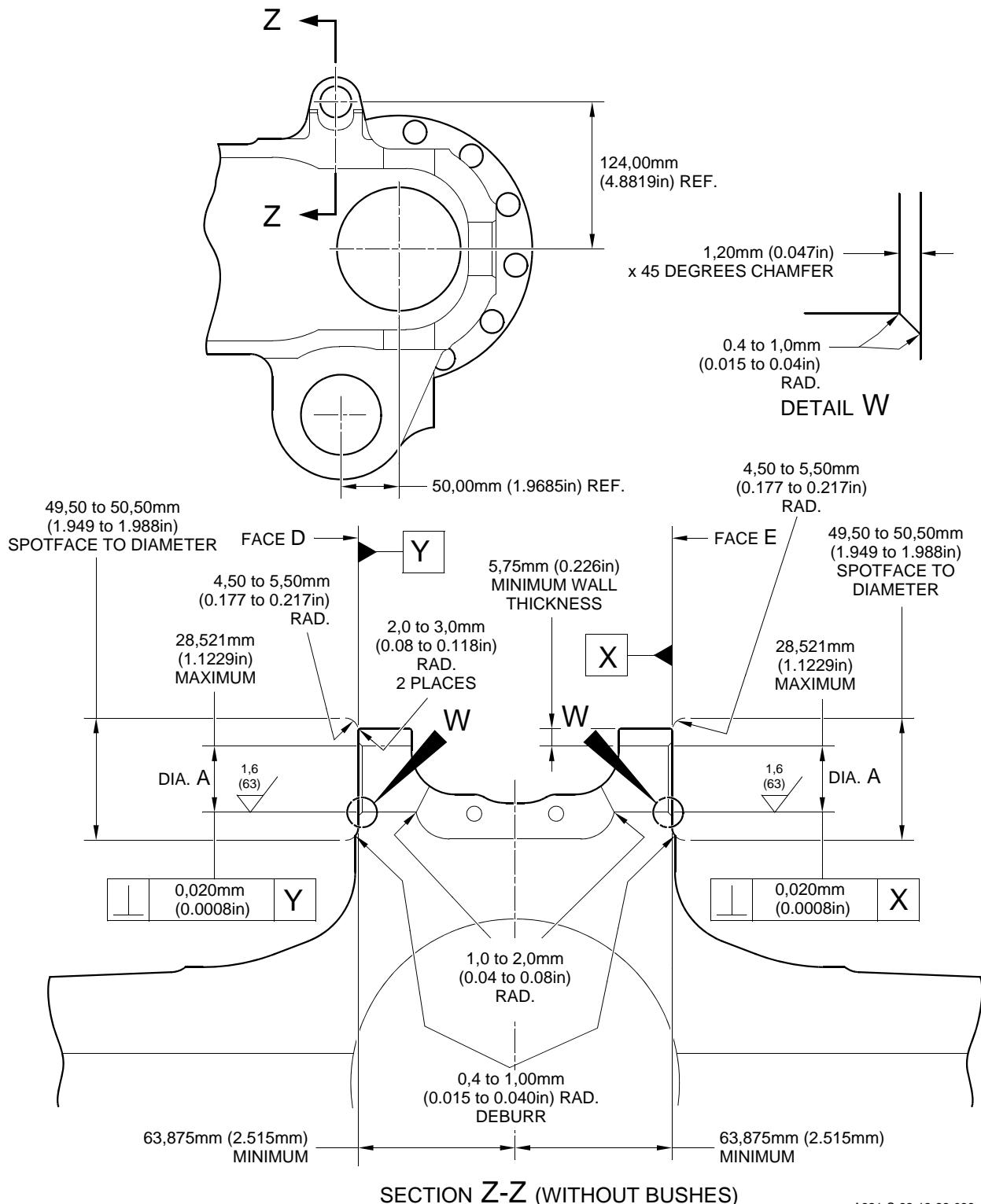
CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LIMITED: REFER TO GUIDE-CS-001.

(1) Remove the paint locally from the sliding tube: refer to PCS-2700.

(2) Remove the cadmium plate locally from the sliding tube: refer to PCS-2100.

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- (3) Machine diameter(s) A sufficiently to remove the minimum amount of material necessary to remove the wear or damage within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (4) Machine the adjacent spotfaces D and E to remove any damage or wear, within the dimensions shown: refer to [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (5) Machine the chamfers and radii to the dimensions shown: refer to [Figure 601](#).
- (6) Measure and record the new diameter(s) A.
- (7) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (8) Shot peen the machined areas: refer to M-DLPS123.
- (9) Apply cadmium plate to the reworked areas: refer to PCS-2100 or PCS-2141.
- (10) Identify the part with the Messier-Dowty Limited repair number 450265140 adjacent to the part number: refer to PCS-6000-05.
- (11) Calculate diameter B of each repair bush (qty 2), use the formula:
$$B = A \text{ (as measured)} - 0,006 \text{ mm (0.0002 in)} \text{ to } + 0,028 \text{ mm (0.0011 in)}$$
- (12) Machine the repair bushes to the dimensions shown and calculated. Machine face C to get the correct dimensions after installation: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches). The bushes must not protrude through the lug after installation.
- (13) Apply cadmium to the repair bushes, but not to the bores and the flange faces: refer to PCS-2101 and [Figure 602](#). The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (14) Apply primer paint to the sliding tube where the bush flanges will touch: refer to PCS-2500.
- (15) Use Press Pad 460004330/117 and install the repair bushes: refer to M-DLPS1011-20. Use electrically conducting Mastinox (made from Mastinox D40, Material Ref. Item 05-533 and Zinc powder, Material Ref. Item TBA): refer to M-DLPS709-14.
- (16) Check the bores of the repair bushes: refer to [Figure 602](#).
- (17) If necessary, hone the bores of the repair bushes to the dimensions shown: refer to [Figure 602](#). Make the surface finish 2,5 micrometers (100 micro-inches).
- (18) Apply paint to the repaired area, but not to the bushes: refer to PCS-2500.
- (19) Apply sealant, Material Ref. Item 09-510A, around the joints between the repair bushes and the sliding tube: refer to PCS-7200 and [Figure 602](#).
- (20) Identify the part with the Messier-Dowty Limited repair number 450265140 adjacent to the part number: refer to PCS-6000-07.
- (21) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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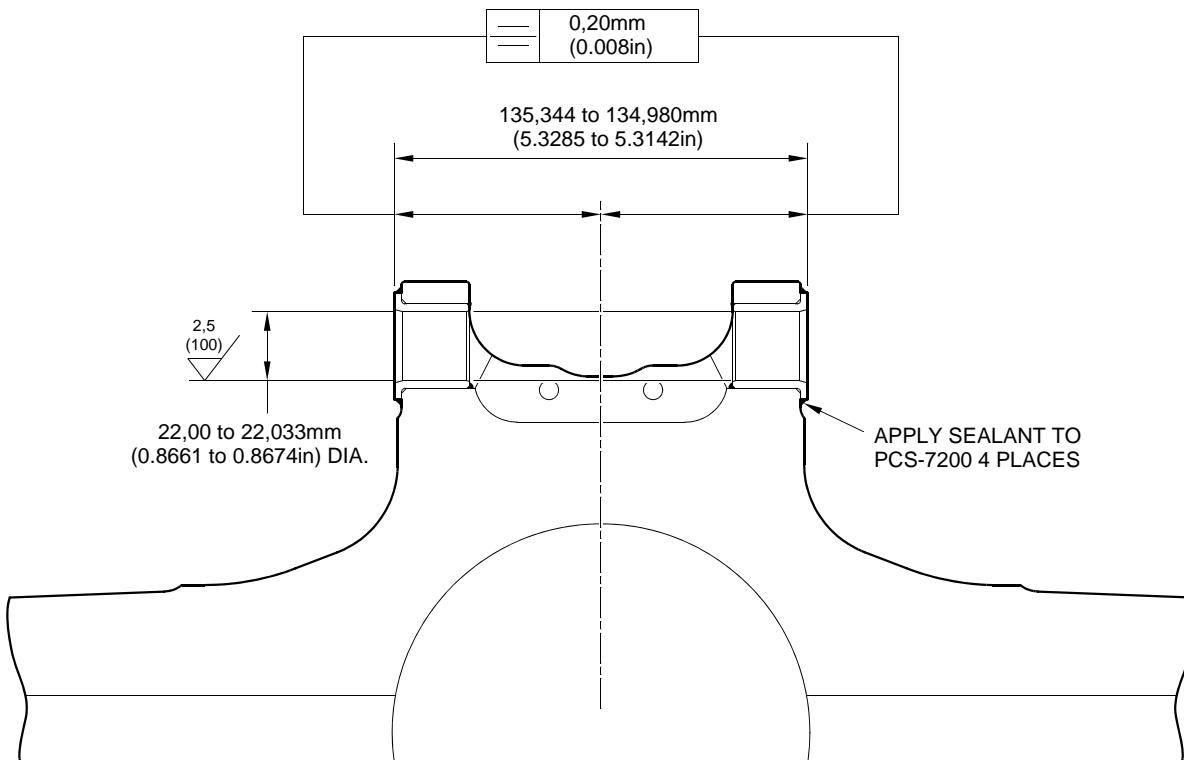
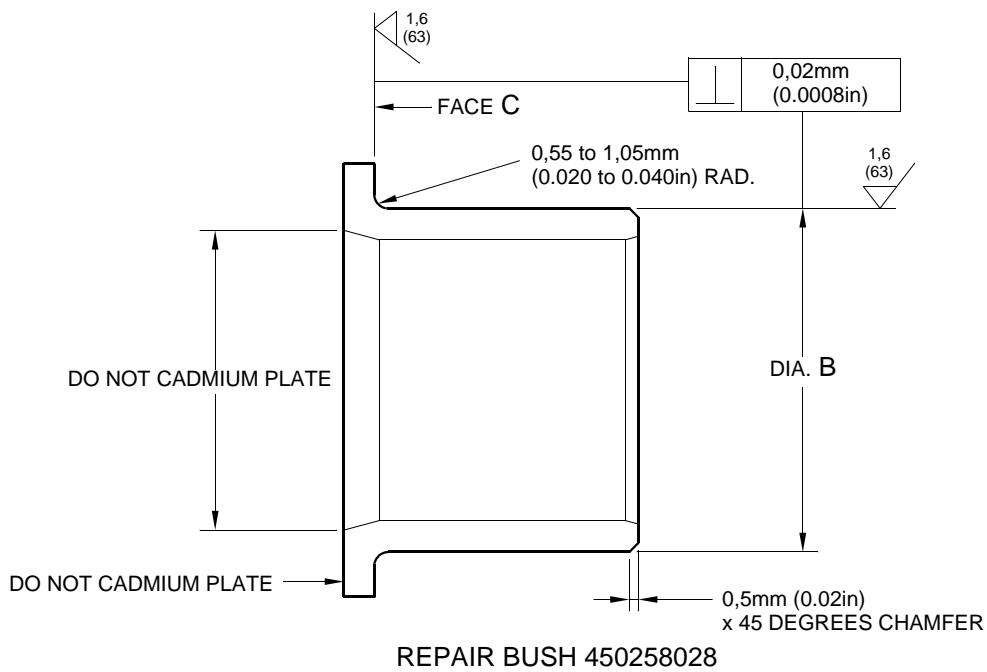
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 Repair to Sliding Tube - Machining
 Figure 601

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SECTION Z-Z
(WITH BUSHES)

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Repair Bushes - Machining and Installation
Figure 602

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■ 1. Repair No. 9-8 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to diameter(s) A and/or the adjacent face(s) B.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel, 300M

B. Special Tools

(1) These special tools are necessary:

Part No.	Special Tool	Function
460006246	Alignment bar	Install the repair bushes
460006250	Press Pad Assembly	
460006251	Guide Bush	
460006252	Guide Bush	

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc Powder
04-512	Molykote 111
09-510A	Sealant
09-581	Sealant

(2) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450217855	Repair bush (Qty 2)	Bronze, UZ 19A6

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CAUTION : FOR DEVIATIONS OUTSIDE THE LIMITS OF THIS REPAIR SCHEME CONTACT SAFRAN LANDING SYSTEMS.

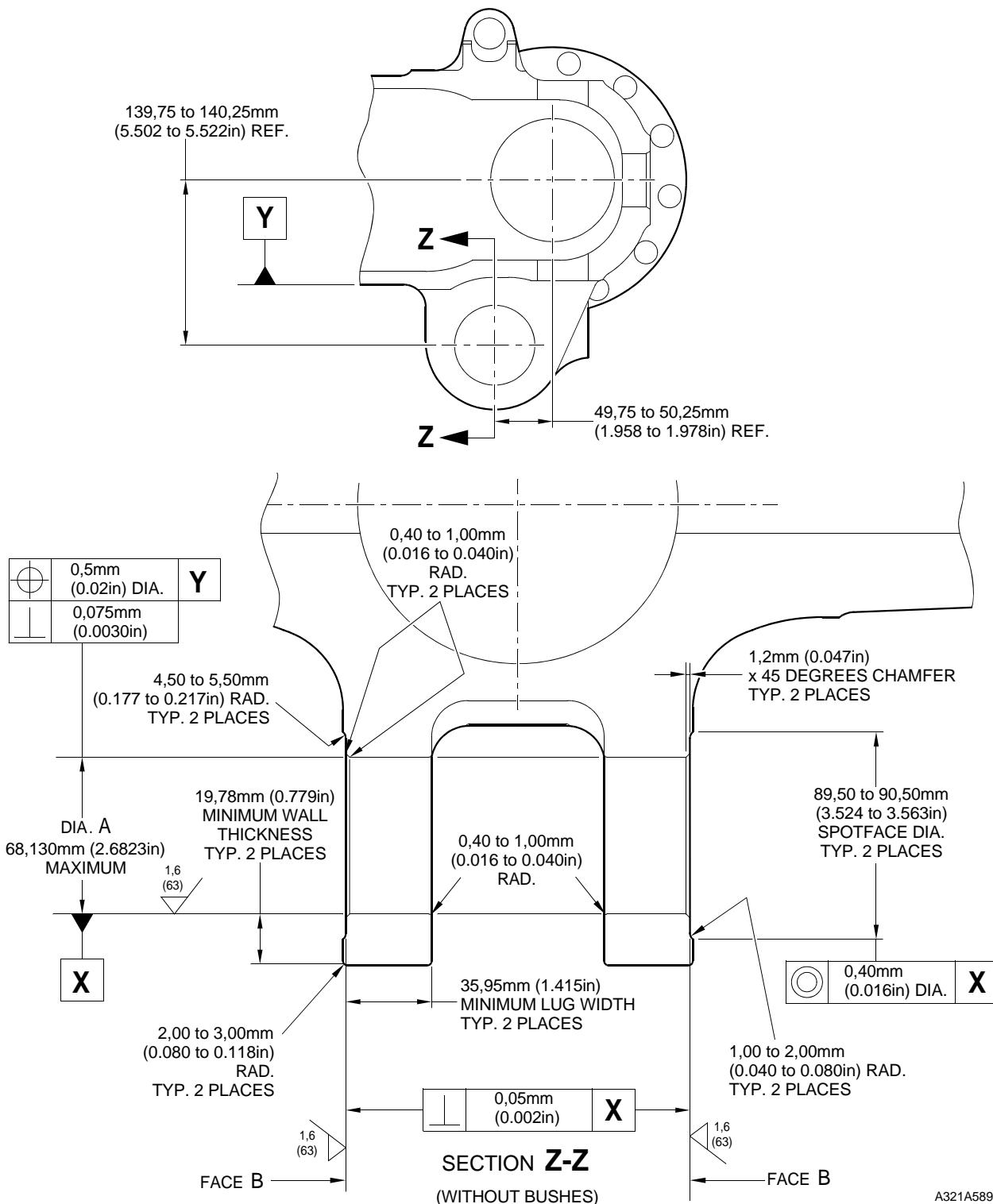
D. Procedure (Refer to Figures 601 and 602)

- (1) Do this procedure if there is damage or wear to diameter(s) A and or adjacent face(s) B:
 - (a) Machine diameter(s) A sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
 - (b) Machine the adjacent face(s) B using spotface cutter sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
 - (c) Machine the chamfers and radii to the dimensions shown: refer to [Figure 601](#).
 - (d) Measure and record the new diameter(s) A.
 - (e) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
 - (f) Shot peen the machined areas: refer to M-DLPS123.
 - (g) Identify the part with the Safran Landing Systems repair number 450266310 adjacent to the part number: refer to PCS-6000-05 or PCS-6000-06.
 - (h) Apply cadmium plate to the reworked areas: refer to PCS-2141.
 - (i) Calculate diameter C and dimension H of each repair bush (qty 2):
Dia. C = Dia. A (as measured) + 0,090 to + 0,139 mm (+ 0.0035 to + 0.0055 in).
Dim. H = Dim. G (as measured) (spotface to grease hole center line)
- 0,10 to + 0,10 mm (- 0.004 to + 0.004 in).
 - (j) Machine face D of the repair bush to get the correct dimensions: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
 - (k) Machine the repair bush to the dimensions shown and calculated: refer to M-DLPS900 and [Figure 602](#).
 - (l) Apply cadmium plate to the repair bushes, but not to the bores and the flange faces: refer to PCS-2101 or PCS-2141.
 - (m) Apply primer paint to the sliding tube where the bush flanges will touch: refer to PCS-2500.
 - (n) Apply the electrically conducting Molykote or rubberised sealant to the oversize bushes and the sliding tube over the dimensions shown: refer to [Figure 602](#). Use electrically conducting Molykote (made from Molykote 111, Material Ref. Item 04-512 and Zinc powder, Material Ref. Item TBA): refer to PCS-7304. Or use electrically conducting rubberised sealant, Material Ref. Item 09-581: refer to IFC30-145-03MD.
 - (o) Use the alignment bar 460006246, the press pad assembly 460006250 and the guide bushes 460006251 and 460006252 and install the oversize bushes: refer to PCS-5105-2.

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- (p) Machine the dimension across the bush flanges between 150,917 and 150,957 mm (5.9416 and 5.9432 in). The symmetry must be as shown: refer to [Figure 602](#).
- (q) Machine the chamfers to the dimensions shown: refer to [Figure 602](#).
- (r) Check the bore diameters of the repair bushes: refer to [Figure 602](#).
- (s) If necessary, hone the bore diameters of the repair bushes to the dimensions shown: refer to [Figure 602](#). Make the surface finish 2,6 micrometers (100 micro-inches).
- (t) Apply sealant, Material Ref. Item 09-510A, around the joints between the repair bushes and the sliding tube: refer to PCS-7200 and [Figure 602](#).
- (u) Apply paint to the repaired area: refer to [REPAIR](#) and PCS-2500.
- (v) Identify the part with the Safran Landing Systems repair number 450266310 adjacent to the part number: refer to PCS-6000-07.
- (w) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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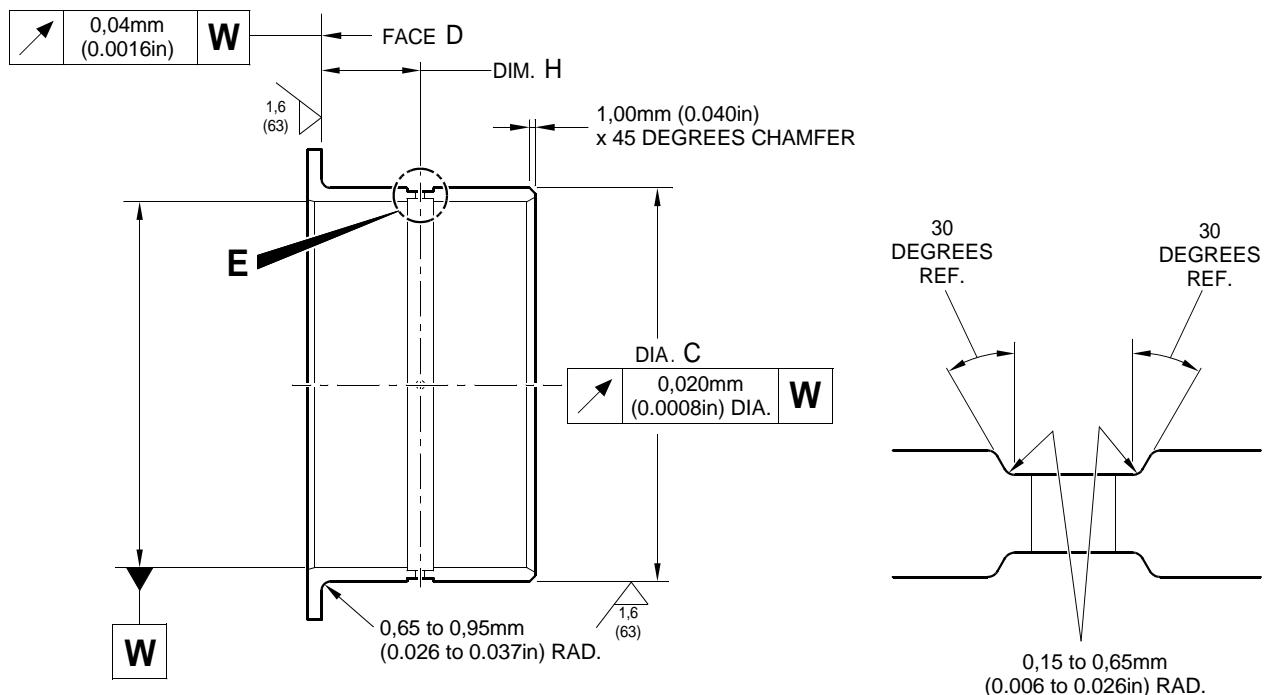
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Repair to Sliding Tube - Machining
Figure 601

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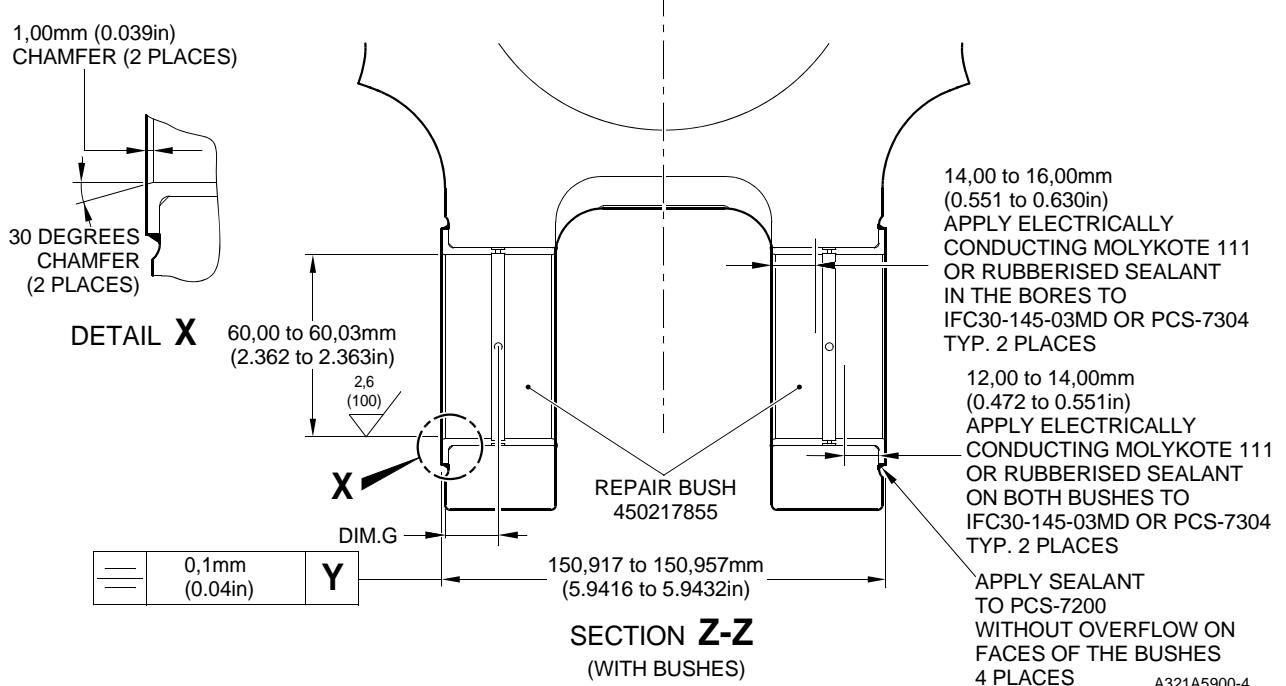
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REPAIR BUSH
450217855

DETAIL E
TYP. 4 PLACES



**Repair Bushes - Machining and Installation
Figure 602**



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Repair No. 9-8
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MAIN LANDING GEAR LEG**

■ 1. Repair No. 9-9 Sliding Tube ([18-80](#) and [18-80A](#))

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to diameter A and/or adjacent face.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel, 300M

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460004330/131	Press Pad	Install the repair bush

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc Powder
04-512	Molykote 111
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258015	Repair Bush	Bronze, UZ19A6

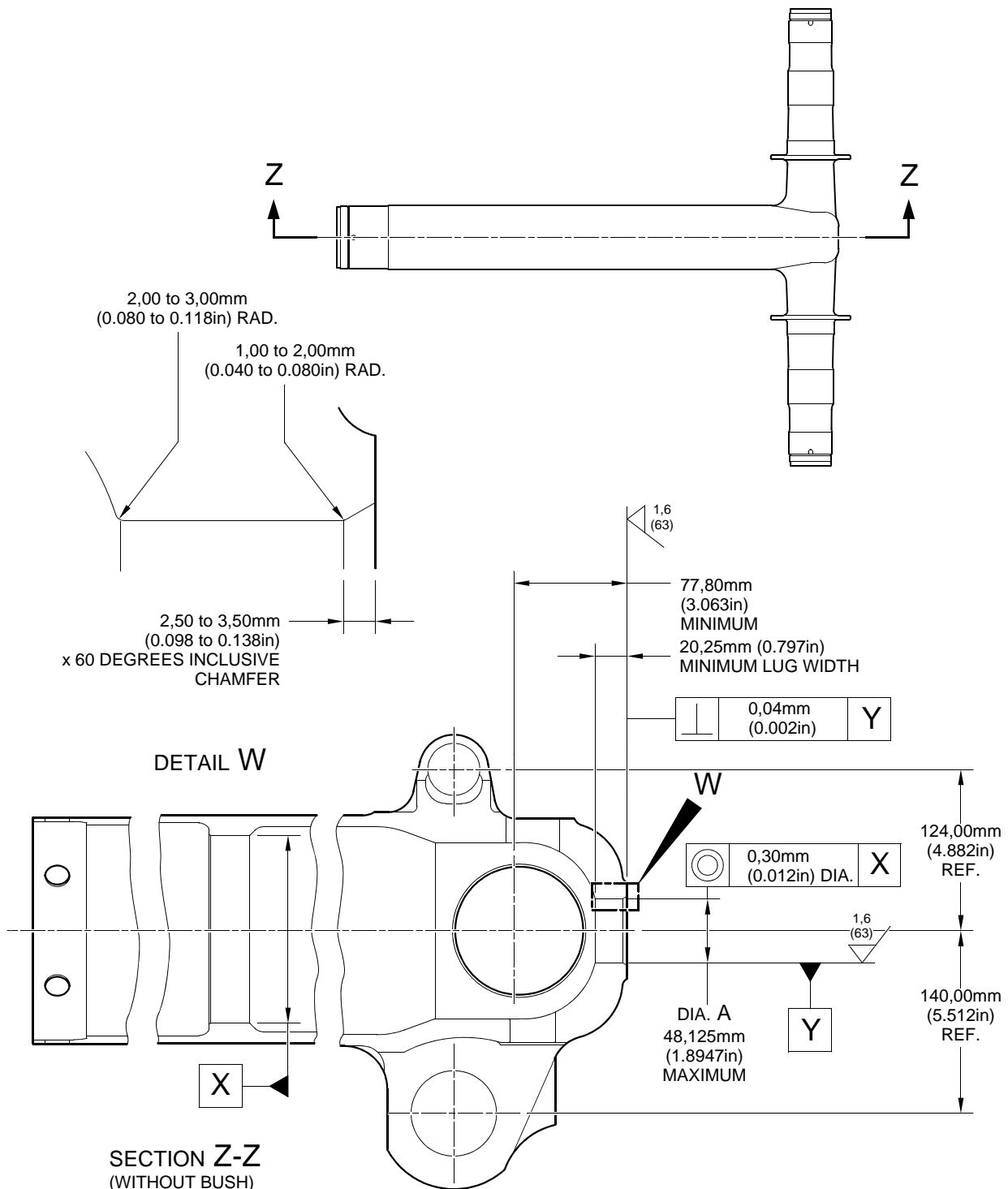
E. Procedure (Refer to Figures [601](#) and [602](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

(1) Machine the diameter A and/or the adjacent face to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Do not increase diameter A more than 48,125 mm (1.8947 in). Make the surface finish 1,6 micrometers (63 micro-inches).

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- (2) Machine the chamfer and radii to the dimensions shown: refer to [Figure 601](#).
- (3) Measure and record the new diameter A.
- (4) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (5) Shot peen the machined areas: refer to M-DLPS123.
- (6) Identify the part with the Safran Landing Systems repair number 450265180 adjacent to the part number: refer to PCS-6000-19.
- (7) Apply cadmium plate to the reworked areas: refer to PCS-2100. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (8) Calculate the diameter C for the repair bush, use the formula:
$$C = A \text{ (as measured)} + 0,018 \text{ to } 0,059 \text{ mm (0.0007 to 0.0023 in)}$$
- (9) Machine the repair bush to the dimensions shown and calculated. Machine face D to get the correct dimension after installation: refer to M-DLPS900 and [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (10) Apply cadmium plate all over to the repair bush: refer to PCS-2101. The cadmium plate thickness must be between 0,005 and 0,009 mm (0.0002 and 0.0004 in).
- (11) Apply primer paint to the repair bush but not to the areas shown: refer to PCS-2500 and [Figure 602](#).
- (12) Use the Press Pad 460004330/131 and install the repair bush: refer to M-DLPS1011-14. Use zinc loaded Molykote (made from Molykote 111, Material Ref. Item 04-512 and Zinc powder, Material Ref. Item TBA): refer to PCS-7304. The slot in the repair bush must be in the correct angular position: refer to [Figure 602](#).
- (13) Check the bore of the repair bush: refer to [Figure 602](#).
- (14) If necessary, hone the repair bush bore to the dimensions shown: refer to [Figure 602](#).
- (15) Apply a bead of sealant, Material Ref. Item 09-510A, to the joints between the repair bush and the sliding tube: refer to PCS-7200 and [Figure 602](#).
- (16) Apply paint locally to the sliding tube: refer to [REPAIR](#) and PCS-2500.
- (17) Identify the part with the Safran Landing Systems repair number 450265180 adjacent to the part number: refer to PCS-6000-07.
- (18) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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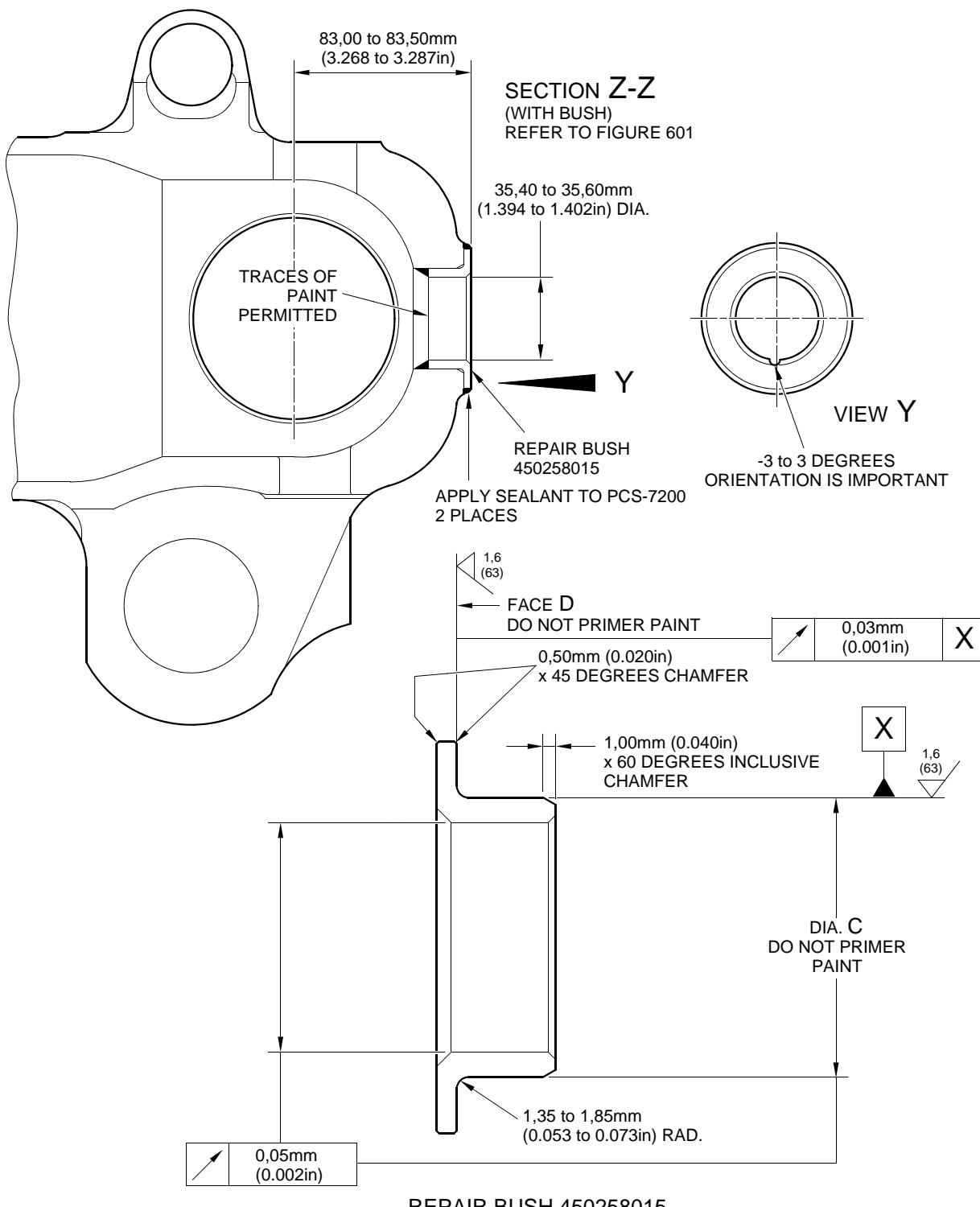
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 Repair to Sliding Tube - Machining
 Figure 601

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Repair Bush - Machining and Installation
Figure 602

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■ 1. Repair No. 9-10 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameters A and/or B and/or C.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel, S155 (300M)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

CAUTION: FOR DEVIATIONS OUTSIDE THE LIMITS OF THIS REPAIR SCHEME CONTACT SAFRAN LANDING SYSTEMS.

E. Procedure (Refer to Figures 601 and 602)

- (1) Do this procedure, if diameter(s) A is damaged or worn:
 - (a) Remove the paint from the sliding tube, if necessary: refer to PCS-2700 and [Figure 601](#).
 - (b) Remove the Sermetel from the sliding tube, if necessary: refer to M-DLPS637.
 - (c) Remove the cadmium plate from the sliding tube, if necessary: refer to PCS-2100.
 - (d) Remove the chromium plate from diameter(s) A: refer to PCS-2110 Type C.
 - (e) If the base metal is not damaged or worn:
 - 1 Examine the sliding tube for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
 - 2 Apply chromium plate to diameter(s) A: refer to PCS-2110 Type C, M-DLPS1031-1, M-DLPS1031-6 and [Figure 601](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 3 Finish grind diameter A: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 4 Examine the ground chromium plate for flaws: refer to M-DLNNT3.
 - 5 Identify the part with the Safran Landing Systems repair number 450258401A adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.

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- (f) If the base metal is damaged or worn:
- 1 Machine the diameter(s) A to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 2 Examine the machined area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
 - 3 Shot peen the machined area: refer to M-DLPS123.
 - 4 Apply chromium plate to diameter(s) A: refer to PCS-2110 Type C, M-DLPS1031-1, M-DLPS1031-6 and [Figure 601](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 5 Finish grind diameter A: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 6 Examine the ground chromium plate for flaws: refer to M-DLNNDT3.
 - 7 Identify the part with the Safran Landing Systems repair number 450258401B adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.
- (g) Apply cadmium plate to the sliding tube but not on the chromium plated areas: refer to [REPAIR](#) and PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in).
- (h) Apply Sermetel to the sliding tube but not on the chromium plated or the cadmium plated areas: refer to [REPAIR](#) and M-DLPS637.
- (i) Apply paint to the sliding tube but not on the chromium plated areas: refer to [REPAIR](#) and PCS-2500.
- (j) Identify the part with the Safran Landing Systems repair number adjacent to the part number: refer to PCS-6000-07.
- Use the repair number 450258401A if there was no damage to the base metal or
- Use the repair number 450258401B if there was damage to the base metal.
- (k) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (2) Do this procedure, if diameter(s) B is damaged or worn:
- (a) Remove the paint from the sliding tube, if necessary: refer to PCS-2700 and [Figure 601](#).
 - (b) Remove the Sermetel from the sliding tube, if necessary: refer to M-DLPS637.
 - (c) Remove the cadmium plate from the sliding tube, if necessary: refer to PCS-2100.
 - (d) Remove the chromium plate from diameter(s) B: refer to PCS-2110 Type C and [Figure 601](#).
 - (e) If the base metal is not damaged or worn:
 - 1 Examine the sliding tube for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

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- 2 Apply chromium plate to diameter(s) B: refer to PCS-2110 Type C, M-DLPS1031-1, M-DLPS1031-6 and [Figure 601](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 3 Finish grind diameter B: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 4 Examine the ground chromium plate for flaws: refer to M-DLNDT3.
 - 5 Identify the part with the Safran Landing Systems repair number 450258401C adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.
-
- (f) If the base metal is damaged or worn:
 - 1 Machine the diameter(s) B to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 2 Examine the machined area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
 - 3 Shot peen the machined area: refer to M-DLPS123.
 - 4 Apply chromium plate to diameter(s) B: refer to PCS-2110 Type C, M-DLPS1031-1, M-DLPS1031-6 and [Figure 601](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 5 Finish grind diameter B: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 6 Examine the ground chromium plate for flaws: refer to M-DLNDT3.
 - 7 Identify the part with the Safran Landing Systems repair number 450258401D adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.
-
- (g) Apply cadmium plate to the sliding tube but not on the chromium plated areas: refer to [REPAIR](#) and PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in).
 - (h) Apply Sermetel to the sliding tube but not on the chromium plated or the cadmium plated areas: refer to [REPAIR](#) and M-DLPS637.
 - (i) Apply paint to the sliding tube but not on the chromium plated areas: refer to [REPAIR](#) and PCS-2500.
 - (j) Identify the part with the Safran Landing Systems repair number adjacent to the part number: refer to PCS-6000-07.
 - Use the repair number 450258401C if there was no damage to the base metal or
 - Use the repair number 450258401D if there was damage to the base metal.
 - (k) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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(3) Do this procedure, if diameter(s) C is damaged or worn:

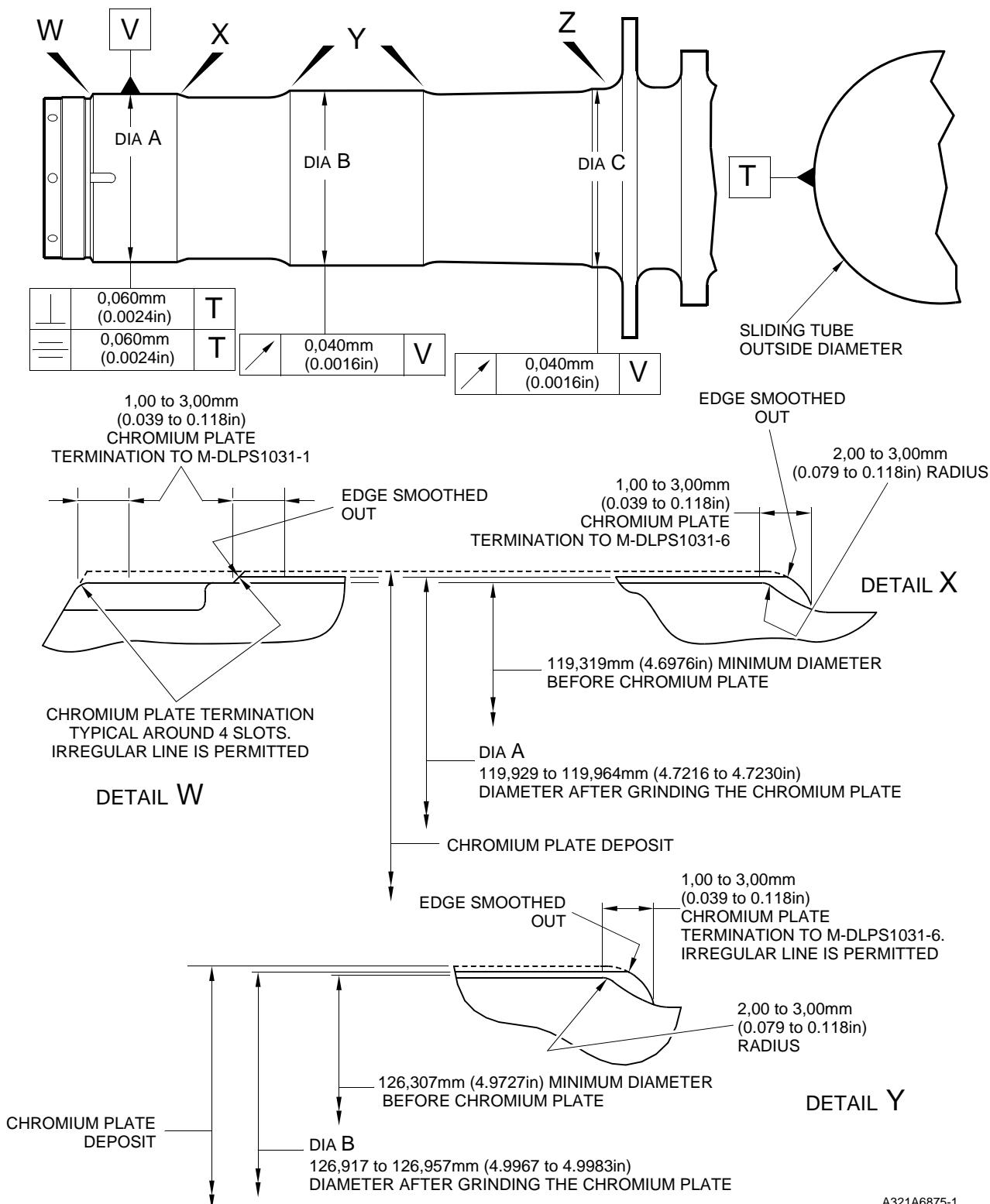
- (a) Remove the paint from the sliding tube, if necessary: refer to PCS-2700 and [Figure 601](#).
- (b) Remove the Sermetel from the sliding tube, if necessary: refer to M-DLPS637.
- (c) Remove the cadmium plate from the sliding tube, if necessary: refer to PCS-2100.
- (d) Remove the chromium plate from diameter(s) C: refer to PCS-2110 Type C and [Figure 602](#).
- (e) If the base metal is not damaged or worn:
 - 1 Apply chromium plate to diameter(s) C: refer to PCS-2110 Type C, M-DLPS1031-6, [Figure 601](#) and [Figure 602](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 2 Finish grind diameter C: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 3 Examine the ground chromium plate for flaws: refer to M-DLNDT3.
 - 4 Identify the part with the Safran Landing Systems repair number 450258401E adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.
- (f) If the base metal is damaged or worn:
 - 1 Machine the diameter(s) C to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 2 Examine the machined area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
 - 3 Shot peen the machined area: refer to M-DLPS123.
 - 4 Apply chromium plate to diameter(s) C: refer to PCS-2110 Type C, M-DLPS1031-2, M-DLPS1031-6 and [Figure 602](#). The chromium plate thickness must be sufficient to give a minimum thickness of 0,10 mm (0.004 in) after grinding.
 - 5 Finish grind diameter C: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 0,8 micrometers (32 micro-inches).
 - 6 Examine the ground chromium plate for flaws: refer to M-DLNDT3.
 - 7 Identify the part with the Safran Landing Systems repair number 450258401F adjacent to the part number: refer to PCS-6000-05 or PCS-6000-19.
- (g) Apply cadmium plate to the sliding tube but not on the chromium plated areas: refer to [REPAIR](#) and PCS-2100. Make the cadmium plate thickness between 0,010 and 0,020 mm (0.0004 and 0.0008 in).
- (h) Apply Sermetel to the sliding tube but not on the chromium plated or the cadmium plated areas: refer to [REPAIR](#) and M-DLPS637.

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- (i) Apply paint to the sliding tube but not on the chromium plated areas: refer to **REPAIR** and PCS-2500.
- (j) Identify the part with the Safran Landing Systems repair number adjacent to the part number: refer to PCS-6000-07.
 - Use the repair number 450258401E if there was no damage to the base metal or
 - Use the repair number 450258401F if there was damage to the base metal.
- (k) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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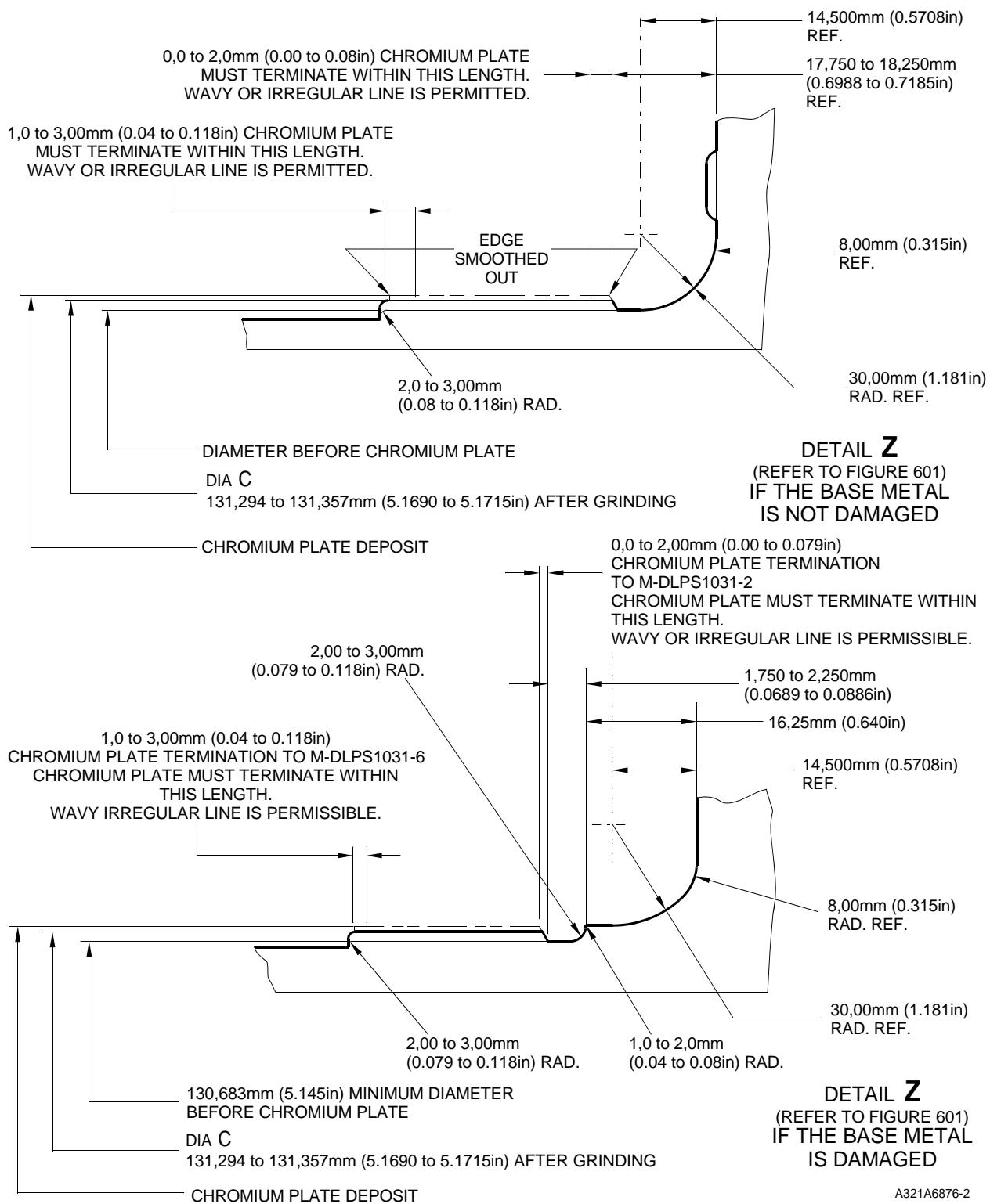
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Repair to Sliding Tube
Figure 601

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Repair No. 9-10
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**Repair to Sliding Tube
Figure 602**

Repair No. 9-10

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Repair No. 9-10
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■ 1. Repair No. 9-11 Sliding Tube (18-80 and 18-80A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
18-80 and 18-80A	Sliding Tube	Steel, 300M

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460004330/105	Press Pad	To install the repair bush 450266800

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450266800	Repair Bush	Stainless Steel, AMS5643 or AMS5659

E. Procedure (Refer to Figures 601 to 603)

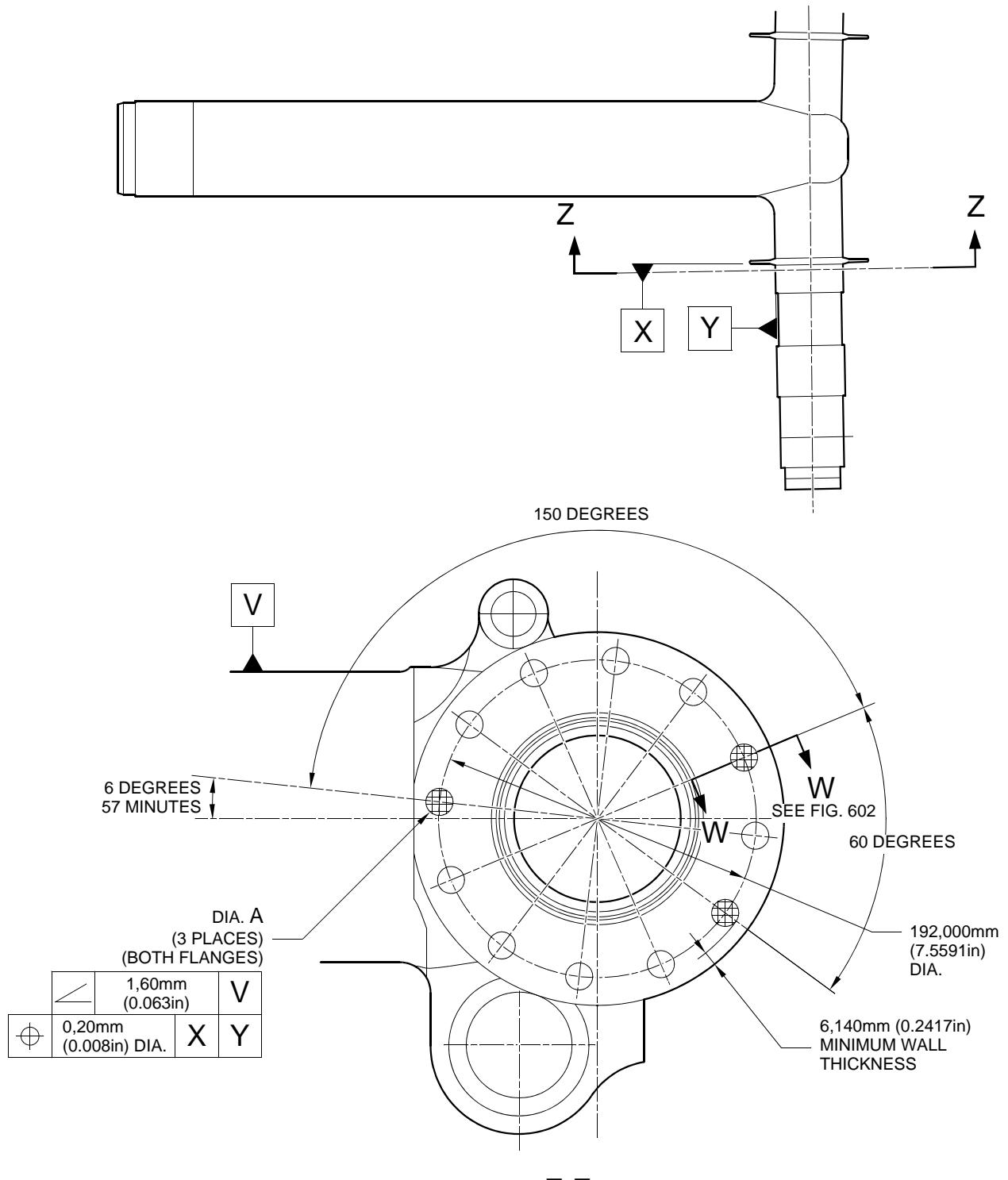
CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is wear or damage to diameter A:

- (a) Locally remove the Sermetel layer from the sliding tube: refer to [REPAIR](#) and M-DLPS637.
- (b) Locally remove the chromium plate from the sliding tube: refer to [REPAIR](#) PCS-2110 and Figures 601 and 602.
- (c) If necessary, machine the diameter(s) A to remove the minimum amount of material necessary to remove the damage or wear: refer to M-DLPS1004-4-1 and [Figure 602](#). Do not make the diameter A more than 21,073 mm (0.8296 in). Make the surface finish 1,6 micrometers (63 micro-inches) or better.
- (d) Measure and record the new diameter(s) A.
- (e) Machine the chamfers and radii as shown: refer to [Figure 602](#).

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- (f) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- (g) Shot peen the reworked areas: refer to M-DLPS123.
- (h) Apply chromium plate to diameter(s) A: refer to PCS-2110 Type C, M-DLPS1031-5 and [Figure 602](#). The chromium plate thickness must be between 0,020 and 0,025 mm (0.0008 and 0.0010 in).
- (i) Apply Sermetel to the repaired area: refer to M-DLPS637 and [Figure 602](#).
- (j) Identify the part with the Safran Landing Systems repair number 450266295 adjacent to the part number: refer to PCS-6000-05.
- (k) Machine diameter B of the repair bush(es), use formula:
$$\text{Dia. B} = \text{Dia. A} (\text{as measured}) - 0,005 \text{ to } + 0,041 \text{ mm } (- 0,0002 \text{ to } + 0,0016 \text{ in}).$$
- (l) Machine the face R to get the flange thickness of between 2,00 and 2,05 mm (0.079 and 0.081 in).
- (m) Passivate the repair bush(es): refer to AMS-2700.
- (n) Apply a layer of IVD alloy with elecromation yellow all over the repair bush(es) but not in the bores: refer to ICT 40-893-01MD and [Figure 603](#). The thickness of the IVD layer must be between 0,0075 and 0,0125 mm (0.0003 and 0.0005 in).
- (o) Apply primer paint to the sliding tube where the repair bush flanges will touch: refer to PCS-2500.
- (p) Install the repair bush(es): refer to M-DLPS1011-20 and [Figure 603](#).
- (q) Apply paint to the repaired area: refer to PCS-2500 and [REPAIR](#).
- (r) Identify the part with the Safran Landing Systems repair number 450266295 adjacent to the part number: refer to PCS-6000-07.
- (s) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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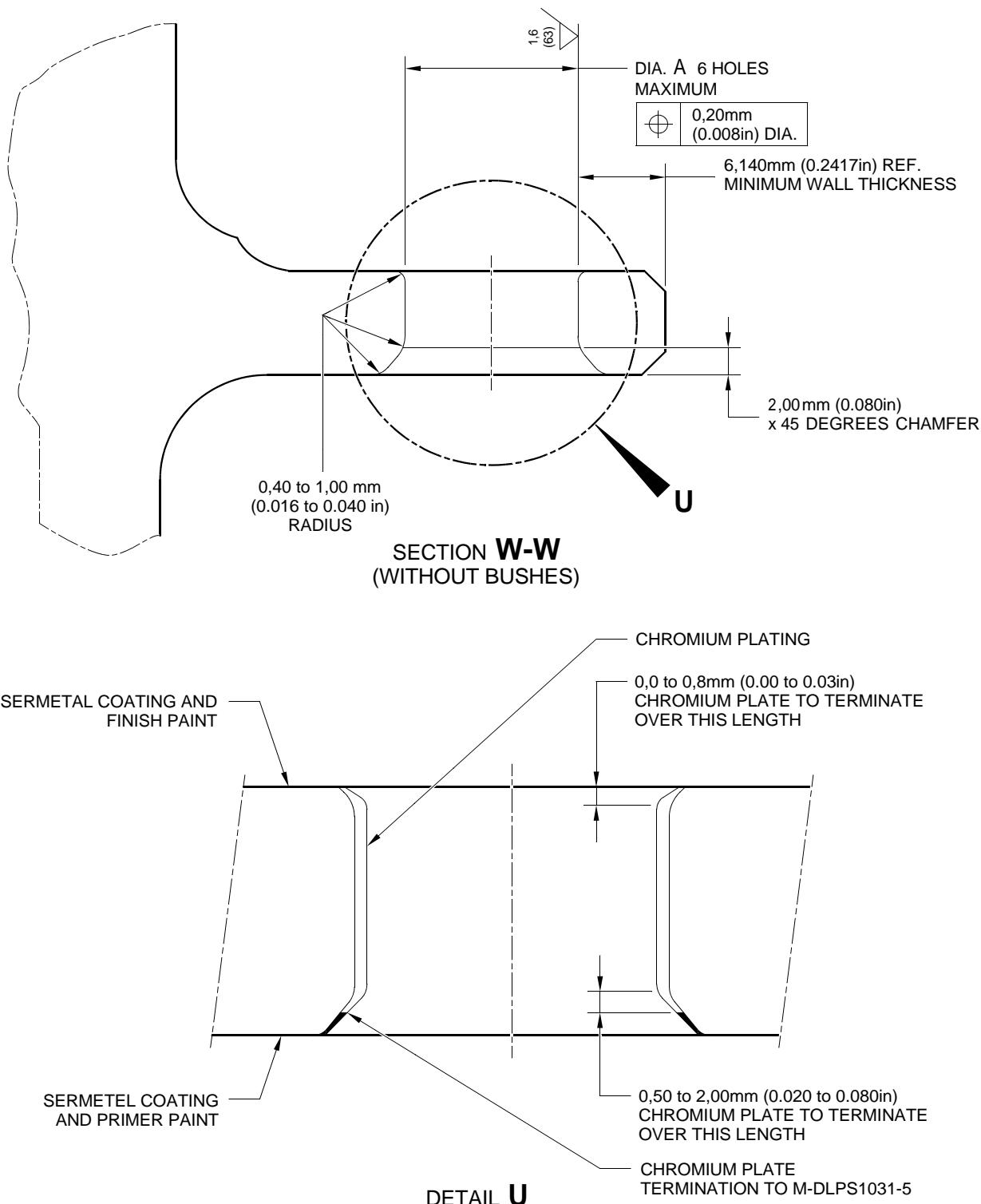
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 Repair to Sliding Tube
 Figure 601

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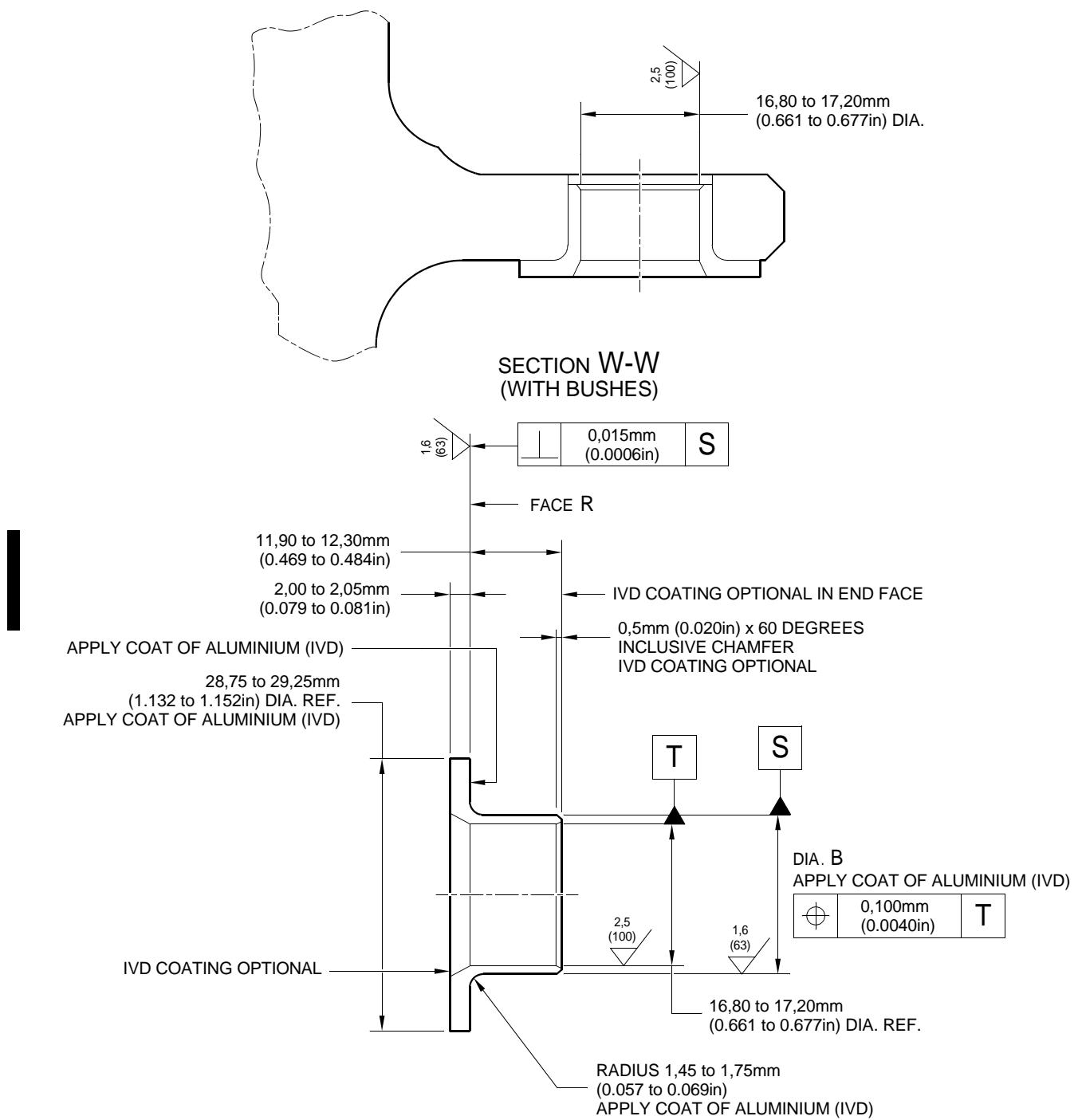
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Repair to Sliding Tube - Machining
Figure 602

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REPAIR BUSH 450266800

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Repair Bushes - Machining and Installation Figure 603

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MAIN LANDING GEAR LEG1. Repair No. 10-1 Pin (9-70)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
9-70	Pin	UHT Steel, MTL1201

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

(1) Remove the chromium plate from diameter A: refer to PCS-2110.

(a) If the base metal is not damaged or corroded:

1 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

2 Apply chromium plate to diameter A: refer to PCS-2110, type C: refer to [Figure 601](#).

3 Grind diameter A to between 30,950 and 30,975 mm (1.2185 and 1.2194 in). The surface finish must be 0,8 micrometers (31 micro-inches).

4 Examine the ground chromium plate for flaws: refer to PCS-3100 and PCS-3002.

5 Apply cadmium plate to the areas that do not have chromium plate: refer to PCS-2141.

6 Identify the part with the Messier-Dowty Limited repair number 450266210A adjacent to the part number: refer to PCS-6000-04, PCS-6000-06 and PCS-6000-07.

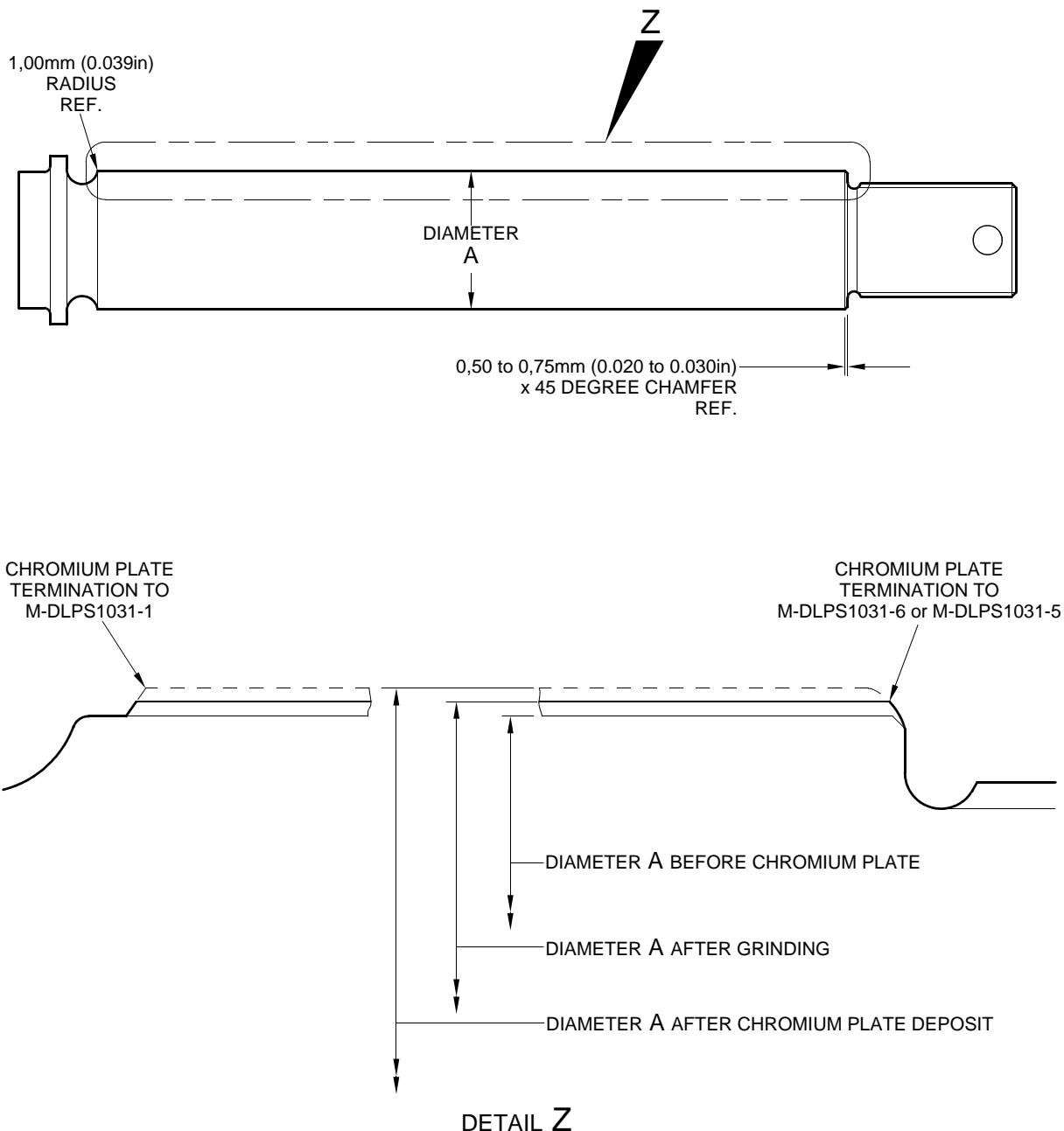
7 Examine the part to make sure that you have obeyed all the repair instructions correctly.

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(b) If the bare metal is damaged or corroded:

- 1 Refer to M-DLPS1004-4-1 and machine diameter A just sufficiently to remove the damage or corrosion: the diameter must not be less than 30,365 mm (1.1956 in). The surface finish must be 1,6 micrometers (63 micro-inches).
- 2 Examine the pin for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- 3 Shot peen the machined areas: refer to M-DLPS123.
- 4 Apply chromium plate to diameter A: refer to PCS-2110, type C and [Figure 601](#).
- 5 Grind diameter A to between 30,950 and 30,975 mm (1.2185 and 1.2194 in). The surface finish must be 0,8 micrometers (31 micro-inches).
- 6 Examine the ground chromium plate for flaws: refer to PCS-3100 and PCS-3002.
- 7 Apply cadmium plate to the areas that do not have chromium plate: refer to PCS-2141.
- 8 Identify the part with the Messier-Dowty Limited repair number 450266210B adjacent to the part number: refer to PCS-6000-04, PCS-6000-06 and PCS-6000-07.
- 9 Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Pin
Figure 601

32-12-22 Repair No. 10-1
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■ 1. Repair No. 11-1 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to the diameter A and/or the adjacent face(s).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Electrically conducting Mastinox to M-DLPS709-14
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450266061	Blank bushes	Aluminium Bronze, DTD197

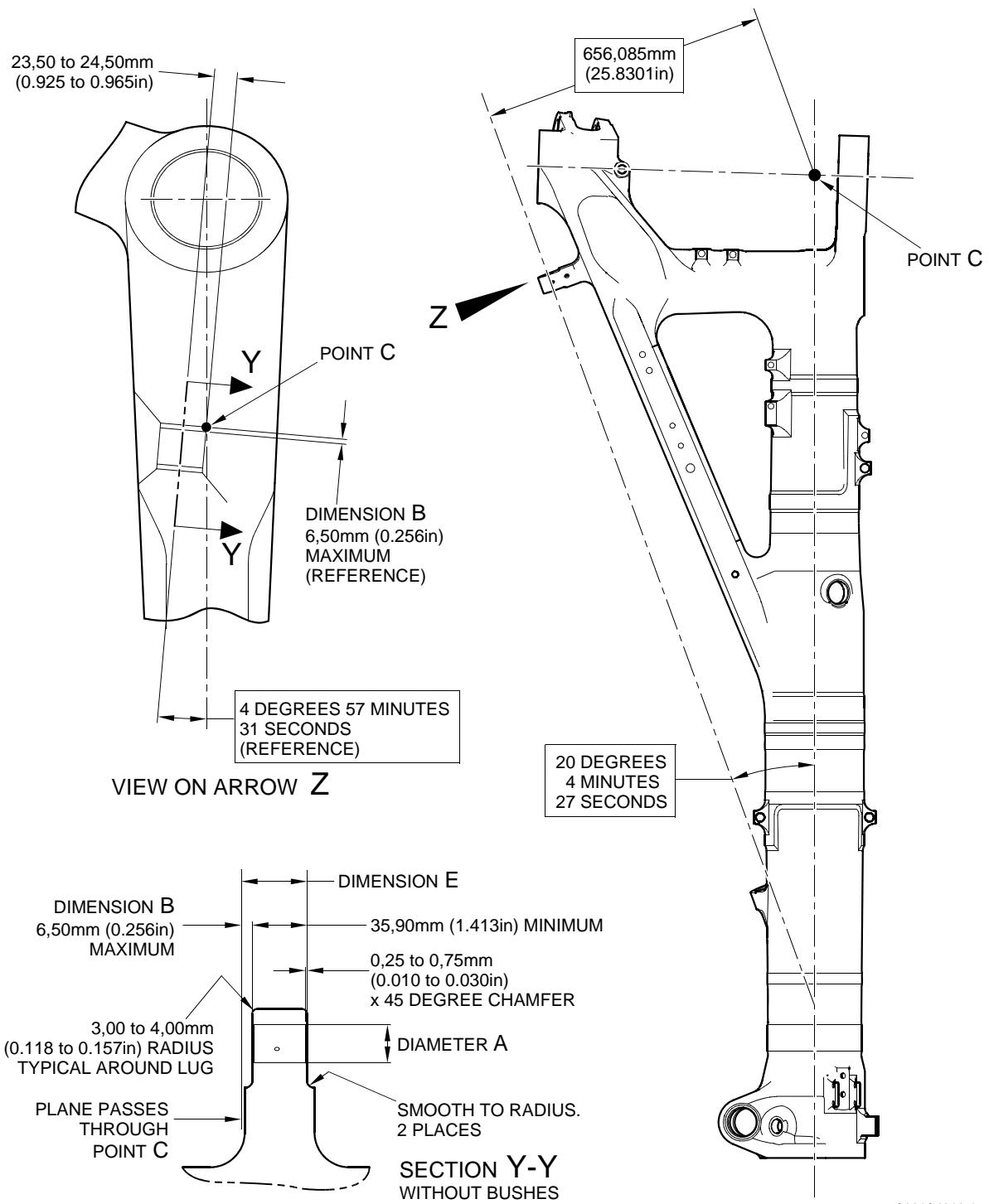
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine the diameter A sufficiently only to remove the damage or wear: refer to M-DLPS1004-4-1. The machined diameter A must not be more than 26,921 mm (1.0599 in). The surface finish must be 1,6 micrometers (63 micro-inches). Remove the sharp edge at the intersection of the lubrication hole with a 0,50 to 2,00 mm (0.020 to 0.079 in) radius.
- (2) Machine the adjacent face(s) sufficiently only to remove the damage or wear: refer to M-DLPS1004-4-1. Do not remove more than 1,00 mm (0.039 in) from each face. The surface finish must be 1,6 micrometers (63 micro-inches).
- (3) Machine the chamfers and radii to the dimensions shown in [Figure 601](#).
- (4) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

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- (5) Measure and make a record of the new diameter A and the dimensions B and E.
- (6) Shot peen the machined areas: refer to M-DLPS123.
- (7) Apply cadmium plate to the machined areas: refer to PCS-2141.
- (8) Identify the part with the Safran Landing Systems repair number 450266060 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (9) Calculate the diameters F and the dimensions D of the oversize bushes:
 $F = A \text{ (as measured)} + 0,007 \text{ to } 0,041 \text{ mm (0.0003 to 0.0016 in)}$
 $D \text{ (for Bush 1)} = B \text{ (as measured)} - 2,50 \text{ to } - 2,55 \text{ mm (- 0.098 to - 0.100 in)}$
 $D \text{ (for Bush 2)} = 45,733 \text{ to } 45,820 \text{ mm (1.8005 to 1.8039 in)} - E \text{ (as measured)}$.
- (10) Machine the blank bushes to the dimensions shown and calculated: the surface finish must be 1,6 micrometers (63 micro-inches). Identify each oversize bush for reference.
- (11) Apply cadmium plate to the oversize bushes, but not on the internal diameter and where shown: refer to [Figure 602](#) and PCS-2101 or PCS-2141 but do not de-embrittle. The thickness of the cadmium plate must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (12) Install the oversize bushes to their correct locations: refer to M-DLPS1011-20 and use the electrically conducting Mastinox to M-DLPS709-14. Primer paint the gap between the internal ends of the oversize bushes and keep it free from sealant.
- (13) Check line ream the oversize bushes to the dimension shown in [Figure 602](#).
- (14) Apply sealant, Material Ref. Item 09-510A, around the flanges of the oversize bushes: refer to PCS-7200.
- (15) Identify the part with the Safran Landing Systems repair number 450266060 adjacent to the part number: refer to PCS-6000-07.
- (16) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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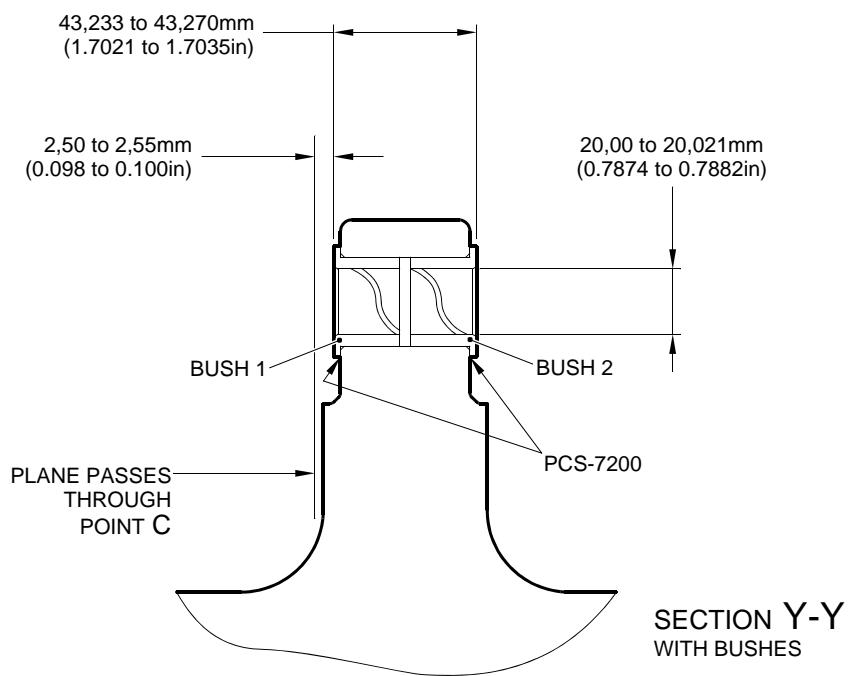
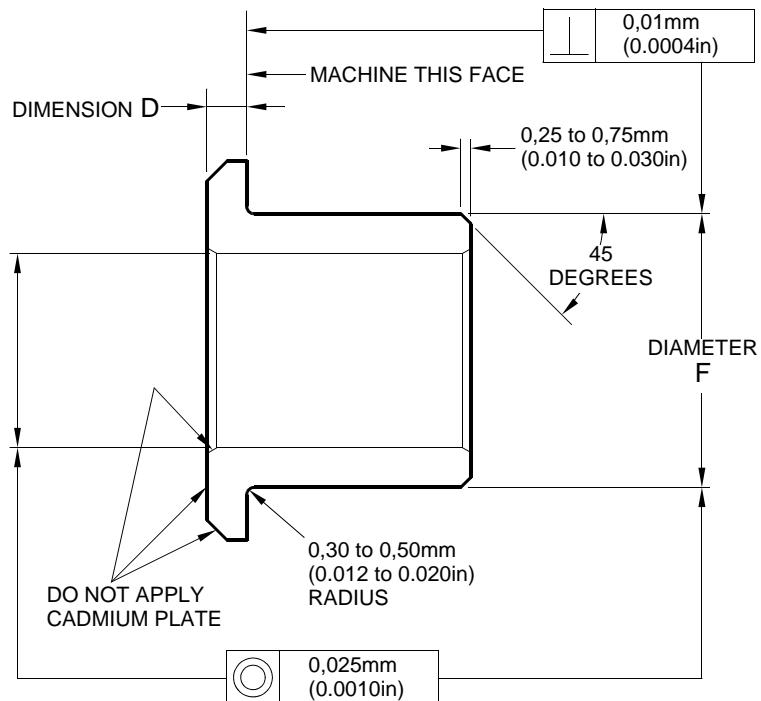
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Repair to Main Fitting
Figure 601

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Oversize Bushes - Machining and Installation
Figure 602

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■ 1. Repair No. 11-2 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or corrosion to the diameter(s) A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460007257	Press Pad	Install the oversize bush(es)

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Electrically conducting Mastinox to M-DLPS709-14
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258808	Blank bush	Aluminium Bronze, BSB23 or AMS4640

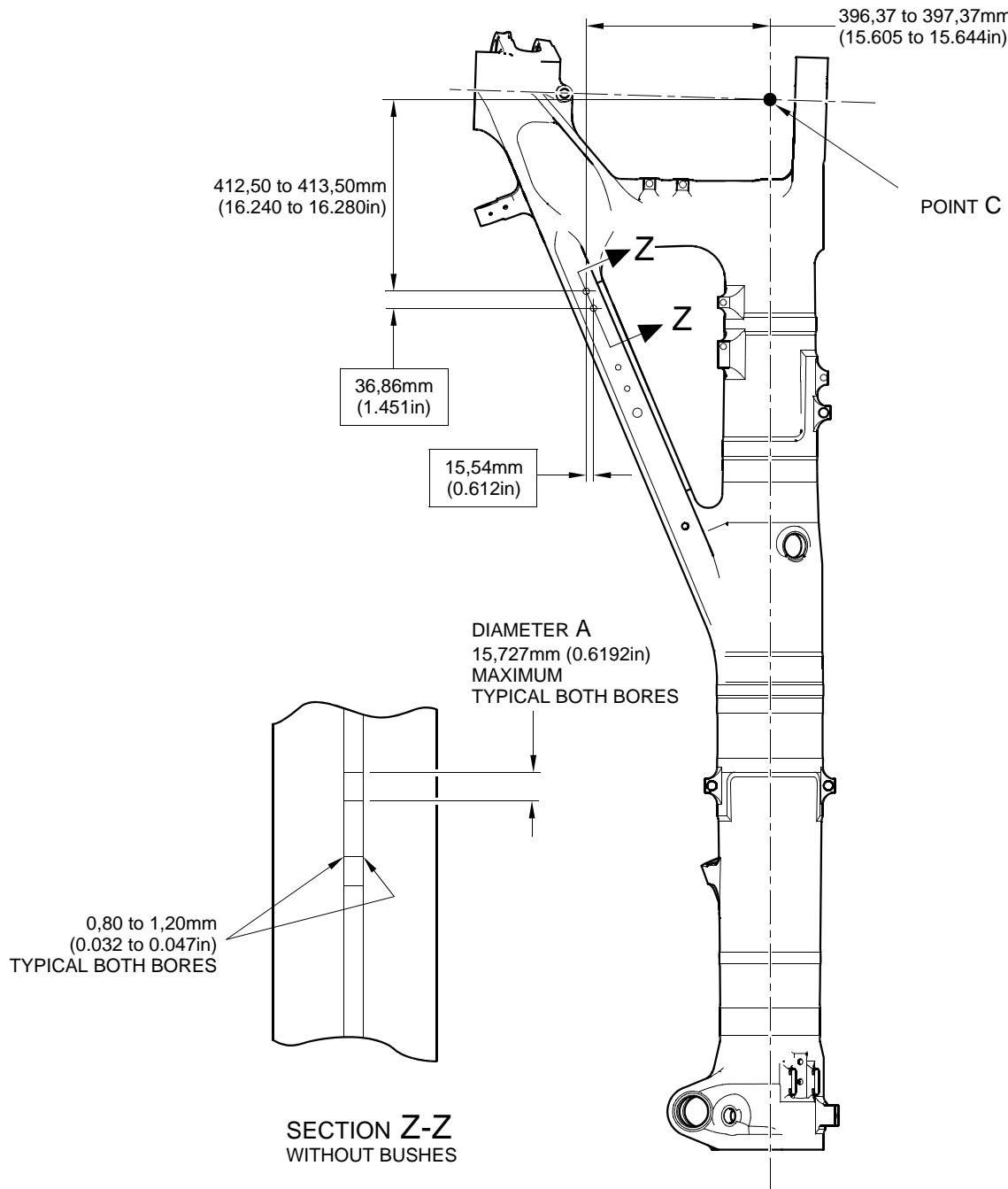
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine the diameter(s) A sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1 and to Figure 601 for the dimensions. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Examine the part for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (3) Measure and make a record of the new diameter A.
- (4) Shot peen the machined areas: refer to M-DLPS123.

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- (5) Apply cadmium plate to the machined areas: refer to PCS-2141.
- (6) Identify the part with the Safran Landing Systems repair number 450266070 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (7) Calculate the diameter D of the oversize bush(es):
$$D = A \text{ (as measured)} - 0,009 \text{ to } + 0,029 \text{ mm} (- 0,0003 \text{ to } + 0,0012 \text{ in}).$$
- (8) Machine the oversize bush(es) from the blank bush(es) to the dimensions shown and calculated: the surface finish must be 1,6 micrometers (63 micro-inches).
- (9) Apply cadmium plate to the oversize bush(es). The thickness of the cadmium plate must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in): refer to PCS-2101 or PCS-2141 and do not de-embrittle.
- (10) Use the Press Pad 460007257 to install the oversize bush(es): refer to M-DLPS1011-20 and use the electrically conducting Mastinox to M-DLPS709-14, Material Ref Item TBA.
- (11) Check the internal diameter(s) of the installed oversize bush(es) to the dimension shown in [Figure 602](#).
- (12) Apply sealant, Material Ref. Item 09-510A, around the flanges of the oversize bush(es): refer to PCS-7200.
- (13) Identify the part with the Safran Landing Systems repair number 450266070 adjacent to the part number: refer to PCS-6000-07.
- (14) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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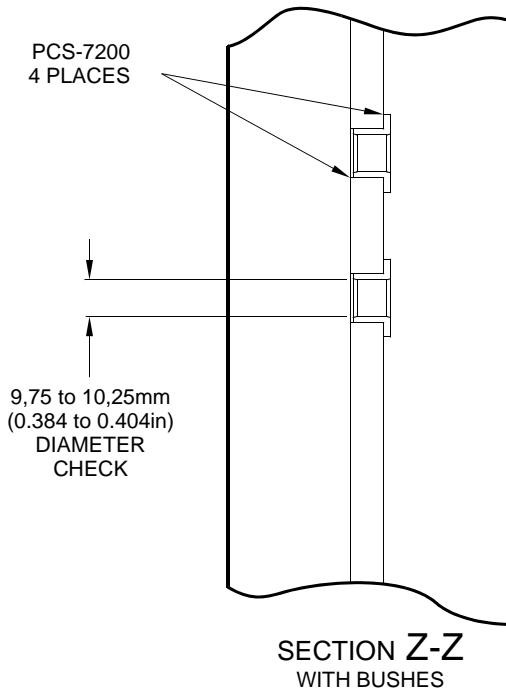
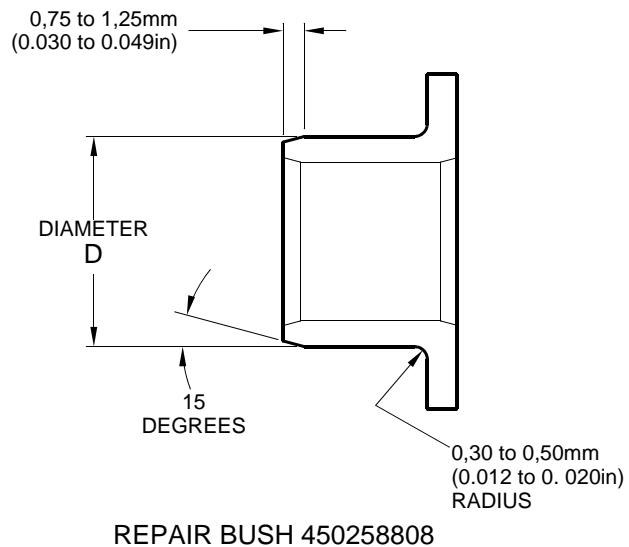
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Repair to Main Fitting
Figure 601

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Repair No. 11-2
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Oversize Bush(es) - Machining and Installation
Figure 602

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Repair No. 11-2
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■ 1. Repair No. 11-3 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the diameter A and/or faces B and C (Refer to Figure 601).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

Part No.	Special Tool	Function
460004330/259	Press Pad	Install the repair bush 450258811
460004330/260	Press Pad	Install the repair bush 450258812

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant: refer to PCS-7200
TBA	Electrically conducting zinc loaded Mastinox D40: refer to M-DLPS709-14

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258811	Repair bush	Aluminium bronze AMS4590 or AMS4881 centrifugally cast
450258812	Repair bush	Aluminium bronze AMS4590 or AMS4881 centrifugally cast

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E. Procedure (Refer to Figures 601, 602 and 603)

- (1) Machine the diameter A, sufficiently only to remove the damage or corrosion: refer to M-DLPS1004-4-1. Diameter A must not be more than 77,13 mm (3.037 in). The minimum wall dimension F must not be less than 17,385 mm (0.6844 in). The minimum wall dimension G must not be less than 11,935 mm (0.4699 in). The surface finish must be 1,6 micrometers (63 micro-inches): refer to Figure 602.
- (2) Measure and make a record of the new diameter A.
- (3) Measure and make a record of the dimension D1.
- (4) Machine the face B, sufficiently only to remove the damage or corrosion: refer to M-DLPS1004-4-1. Do not remove more than 1,00 mm (0.039 in) of material from the face B. The surface finish must be 1,6 micrometers (63 micro-inches).
- (5) Measure and make a record of the dimension D2.
- (6) Measure and make a record of the dimension E.
- (7) Machine the face C, sufficiently only to remove the damage or corrosion: refer to M-DLPS1004-4-1. Do not remove more than 1,00 mm (0.039 in) of material from the face C. The surface finish must be 1,6 micrometers (63 micro-inches). Dimension E must not be less than 128,00 mm (5.039 in).
- (8) Measure and make a record of the new dimension E. Calculate the amount of material, K, removed from the face C, as follows:
 - (a) $K = \text{Dimension E (as measured in para (6))} - \text{Dimension E (as measured in para (8))}$.
- (9) Machine the chamfers and radii as shown: refer to Figure 602.
- (10) Examine the bare metal for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (11) Shot peen the machined area: refer to M-DLPS123.
- (12) Apply cadmium plate to the machined area: refer to PCS-2141.
- (13) Identify the part with the Safran Landing Systems repair number 450266020 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (14) Prepare the repair bush 450258812 for installation: refer to Figure 603:
 - (a) Machine diameter H of the repair bush to the diameter from this formula:

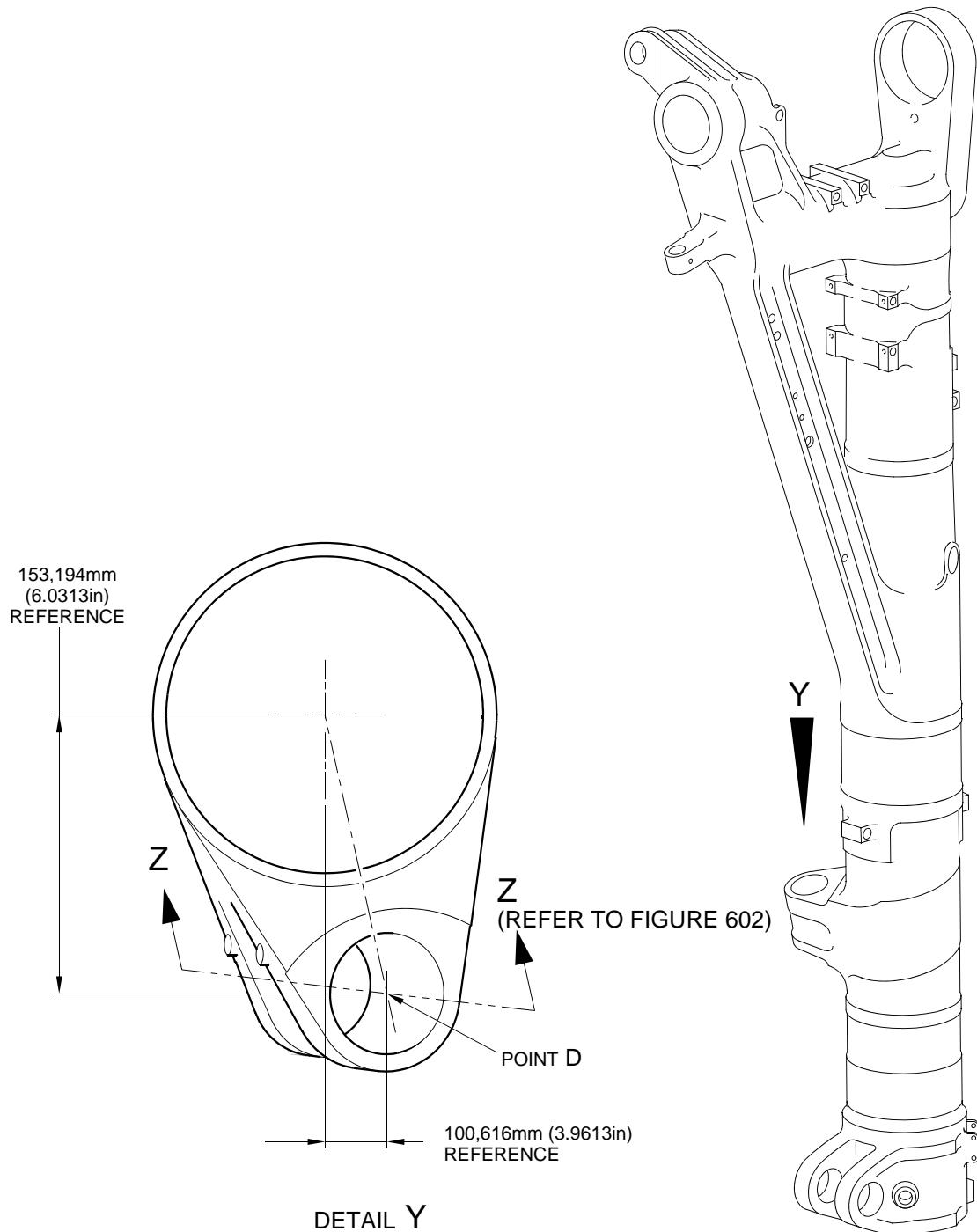
$$H = A \text{ (as measured in para (2))} + 0,029 \text{ to } 0,078 \text{ mm (+ 0.0012 to 0.0030 in)}$$
The surface finish must be 1,6 micrometers (63 micro-inches).
 - (b) Machine face L to get the dimension J from this formula:

$$J = 12,5 \text{ mm (0.492 in)} - K \text{ (as measured in para (8) (a))}$$
The surface finish must be 1,6 micrometers (63 micro-inches).
 - (c) Apply cadmium plate to the repair bush, but not in the bore and internal grooves: refer to PCS-2101. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).

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- (15) Prepare the repair bush 450258811 for installation: refer to Figure 603:
- (a) Machine diameter M of the repair bush to the diameter from this formula:
 $M = A \text{ (as measured in para (2))} + 0,029 \text{ to } 0,078 \text{ mm (0.0012 to +0.0030 in)}$
The surface finish must be 1,6 micrometers (63 micro-inches).
 - (b) Machine face N to get the dimension P from this formula:
 $P = 25,25 \text{ mm (0.994 in)} - (D1 + D2) \text{ (as measured in para (3) and (5))}$
The surface finish must be 1,6 micrometers (63 micro-inches).
 - (c) Apply cadmium plate to the repair bush, but not in the bore and internal grooves: refer to PCS-2101. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (16) Use jointing compound, electrically conducting zinc loaded Mastinox D40, Material Ref. Item, TBA and the Press Pad 460004330/259 to install the repair bush 450258811. Use jointing compound, electrically conducting zinc loaded Mastinox D40, Material Ref. Item, TBA and the Press Pad 460004330/260 to install the repair bush 450258812. Refer to M-DLPS709-14, M-DLPS1011-20 and Figure 603.
- (17) Machine the flange face Q of the repair bush 450258812 to get a dimension R of between 137,917 and 137,957 mm (5.4298 and 5.4314 in). Do not machine face S of the repair bush 450258811. The surface finish must be 1,6 micrometers (63 micro-inches).
- (18) Check line ream the bores of the repair bushes to between 70,00 and 70,03 mm (2.756 and 2.757 in).
- (19) Apply sealant, Material Ref. Item 09-510A, between the repair bushes and the main fitting: refer to PCS-7200: refer to Figure 603.
- (20) Identify the part with the Safran Landing Systems repair number 450266020 adjacent to the part number: refer to PCS-6000-07.
- (21) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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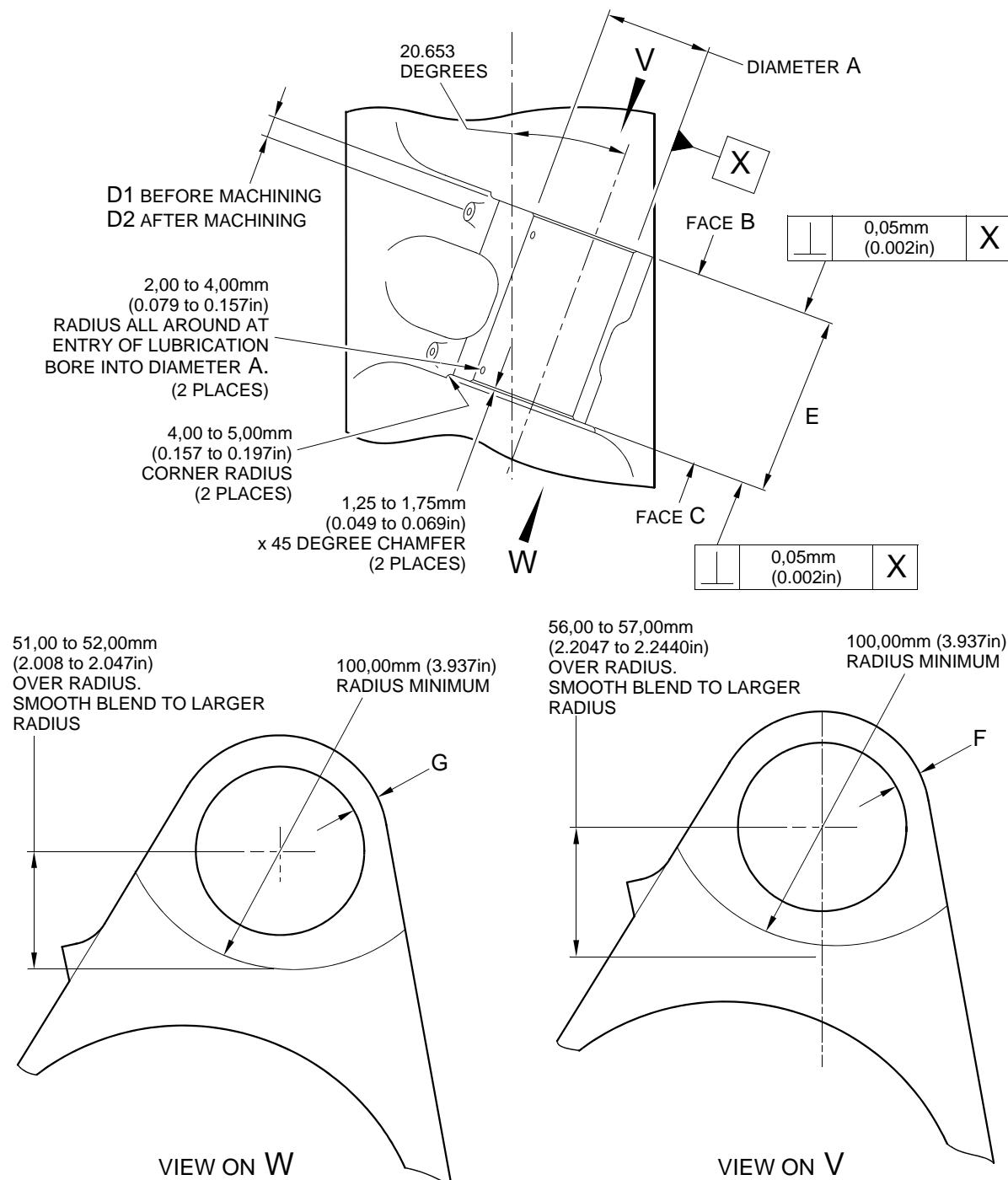


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Repair to Main Fitting
Figure 601

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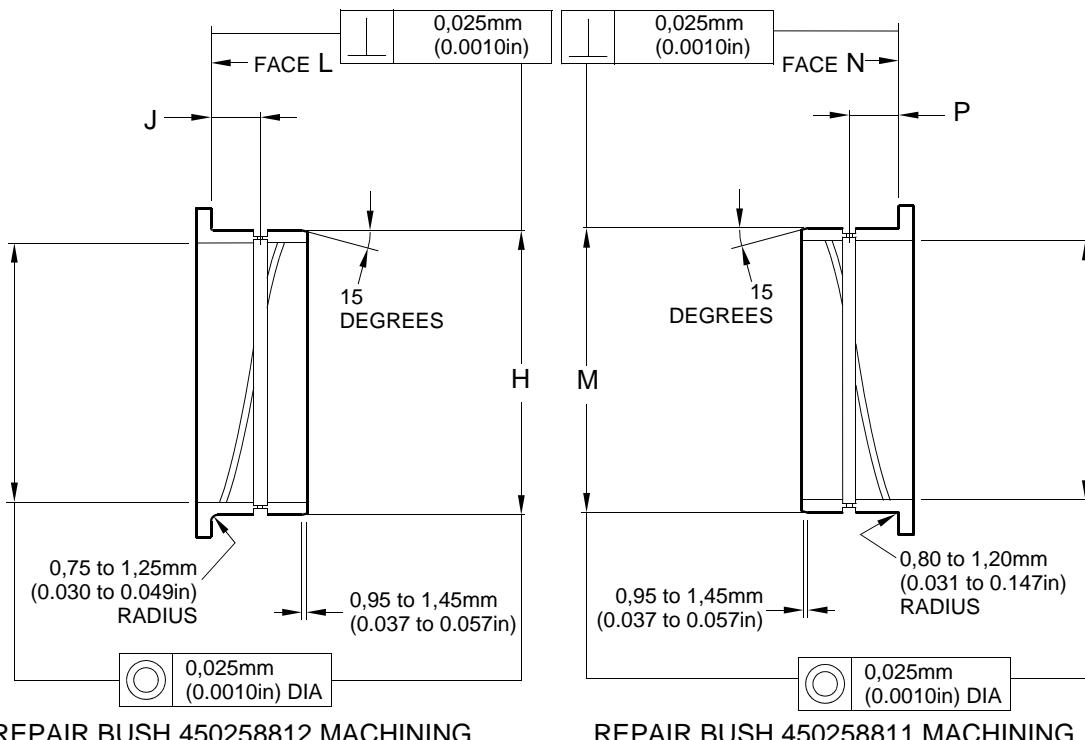
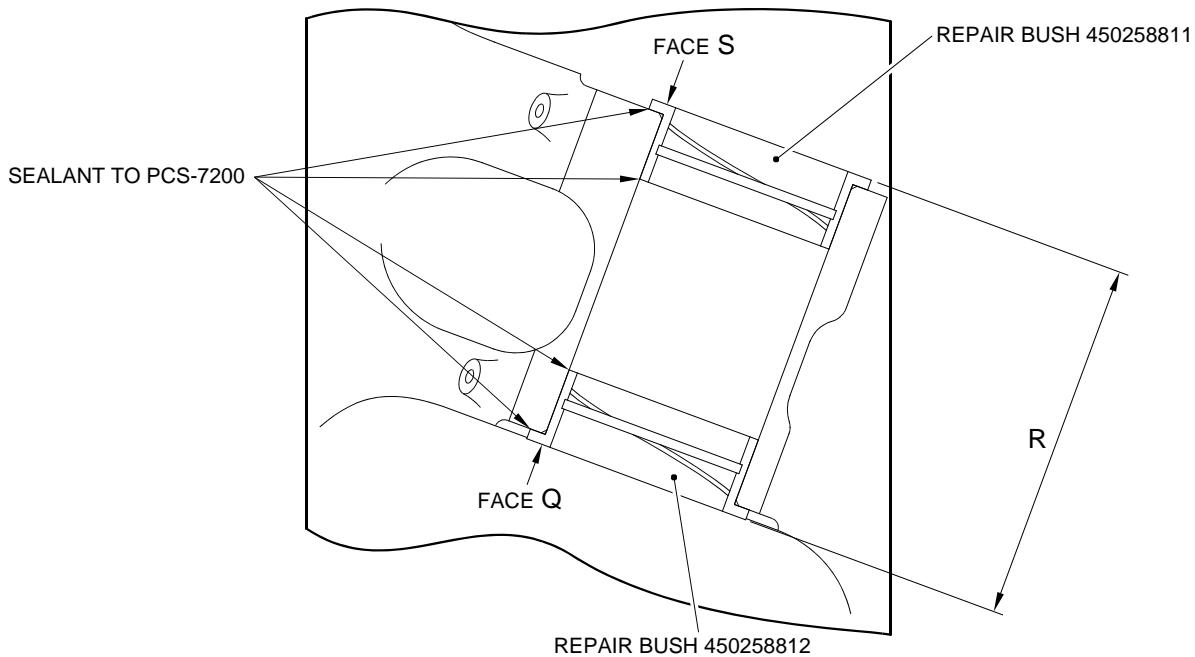
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 Repair to Main Fitting
 Figure 602

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Repair to Main Fitting - Repair Bush Machining and Installation
Figure 603

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Repair No. 11-3
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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-4 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to diameter(s) A (Refer to Figure 601).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/110	Press Pad	Install the repair bush 450237819

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Electrically conducting Mastinox D40: refer to M-DLPS709-14
09-510A	Sealant: refer to PCS-7200

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237819	Blank bush	Aluminium Bronze, DTD197

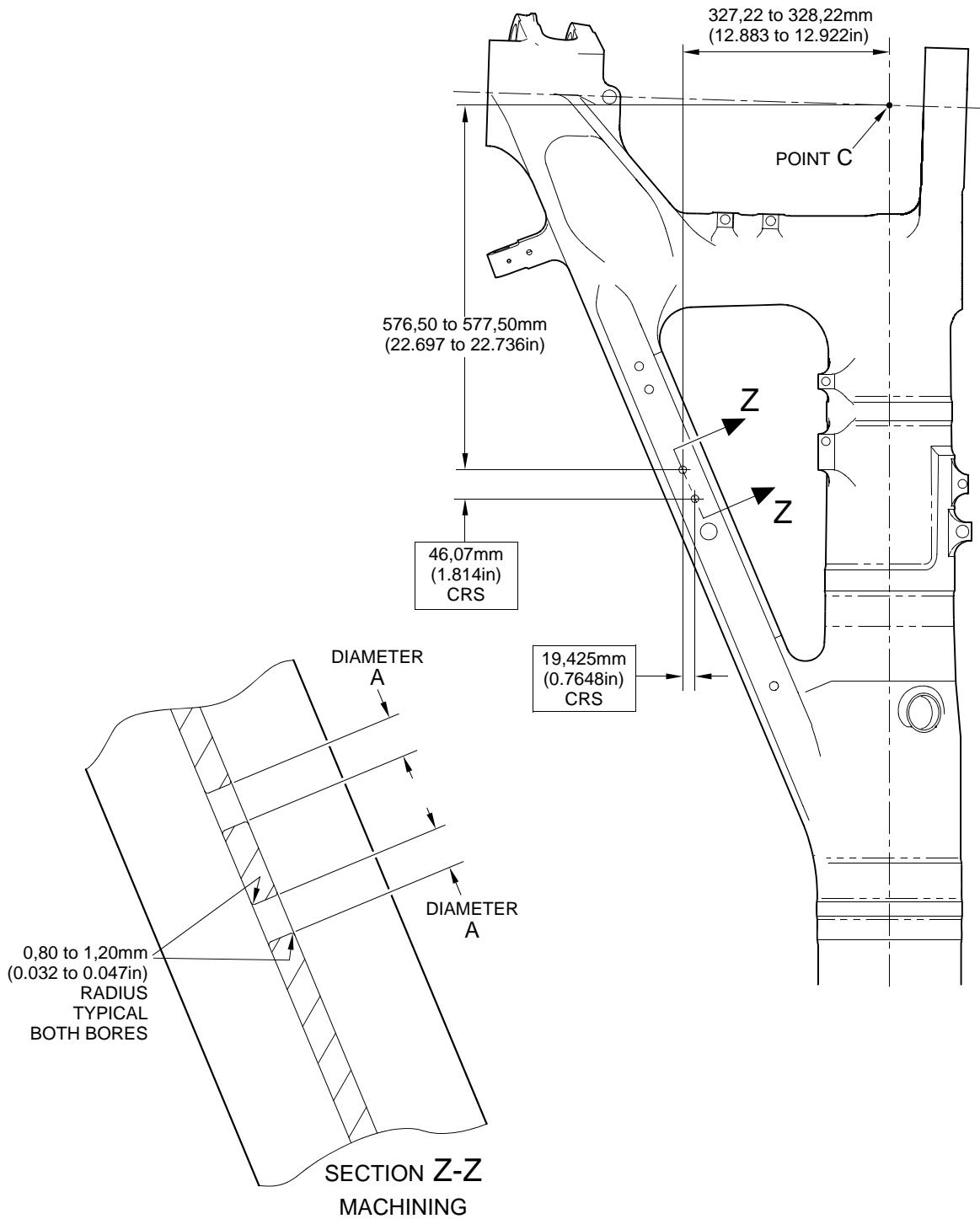
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine the diameter(s) A, sufficiently only to remove the damage or corrosion, do not make diameter A larger than 13,727 mm (0.5404 in): refer to M-DLPS1004-4-1. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Measure and record the new diameter(s) A.
- (3) Examine the bare metal for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (4) Shot peen the machined area(s): refer to M-DLPS123.

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- (5) Apply cadmium plate to the machined area(s): refer to PCS-2141.
- (6) Identify the part with the Safran Landing Systems repair number 450266075 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (7) Calculate diameter B of the repair bush(es):
$$B = A \text{ (as measured)} + 0,009 \text{ to } 0,029 \text{ mm (0.0003 to 0.0011 in)}$$
- (8) Machine the repair bush to the dimensions shown and calculated with a surface finish of 1,6 micrometers (63 micro-inches): refer to Figure 602. Diameter B must make a smooth joint with the adjacent corner radius.
- (9) Apply cadmium plate to the repair bush: refer to PCS-2101. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (10) Install the repair bush(es): refer to M-DLPS1011-20. Use electrically conducting Mastinox D40, Material Ref. Item. TBA: refer to M-DLPS709-14.,
- (11) Apply sealant, Material Ref. Item 09-510A, between the repair bush and the main fitting: refer to PCS-7200.
- (12) Identify the part with the Safran Landing Systems repair number 450266075 adjacent to the part number: refer to PCS-6000-07 and Figure 602.
- (13) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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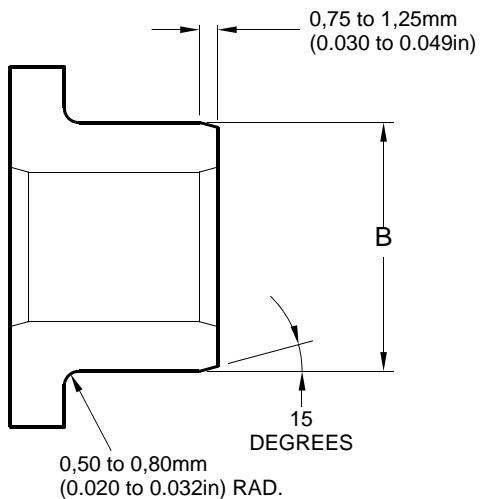
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Repair to Main Fitting
Figure 601

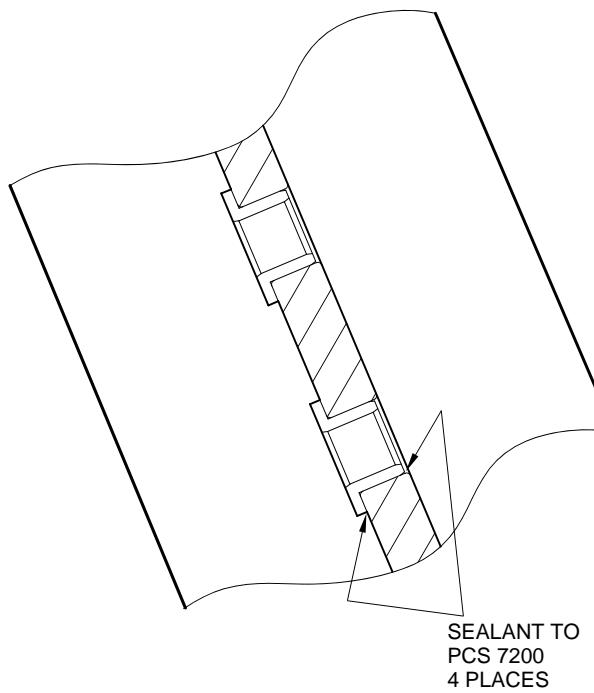
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MAIN LANDING GEAR LEG



REPAIR BUSH 450237819



PART SECTION Z-Z
WITH REPAIR BUSHES

A321A5059-1

Repair Bush - Machining and Installation
Figure 602

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Repair No. 11-4
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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-5 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to diameter A (Refer to Figure 601).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006267	Press Pad	Install the repair bearing 450266081

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Electrically conducting Mastinox D40: refer to M-DLPS709-14
09-510A	Sealant: refer to PCS-7200

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450266081	Blank bearing	Aluminium Bronze, DTD197

E. Procedure (Refer to Figures 601 and 602)

- (1) Machine the diameter A, sufficiently only to remove the damage or corrosion, do not make diameter A larger than 21,933 mm (0.8635 in): refer to M-DLPS1004-4-1. The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Machine the radii as shown.
- (3) Measure and record the new diameter A.
- (4) Examine the bare metal for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

Repair No. 11-5

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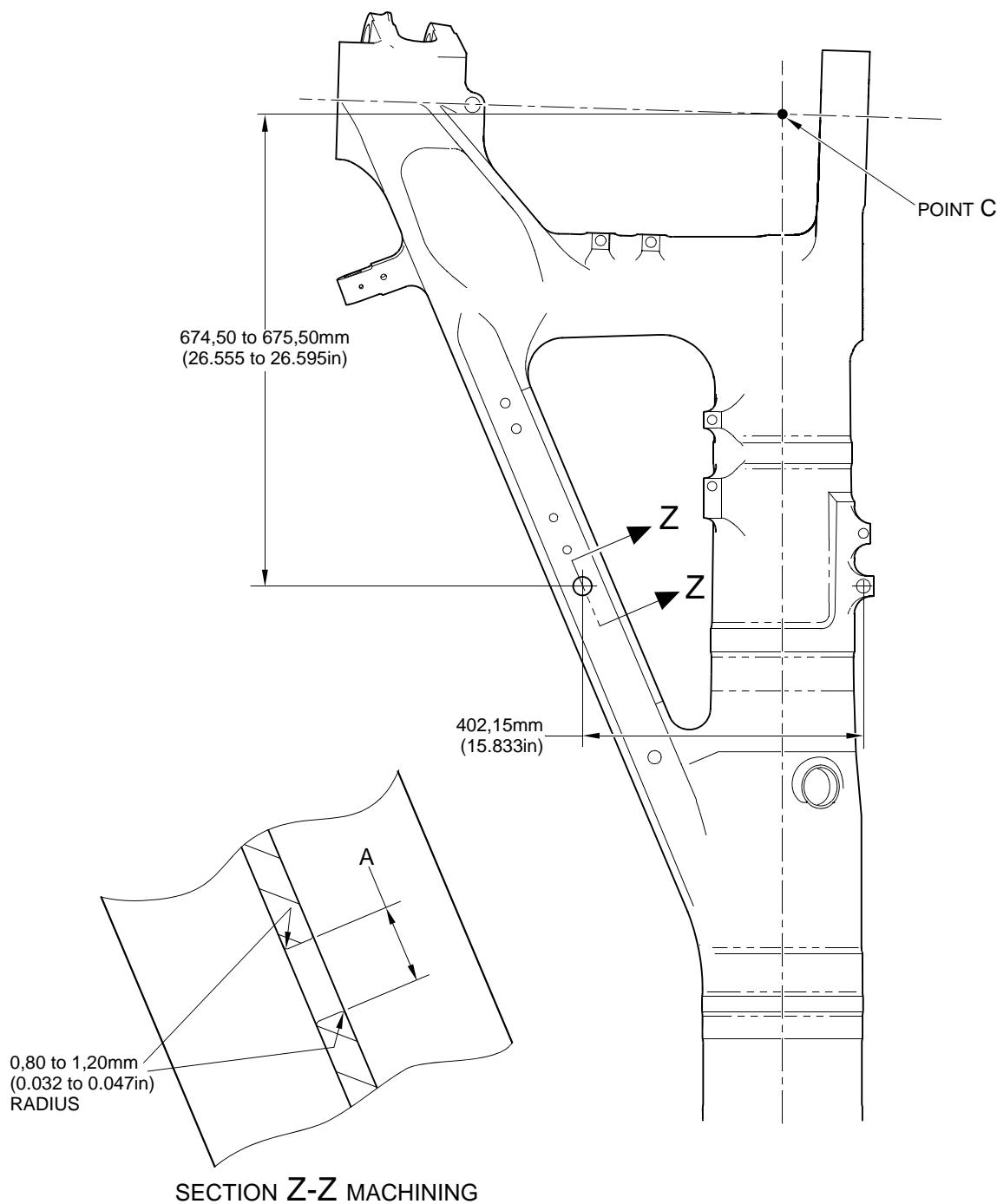
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MAIN LANDING GEAR LEG

- (5) Shot peen the machined area: refer to M-DLPS123.
- (6) Apply cadmium plate to the machined area: refer to PCS-2141.
- (7) Identify the part with the Safran Landing Systems repair number 450266080 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (8) Calculate diameter B of the repair bearing:
$$B = A \text{ (as measured)} + 0,002 \text{ to } 0,048 \text{ mm (0.0008 to 0.0019 in)}$$
- (9) Machine the repair bearing to the dimensions shown and calculated with a surface finish of 1,6 micrometers (63 micro-inches): refer to Figure [602](#).
- (10) Apply cadmium plate to the repair bearing: refer to PCS-2101. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (11) Install the repair bearing: refer to M-DLPS1011-20. Use electrically conducting Mastinox D40, Material Ref. Item. TBA: refer to M-DLPS709-14.
- (12) Check line ream the repair bearing to the dimension shown: refer to Figure [602](#).
- (13) Apply sealant, Material Ref. Item 09-510A, between the repair bearing and the main fitting: refer to PCS-7200 and Figure [602](#).
- (14) Identify the part with the Safran Landing Systems repair number 450266080 adjacent to the part number: refer to PCS-6000-07.
- (15) Examine the part to make sure that you have obeyed all the repair instructions correctly.

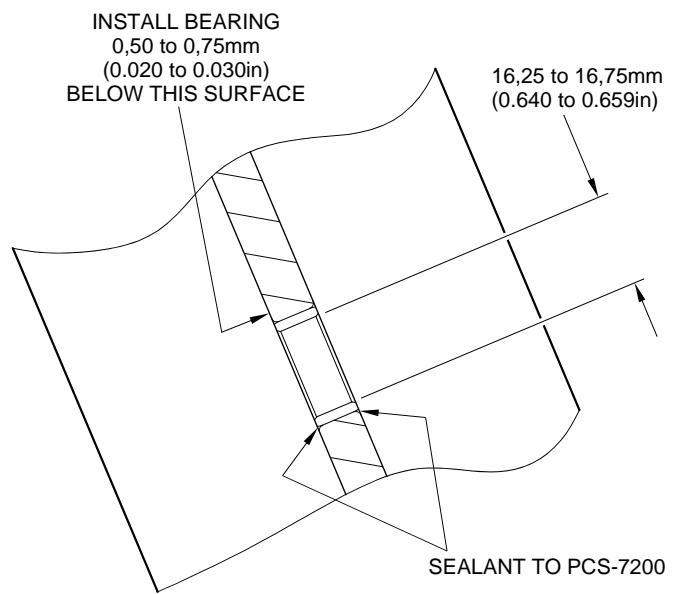
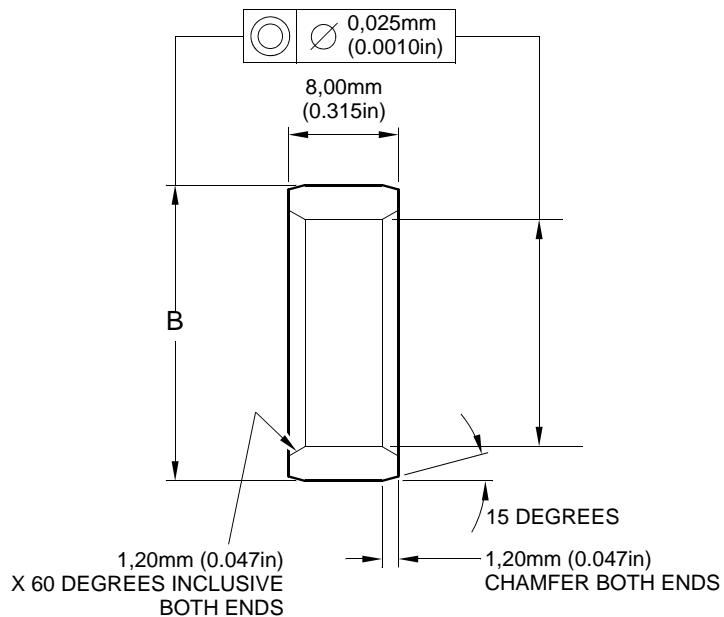
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Repair to Main Fitting
Figure 601

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MAIN LANDING GEAR LEG



**PART SECTION Z-Z
WITH BEARING**

A321A5061-1

Repair Bush - Machining and Installation
Figure 602

**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-6 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/169	Press Pad	Install the blank bush 450237817

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Electrically conducting Mastinox D40
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237817	Blank bush	Aluminium Bronze, BSB23 or AMS4640

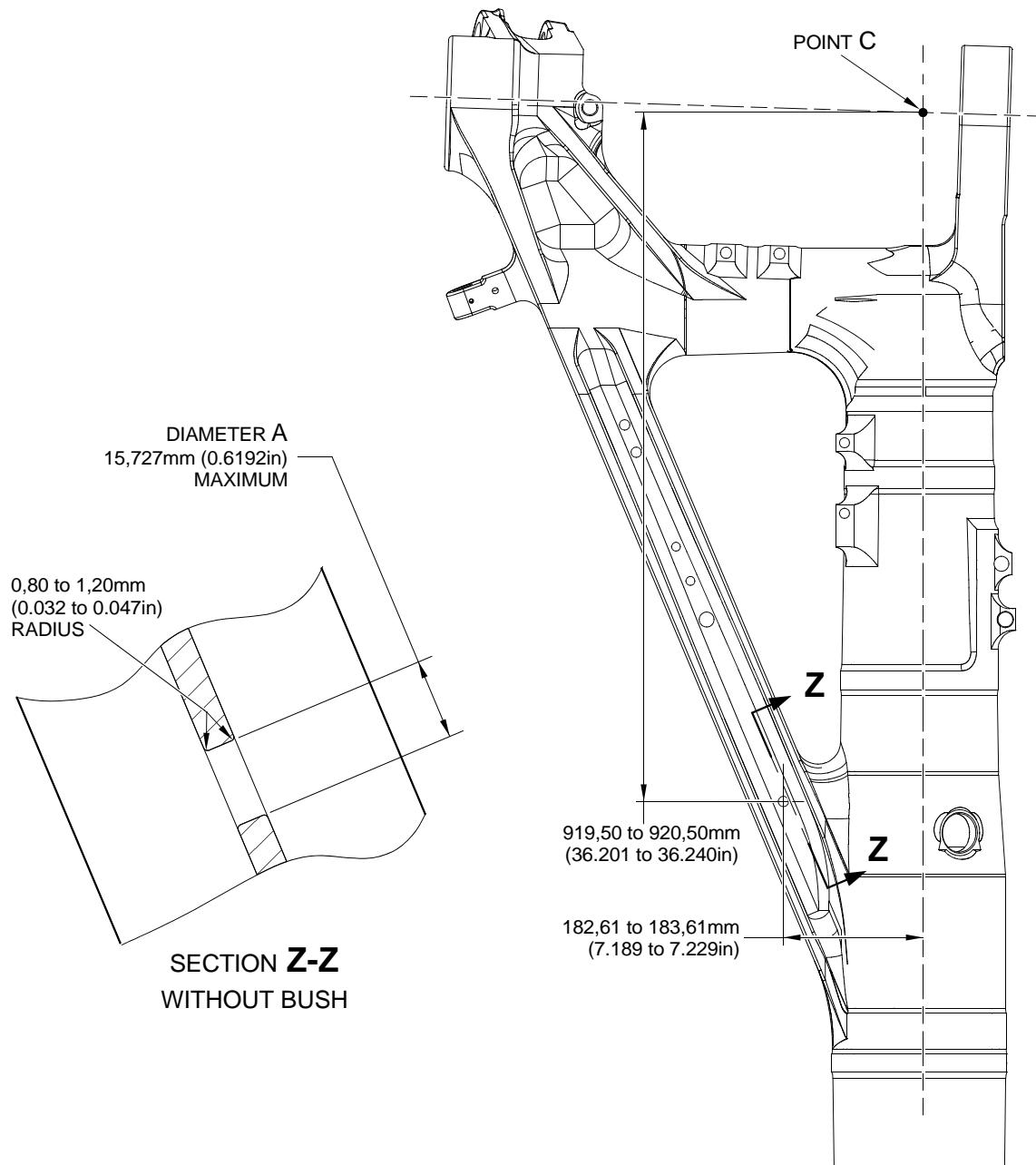
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine the diameter A, sufficiently only to remove the damage or corrosion, do not make diameter A larger than 15,727 mm (0.6192 in): refer to M-DLPS1004-4-1 and [Figure 601](#). The surface finish must be 1,6 micrometers (63 micro-inches).
- (2) Measure and record the new diameter A.
- (3) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- (4) Locally cadmium plate the reworked areas: refer to PCS-2141.

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- (5) Identify the part with the Safran Landing Systems repair number 450266085 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (6) Calculate diameter B of the repair bush:
$$\text{Dia. B} = \text{Dia. A} (\text{as measured}) + 0,029 \text{ to } -0,009 \text{ mm } (+0,0012 \text{ to } -0,0003 \text{ in}).$$
- (7) Machine the blank bush 450237817 to the dimensions shown and calculated. Machine face C to get a dimension D of between 1,75 and 2,00 mm (0,069 and 0,078 in). The surface finish must be 1,6 micrometers (63 micro-inches) all over the bush: refer to [Figure 602](#).
- (8) Apply cadmium plate all over the oversize bush: refer to PCS-2101. The cadmium plate thickness must be between 0,010 and 0,015 mm (0,0004 and 0,0006 in).
- (9) Install the oversize bush: refer to M-DLPS1011-20. Use electrically conducting Mastinox D40, Material Ref. Item. TBA: refer to PCS-7304 and [Figure 602](#).
- (10) Apply a bead of sealant, Material Ref. Item 09-510A, to the oversize bush: refer to PCS-7200 and [Figure 602](#).
- (11) Identify the part with the Safran Landing Systems repair number 450266085 adjacent to the part number: refer to PCS-6000-07.
- (12) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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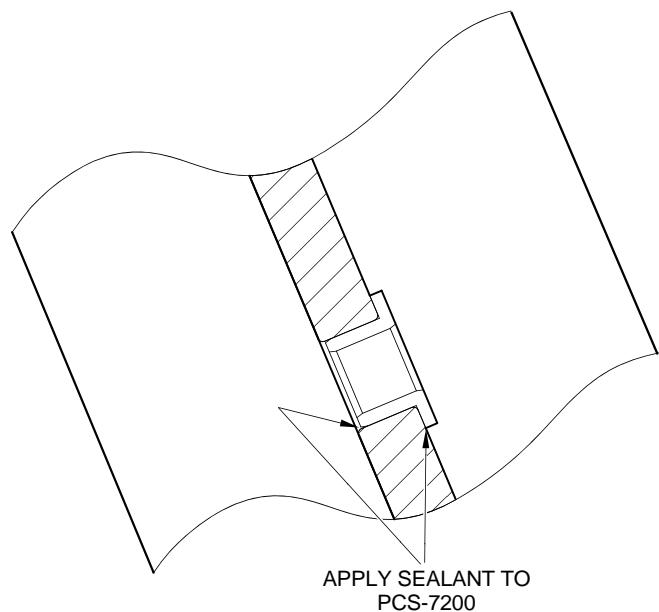
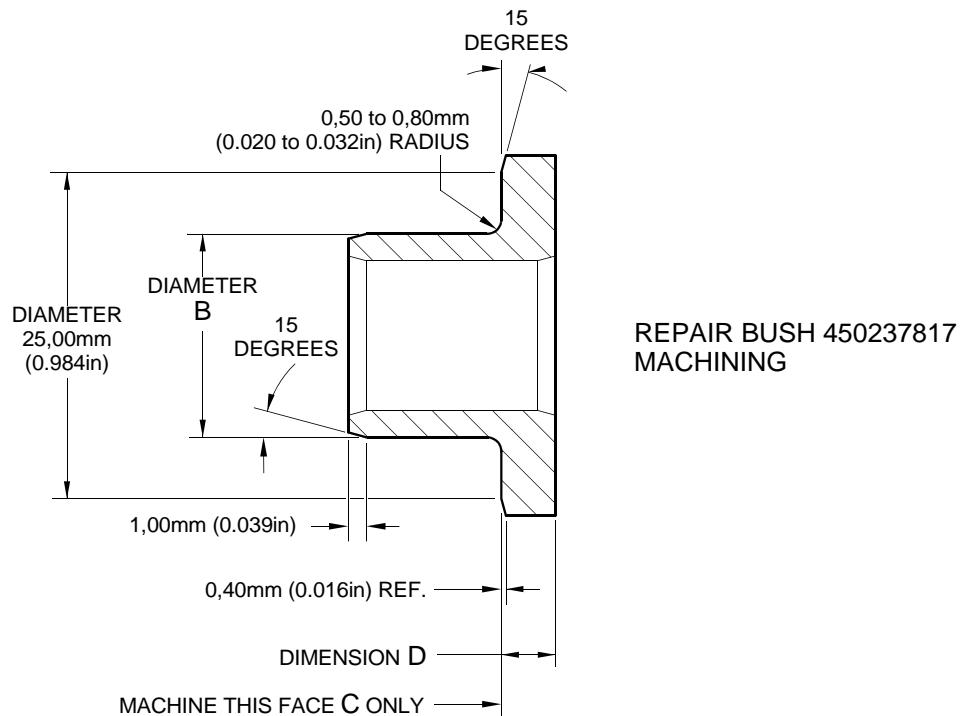
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Repair to Main Fitting
Figure 601

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Repair No. 11-6
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**SECTION Z-Z
WITH BUSH**

A321-S-32-12-22-023-0

Repair Bush - Machining and Installation
Figure 602

Repair No. 11-6
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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-7 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to the diameter(s) A, B or C or spotface(s) D, E or F or faces G, H and/or J.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460007258	Press Pad and Drawbolt	Install the repair bush 450258800

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc Powder
05-533	Mastinox D40
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258800	Repair bush (Qty 3)	Stainless Steel,S145

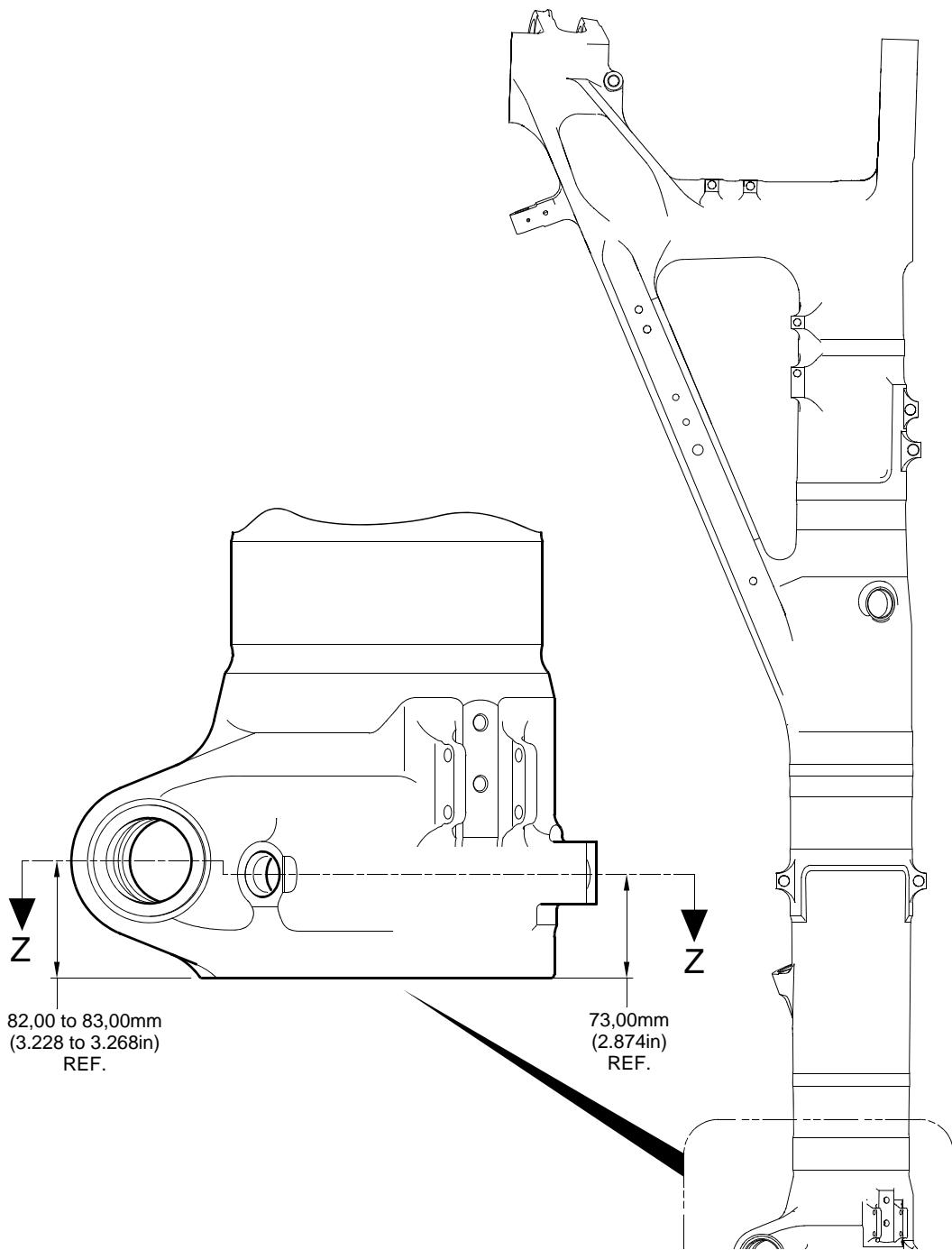
E. Procedure (Refer to Figures 601, 602 and 603)

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

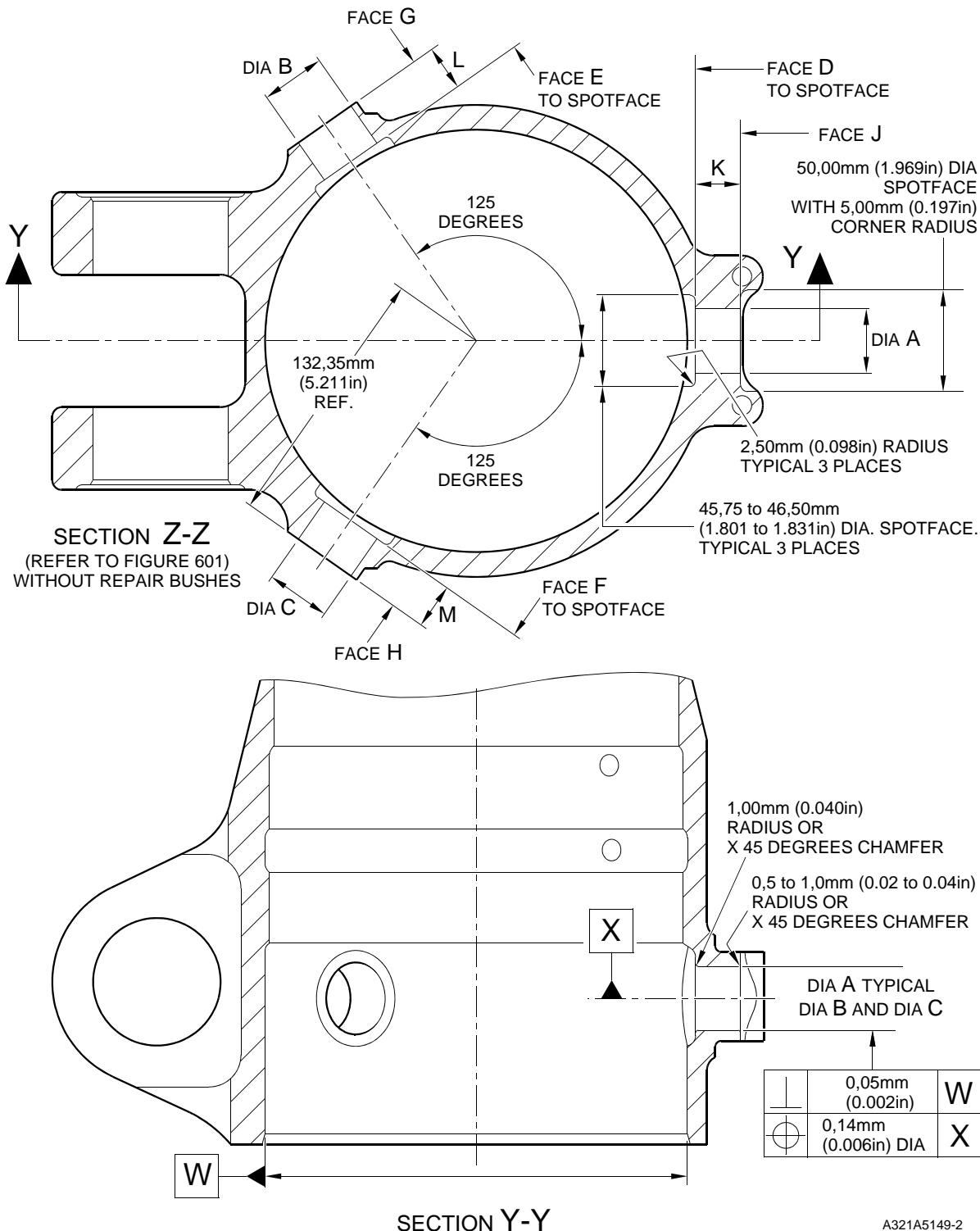
(1) Machine the diameter A and/or diameter B and/or diameter C, sufficiently only to remove the damage or wear: refer to M-DLPS1004-4-1. Diameter A and/or diameter B and/or diameter C must not be more than 33,925 mm (1.3356 in). The surface finish must be 1,6 micrometers (63 micro-inches).

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- (2) Use a 45,75 to 46,50 mm (1.801 to 1.831 in) spotface cutter with a 2,50 mm (0.1 in) corner radius and machine the spotfaces D and/or E and/or F, sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (3) Machine the faces G and/or H and/or J to get the lug width dimensions the lug widths K or L or M: refer to M-DLPS1004-4-1 and [Figure 602](#). Do not make the lug widths K or L or M less than 21,50 mm (0.846 in). Make the surface finish 1,6 micrometers (63 micro-inches).
- (4) Machine the radii to the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 602](#). If necessary, blend any generated sharp edges to the adjacent surface.
- (5) Measure and record the new diameter(s) A, B and C and the lug widths K, L and M.
- (6) Examine the machined areas for flaws: refer to PCS-3100, inclusion Class 4 and PCS-3600.
- (7) Shot peen the machined area: refer to M-DLPS123.
- (8) Identify the part with the Safran Landing Systems repair number 450266045 adjacent to the part number: refer to PCS-6000-04.
- (9) Apply cadmium plate to the machined area: refer to PCS-2100 or PCS-2141. The cadmium plate thickness must be between 0,010 to 0,020 mm (0.0004 and 0.0008 in).
- (10) Apply primer paint to the main fitting, where the bush flanges will touch: refer to PCS-2500.
- (11) Calculate the dimensions for each repair bush (qty 3), use formula:
$$\text{Dia N} = \text{Dia A or B or C (as measured)} + 0,018 \text{ to } 0,059 \text{ mm (0.0007 to 0.0023 in)}$$
$$\text{Dim P} = \text{Lug width K or L or M (as measured)} - 0,1 \text{ mm (- 0.004 in) to - 0,5 mm (- 0.019 in)}$$
- (12) Machine the repair bushes to the dimensions as calculated and as shown. Machine the face Q of repair bushes to get the correct dimension P: refer to [Figure 603](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (13) Examine the machined areas: refer to PCS-3100, inclusion class 3.
- (14) Passivate the repair bushs: refer to AMS 2700.
- (15) Use Press Pad and Drawbolt 460007258 and install the repair bushes: refer to M-DLPS1011-20. Use electrically conducting Mastinox (made from Mastinox D40, Material Ref. Item 05-533 and Zinc powder, Material Ref. Item TBA).
- (16) Check the bore diameters of the repair bushes: refer to [Figure 603](#).
- (17) If necessary hone or ream the repair bushes to the dimensions shown: refer to [Figure 603](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (18) Apply a bead of sealant, Material Ref. Item 09-510A, between the repair bush(es) and the main fitting: refer to PCS-7200 and [Figure 603](#).
- (19) Apply paint to the repaired areas, but not to the bores of the repair bushes: refer to PCS-2500.
- (20) Identify the part with the Safran Landing Systems repair number 450266045 adjacent to the part number: refer to PCS-6000-07.
- (21) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEGRepair to Main Fitting
Figure 601

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MAIN LANDING GEAR LEG



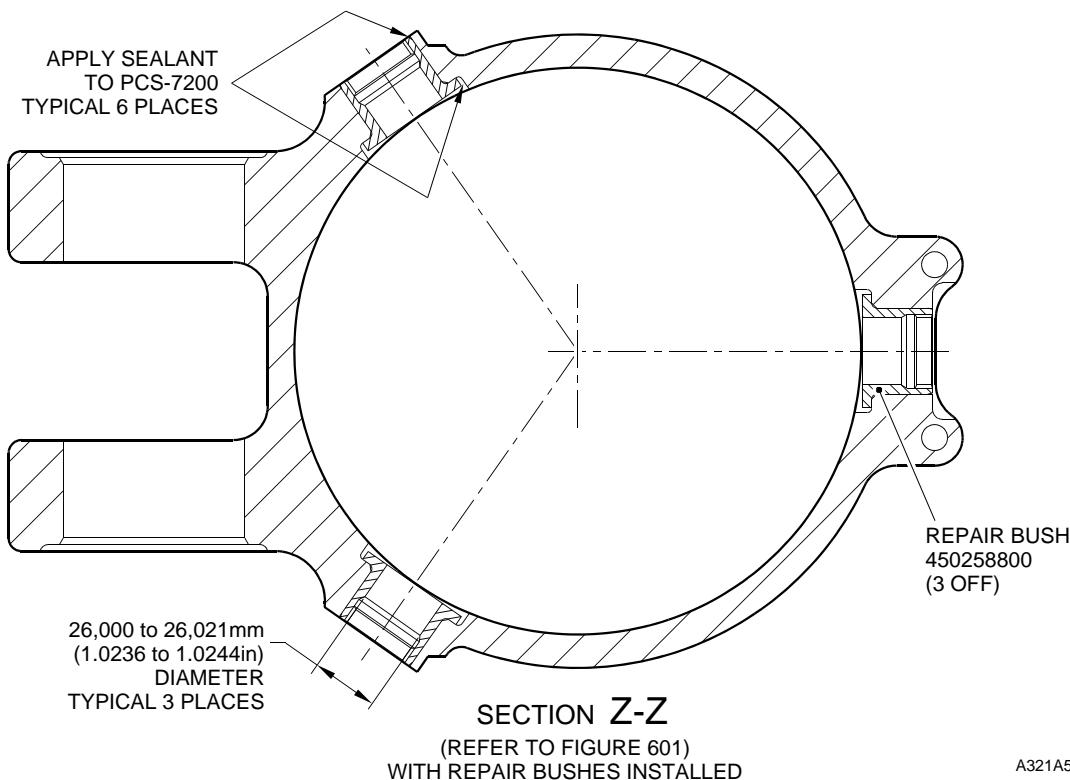
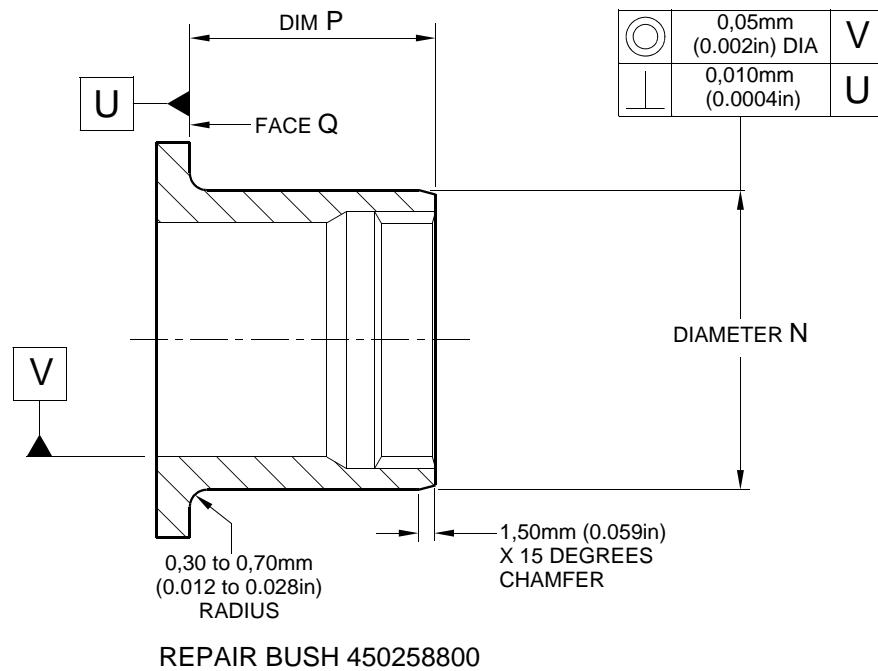
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Repair to Main Fitting
Figure 602

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A321A5150-2

Repair to Main Fitting - Repair Bush Machining and Installation
Figure 603

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■ 1. Repair No. 11-8 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the diameter A and/or the adjacent face(s) B. (Refer to Figure 601).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

Part No.	Special Tool	Function
460006246	Alignment Bar	Install the repair bush 450258806
460006249/1	Cutter	Finish machine the repair bush 450258806
460006250	Press Pad	Install the repair bush 450258806

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
-	Electrically conducting zinc loaded Molykote 111: refer to PCS-7304
09-510A	Sealant: refer to PCS-7200

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258806	Repair bush (Qty 2)	TBA

E. Procedure (Refer to Figures 601 and 602)

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

(1) Machine the diameter A, sufficiently only to remove the damage or corrosion: refer to M-DLPS1004-4-1. Diameter A must not be more than 68,13 mm (2.682 in). Dimension C must not be less than 22,15 mm (0.872 in). The surface finish must be 1,6 micrometers (63 micro-inches): refer to Figure 601.

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Repair No. 11-8
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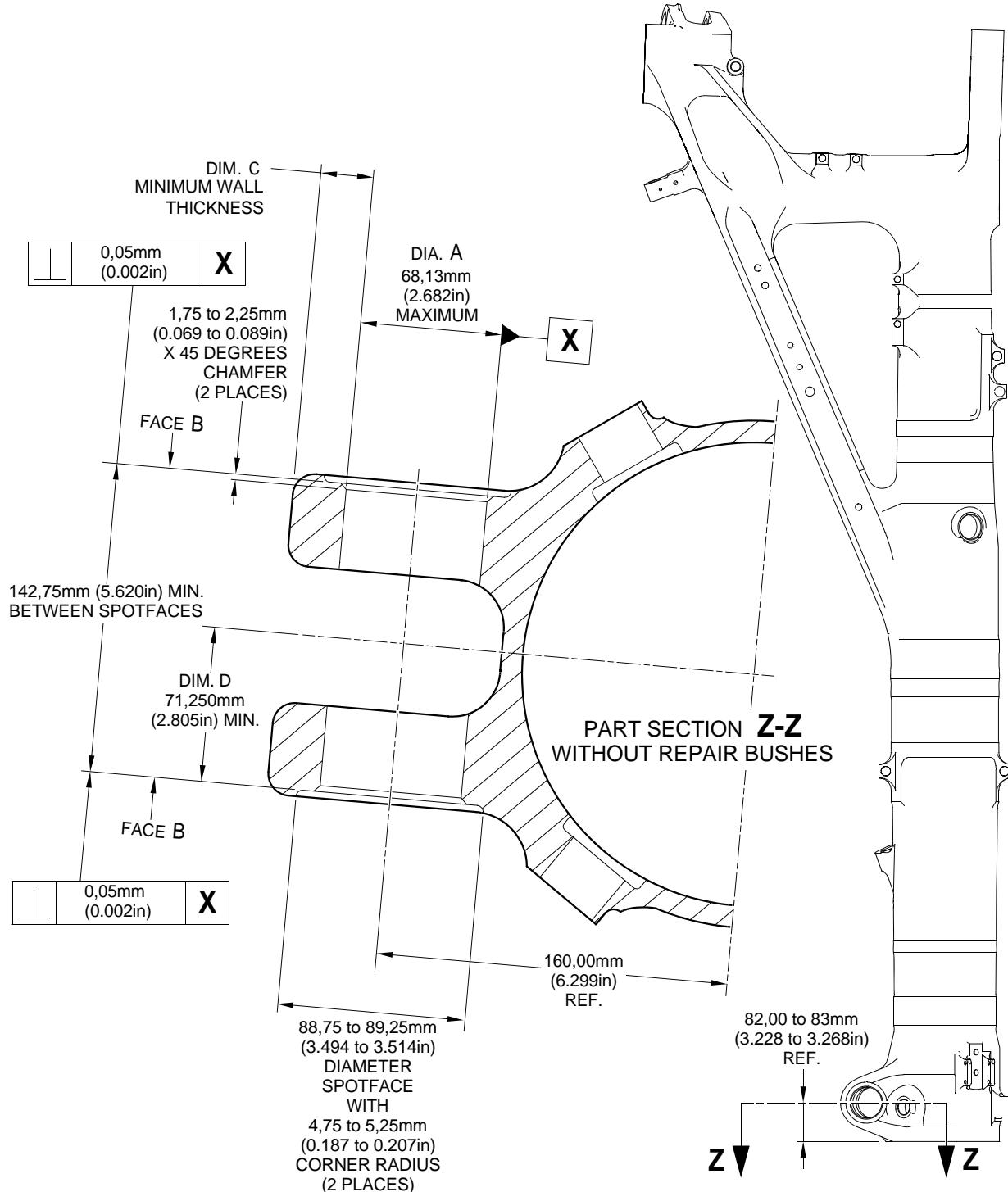
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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- (2) Measure and record the diameter A.
- (3) If necessary, machine the spotface(s) sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1. Do not remove more than 1,00 mm (0.040 in) of material from each face. Make the chamfers and radii as shown, do not reduce the dimension(s) D to less than 71,250 mm (2.805 in): refer to [Figure 601](#). The surface finish must be 1,6 micrometers (63 micro-inches).
- (4) Measure and record the dimension(s) D.
- (5) Examine the bare metal for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (6) Shot peen the machined areas: refer to M-DLPS123.
- (7) Apply cadmium plate locally to the machined areas: refer to PCS-2141.
- (8) Identify the part with the Safran Landing Systems repair number 450266010 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (9) Prepare the repair bush(es) 450258806 for installation: refer to [Figure 602](#):
 - (a) Machine diameter G of the repair bush to the diameter from this formula:

$$\text{Dia. G} = \text{Dia. A} (\text{as measured in para (2)}) + 0,029 \text{ to } 0,078 \text{ mm } (+ 0,0011 \text{ to } 0,0030 \text{ in})$$
 The surface finish must be 1,6 micrometers (63 micro-inches).
 - (b) Machine face H of the repair bush to get a dimension J from this formula:

$$\text{Dim. J} = \text{Dim. D} (\text{as measured in para (4)}) - 29,745 \text{ mm to } 30,00 \text{ mm } (1.171 \text{ to } 1.181 \text{ in})$$
 The surface finish must be 1,6 micrometers (63 micro-inches).
 - (c) Locally apply cadmium plate all over the repair bush(es) but not to the bore, internal grooves and face M: refer to PCS-2101 or PCS-2141. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (10) Use zinc loaded molykote 111 and the Alignment Bar 460006246 and Press Pad 460006250 to install the repair bush(es): refer to PCS-5105, PCS-7304 and [Figure 602](#).
- (11) If necessary, hand ream or hone the bore of the repair bushes to between 60,00 and 60,03 mm (2.362 and 2.363 in). Do not machine: refer to [Figure 602](#).
- (12) If necessary, use the Cutter 460006249/1 to machine the flange face(s) M of the repair bushes to get a dimension K of between 75,459 and 75,479 mm (2.9708 and 2.9716 in) and a dimension L of between 150,917 and 150,957 mm (5.9416 and 5.9432 in): refer to [Figure 602](#). The surface finish must be 1,6 micrometers (63 micro-inches).
- (13) If necessary, machine the internal chamfers of the repair bushes as shown: refer to [Figure 602](#). The surface finish must be 1,6 micrometers (63 micro-inches).
- (14) Apply sealant, Material Ref. Item 09-510A, between the repair bush(es) and the main fitting: refer to PCS-7200 and [Figure 602](#).
- (15) Identify the part with the Safran Landing Systems repair number 450266010 adjacent to the part number: refer to PCS-6000-07.
- (16) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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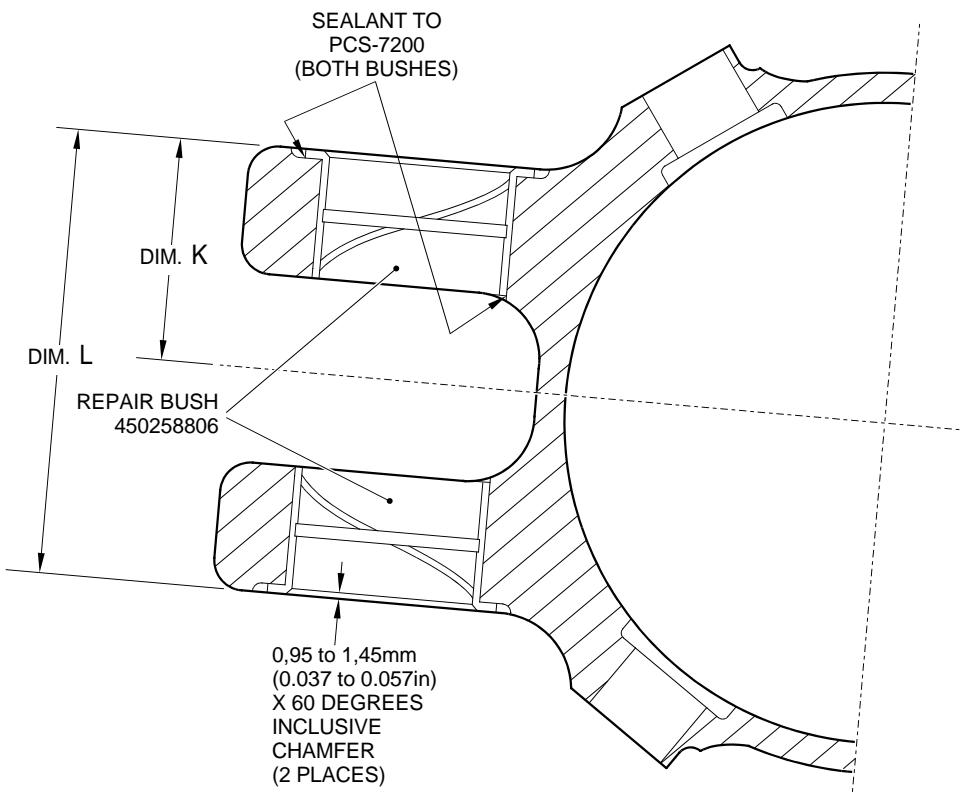
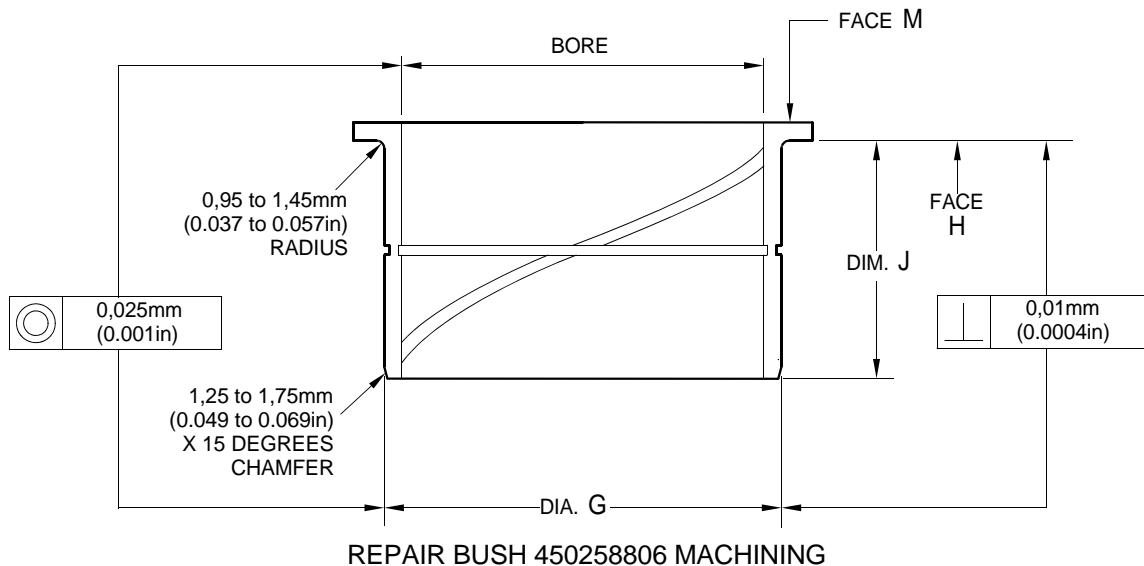
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**Repair to Main Fitting
Figure 601**

32-12-22

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**PART SECTION Z-Z
WITH REPAIR BUSHES INSTALLED**

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Repair to Main Fitting - Repair Bush Machining and Installation
Figure 602

Repair No. 11-8
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■ 1. Repair No. 11-9 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the diameter(s) A and the adjacent face(s) B. (Refer to Figure 601).

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

Part No.	Special Tool	Function
460004330/122	Press Pad	Install the repair bush 450217852
460004330/123	Press Pad	Install the repair bush 450217851

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant: refer to PCS-7200
TBA	Jointing Compound, zinc loaded Mastinox D40: refer to M-DLPS709-14

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450217851	Repair bush	Aluminium Bronze, DTD197
450217852	Repair bush	Aluminium Bronze, DTD197

E. Procedure (Refer to Figures 601, 602 and 603)

(1) Machine the diameter(s) A, sufficiently only to remove the damage or corrosion: refer to M-DLPS1004-4-1. Diameter A must not be more than 54,130 mm (2.1311 in). The surface finish must be 1,6 micrometers (63 micro-inches).

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- (2) Machine the face(s) B, sufficiently only to remove the damage or wear: refer to M-DLPS1004-4-1. Do not remove more than 1,00 mm (0.039 in) of material from the face(s) B. The surface finish must be 1,6 micrometers (63 micro-inches).
- (3) Machine the chamfers and radii as shown: refer to Figure [602](#).
- (4) Measure and record the new diameter(s) A and the dimensions C1 and C2.
- (5) Examine the bare metal for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (6) Shot peen the machined area: refer to M-DLPS123.
- (7) Apply cadmium plate to the machined area: refer to PCS-2141.
- (8) Identify the part with the Safran Landing Systems repair number 450266030 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (9) Prepare the repair bush(es) 450217851 and 450217852 for installation: refer to Figure [602](#):
 - (a) Calculate diameter D1 of the repair bush 450217851 from this formula:

$$D1 = A \text{ (as measured in para (4))} + 0,023 \text{ to } 0,072 \text{ mm (+ 0.0009 to 0.0028 in)}$$
 - (b) Calculate dimension F1 of the repair bush 450217851 from this formula:

$$F1 = C1 \text{ (as measured in para (4))} + 0,00 \text{ to } 1,25 \text{ mm (+ 0.000 to 0.049 in)}$$
 - (c) Calculate diameter D2 of the repair bush 450217852 from this formula:

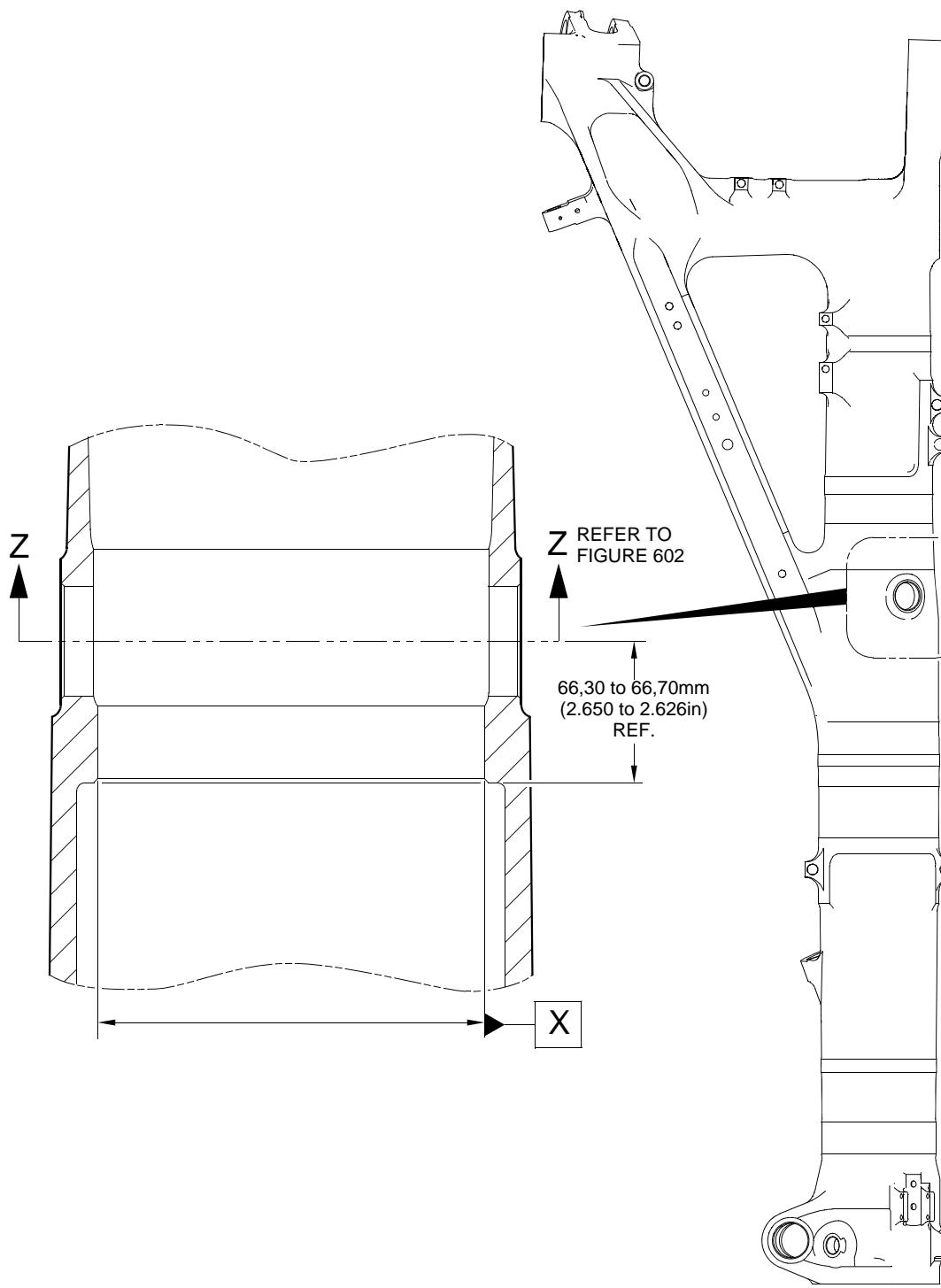
$$D2 = A \text{ (as measured in para (4))} + 0,023 \text{ to } 0,072 \text{ mm (+ 0.0009 to 0.0028 in)}$$
 - (d) Calculate dimension F2 of the repair bush 450217852 from this formula:

$$F2 = C2 \text{ (as measured in para (4))} + 0,00 \text{ to } 1,25 \text{ mm (+ 0.000 to 0.049 in)}$$
 - (e) Machine the repair bushes to the dimensions shown and calculated. Make the surface finish 1,6 micrometers (63 micro-inches).
 - (f) Apply cadmium plate to the repair bush(es): refer to PCS-2101 or PCS-2141. Do not apply cadmium plate to the bores of the bush(es). The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (10) Use jointing compound, zinc loaded Mastinox D40, Material Ref. Item, TBA and the Press Pads 460004330/122 and 460004330/123 to install the repair bush(es): refer to M-DLPS709-14, M-DLPS1011-20 and Figure [603](#). Make sure that the drain hole J is free from jointing compound: refer to Figure [603](#).
- (11) Machine the flanges of the bush(es) to get:
 - (a) A dimension H of between 111,25 and 111,45 mm (4.380 and 4.388 in): refer to Figure [603](#). The surface finish must be 1,6 micrometers (63 micro-inches).
 - (b) A dimension G of between 222,50 and 222,75 mm (8.760 and 8.770 in): refer to Figure [603](#). The surface finish must be 1,6 micrometers (63 micro-inches).
- (12) Machine the chamfers of the repair bush(es) to the dimensions shown. The surface finish must be 1,6 micrometers (63 micro-inches).

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- (13) If necessary, check line ream the bore of the bush 450217851 to between 36,000 and 36,025 mm (1.4170 and 1.4180 in).
- (14) If necessary, check line ream the bore of the bush 450217852 to between 46,825 and 46,864 mm (1.8440 and 1.8450 in).
- (15) Apply sealant, Material Ref. Item 09-510A, between the repair bush(es) and the main fitting: refer to PCS-7200 and Figure [603](#).
- (16) Identify the part with the Safran Landing Systems repair number 450266030 adjacent to the part number: refer to PCS-6000-07.
- (17) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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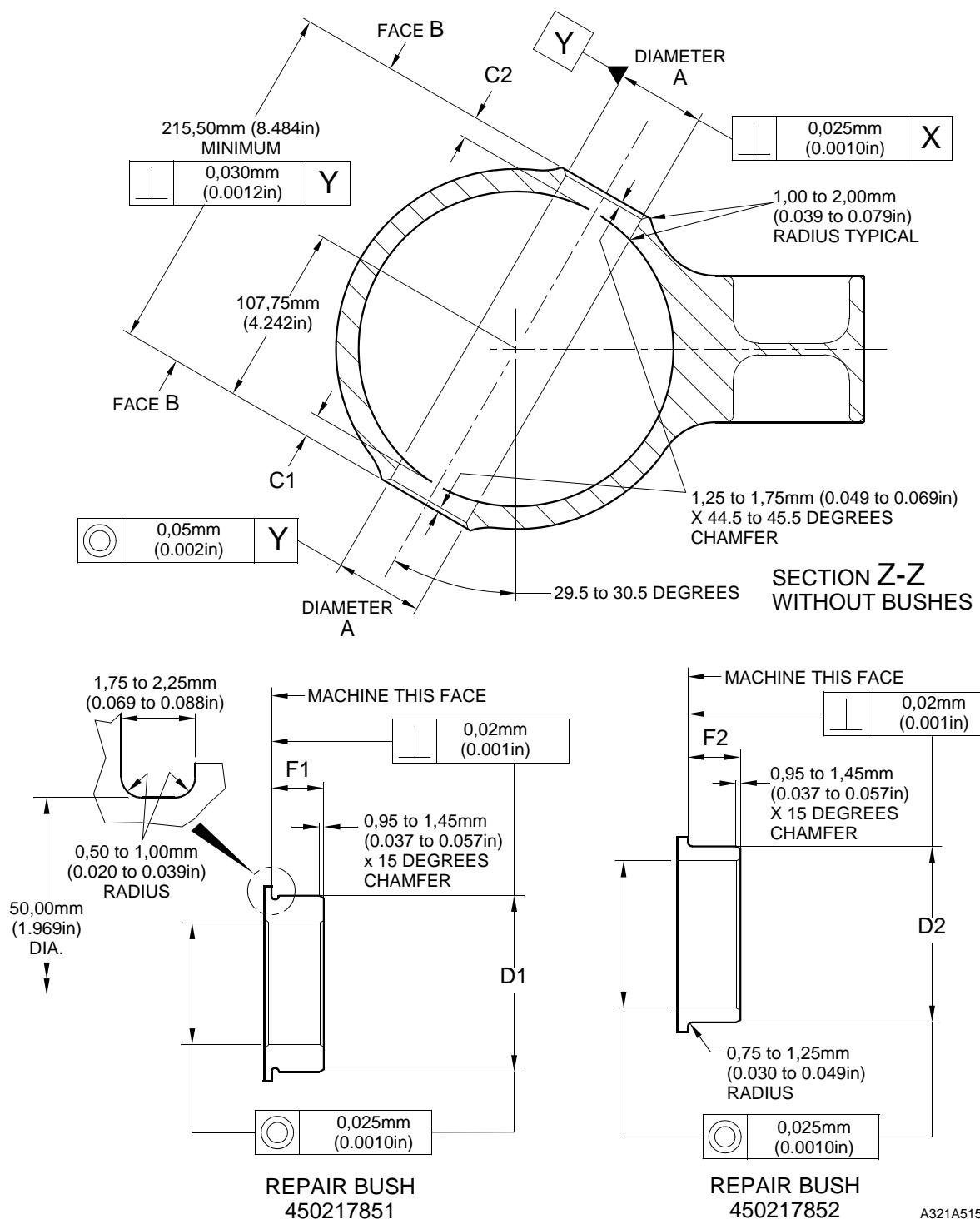
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Repair to Main Fitting
Figure 601

32-12-22

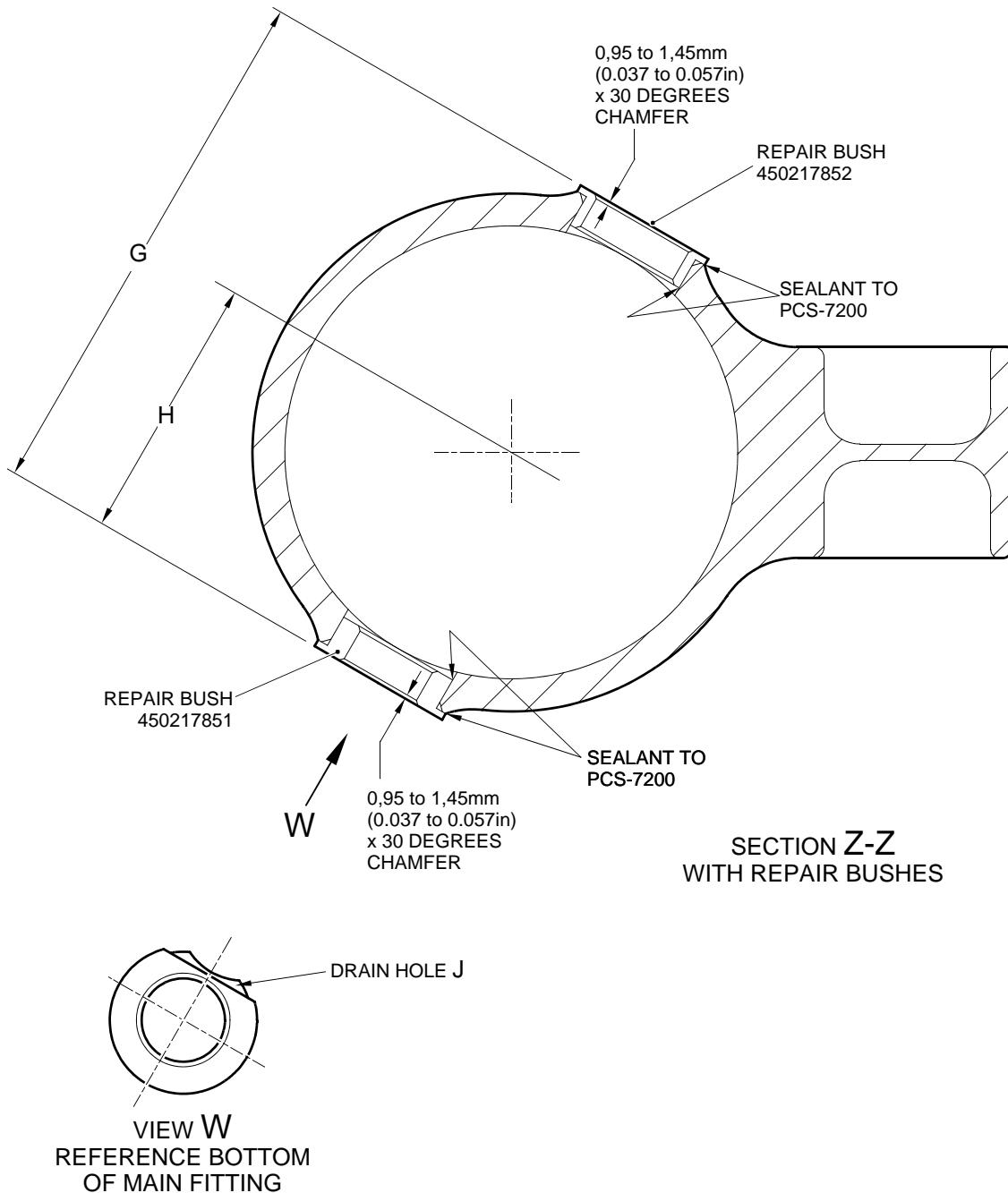
Repair No. 11-9
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Repair to Main Fitting - Machining
Figure 602

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Repair to Main Fitting - Repair Bush Installation
Figure 603

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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG■ 1. Repair No. 11-10 Main Fitting (20-410 and 20-420 Only)

- A. This repair, Messier-Dowty Limited Repair No. 450267270, has been withdrawn from use. It is superseded by [Repair No. 11-29](#) (450267275) or [Repair No. 11-30](#) (450267385).



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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-11 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or corrosion to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/91	Press Pad	Install the repair bearing

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
04-512	Molykote 111
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237824	Repair Bearing	Aluminium Bronze, DTD197

E. Procedure (Refer to Figures 601 and 602)

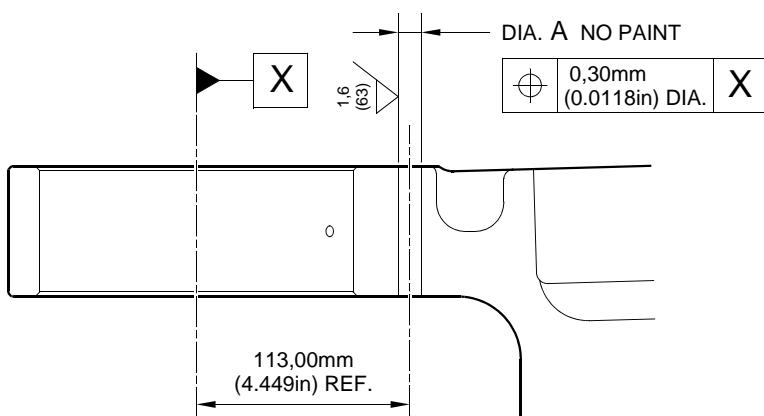
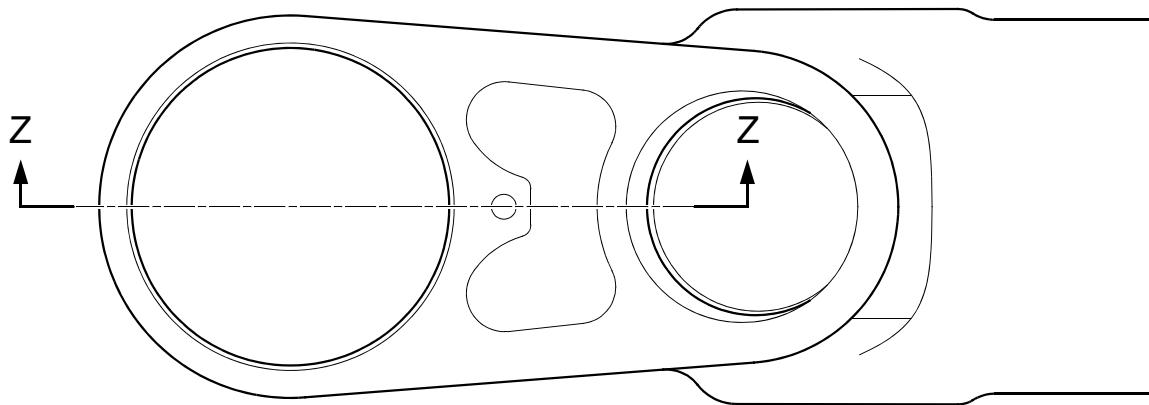
**CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME,
WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.**

- (1) Machine diameter A sufficiently to remove the damage or wear and to between 14,018 and 14,485 mm (0.5519 and 0.5703 in): refer to M-DLPS914, M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches) or better.
- (2) Examine the main fitting for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- (3) Measure and record the new diameter A.

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- (4) Identify the part with the Safran Landing Systems repair number 450266015 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.
- (5) Apply cadmium plate to the reworked area: refer to PCS-2100 and PCS-2141. Fadeout of cadmium plate is permitted in bore.
- (6) Apply primer paint to reworked areas: refer to PCS-2500.
- (7) Calculate the diameter B of the repair bearing, use formula:
$$\text{Dia. B} = \text{Dia. A} \text{ (as measured)} - 0,006 \text{ to } + 0,023 \text{ mm } (- 0,0002 \text{ to } + 0,0009 \text{ in}).$$
- (8) Machine the repair bearing to the diameter calculated and as shown: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (9) Apply cadmium plate all over the repair bearing: refer to PCS-2101 or PCS-2141. The cadmium plate thickness must be between 0,010 and 0,015 mm (0,0004 and 0,0006 in).
- (10) Use the press pad 460004330/91 to install the repair bearing. Use Molykote 111, Material Ref. Item 04-512: refer to PCS-7304. The ends of the bearing must be below the end of the bearing hole: refer to [Figure 602](#).
- (11) Check the bore diameters of the repair bearing: refer to [Figure 602](#).
- (12) Do not machine the repair bearing. If necessary, hone the bore diameters of the repair bearing to the dimensions shown: refer to [Figure 602](#).
- (13) Apply sealant, Material Ref. Item 09-510A, to the joints between the repair bearing and main fitting: refer to PCS-7200 and [Figure 602](#).
- (14) Apply paint to the repaired area, except where indicated: refer to PCS-2500, **REPAIR** and [Figure 602](#).
- (15) Identify the part with the Safran Landing Systems repair number 450266015 adjacent to the part number: refer to PCS-6000-07.
- (16) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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SECTION Z-Z
(WITHOUT BEARING)

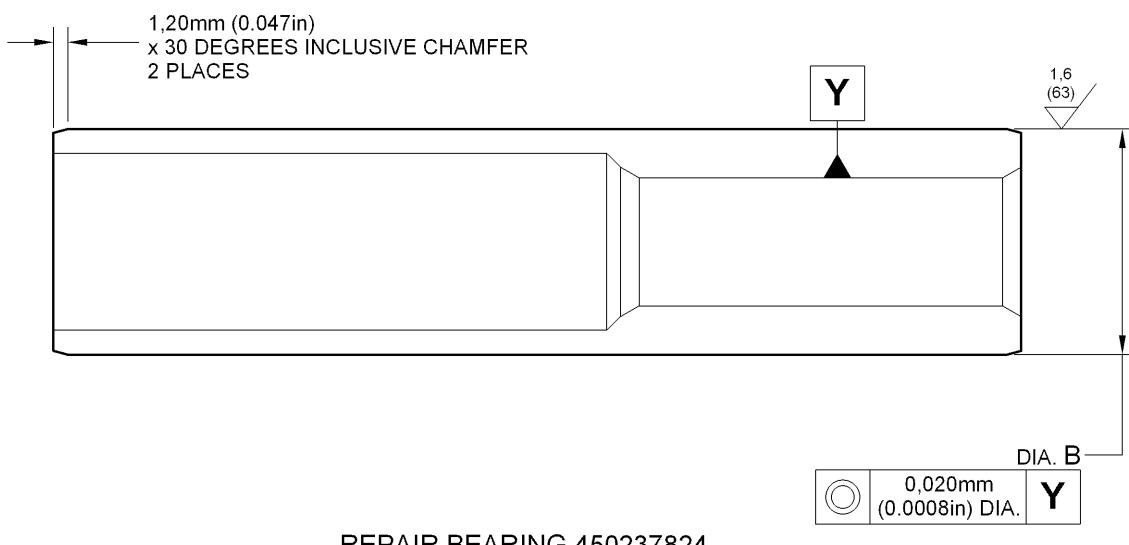
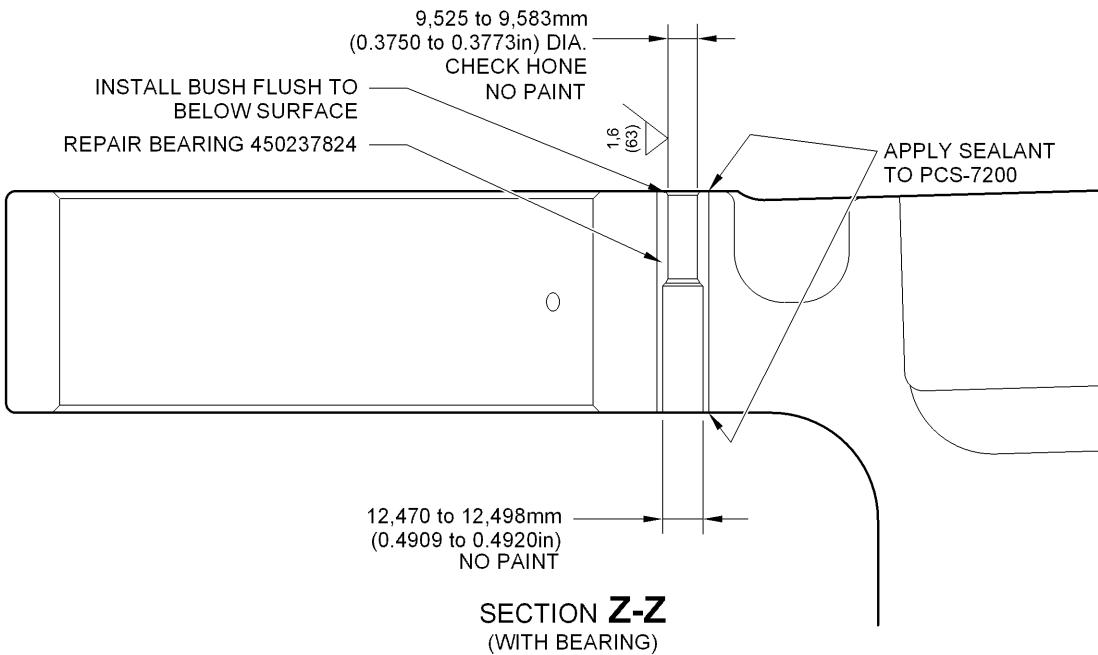
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Repair to Main Fitting - Machining
Figure 601

Repair No. 11-11
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REPAIR BEARING 450237824

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Repair Bearing - Machining and Installation
Figure 602

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■ 1. Repair No. 11-12 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006265	Press Pad	Install the bush 450237800

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-704	Adhesive
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237800	Blank bush	Aluminium Bronze, DTD197

E. Procedure (Refer to Figures 601 and 602)

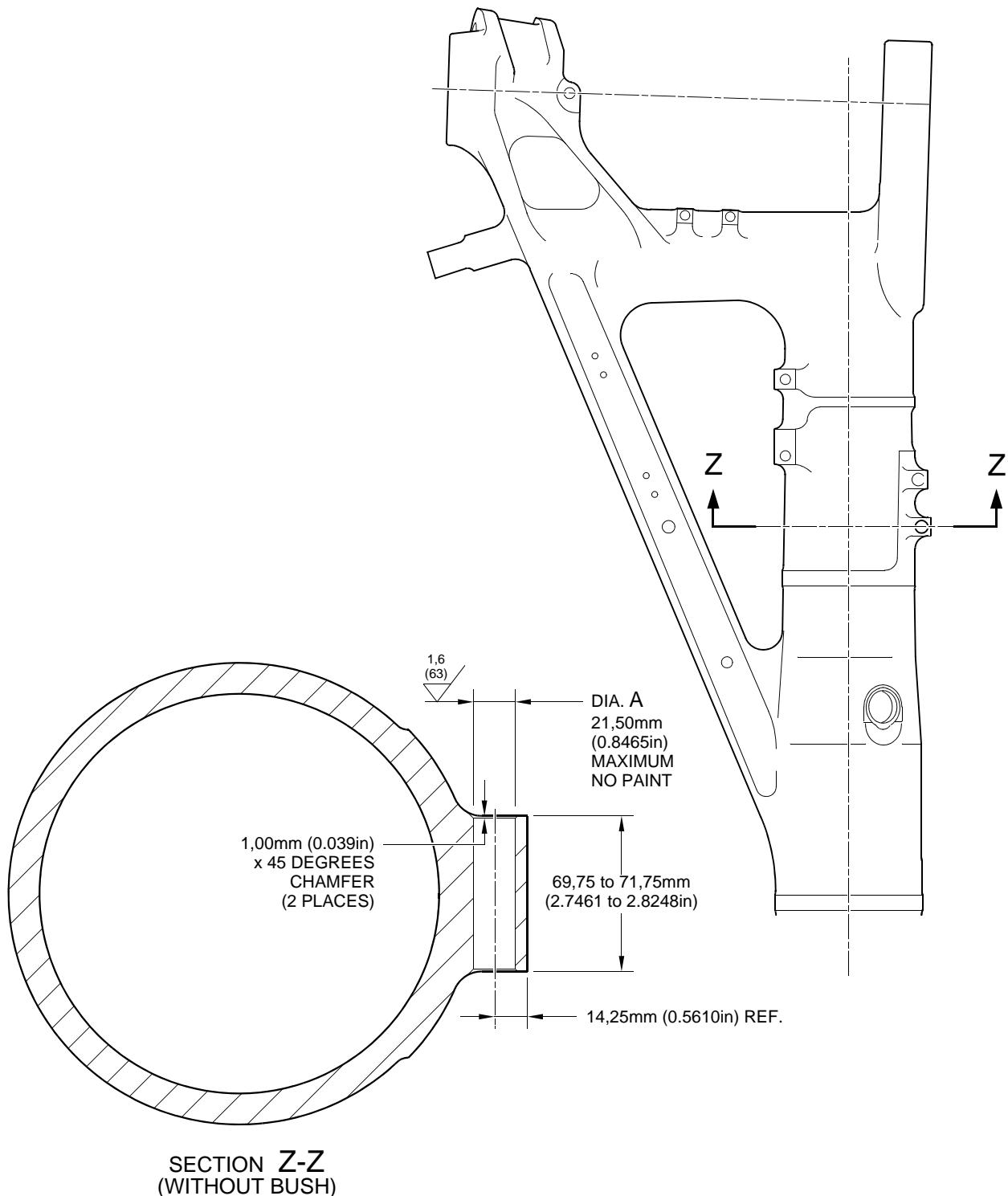
CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Remove the paint locally from the main fitting: refer to PCS-2700.
- (2) Remove the cadmium plate locally from the main fitting: refer to PCS-2100.
- (3) Machine diameter A sufficiently to remove the wear or damage within the dimensions shown: refer to M-DLPS914, M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches) or better.

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- (4) Measure and record the new diameter A.
- (5) Examine the main fitting for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (6) Shot peen the reworked areas: refer to M-DLPS123.
- (7) Identify the part with the Safran Landing Systems repair number 450266035 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.
- (8) Apply cadmium plate to the reworked area: refer to PCS-2100 and PCS-2141. Fadeout of cadmium plate is permitted in bore.
- (9) Calculate the diameter of the blank bush, use formula:
$$B = A \text{ (as measured)} - 0,265 \text{ to } -0,350 \text{ mm} (-0.0104 \text{ to } -0.0138 \text{ in}).$$
- (10) Machine the blank bush to the diameter calculated and as shown: refer to [Figure 602](#).
- (11) Apply cadmium plate all over the repair bush: refer to PCS-2101. The cadmium plate thickness must be between 0,003 and 0,005 mm (0.00015 and 0.00020 in).
- (12) Apply adhesive, Material Ref. Item 08-704, to the outside diameter of the repair bush and to the hole of the main fitting where you will install the repair bush: refer to PCS-5303.
- (13) Use Press Pad 460006265 and install the repair bush: refer to [Figure 602](#). The ends of the bush must be below the main fitting surface after installation.
- (14) Check the bore diameter of the repair bush: refer to [Figure 602](#).
- (15) If necessary, hone the bore diameter of the repair bush to the dimensions shown: refer to [Figure 602](#).
- (16) Apply sealant, Material Ref. Item 09-510A, to the joints between the repair bush and main fitting: refer to PCS-7200 and [Figure 602](#).
- (17) Apply paint locally to the repaired area, but not to the repair bush bore: refer to PCS-2500 and [Figure 602](#).
- (18) Identify the part with the Safran Landing Systems repair number 450266035 adjacent to the part number: refer to PCS-6000-07.
- (19) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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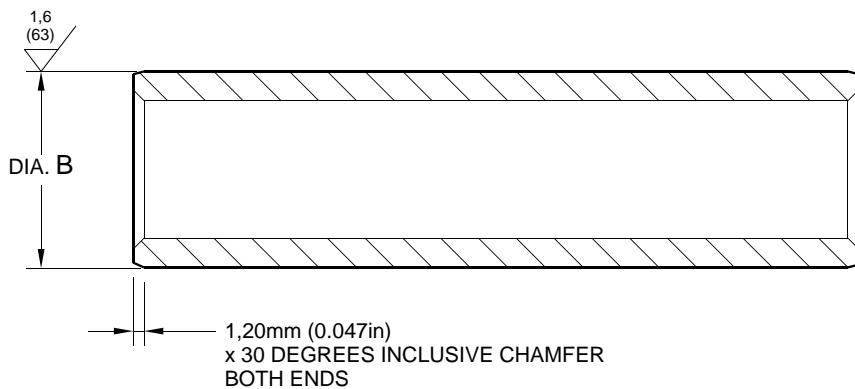
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Repair to Main Fitting - Machining
Figure 601

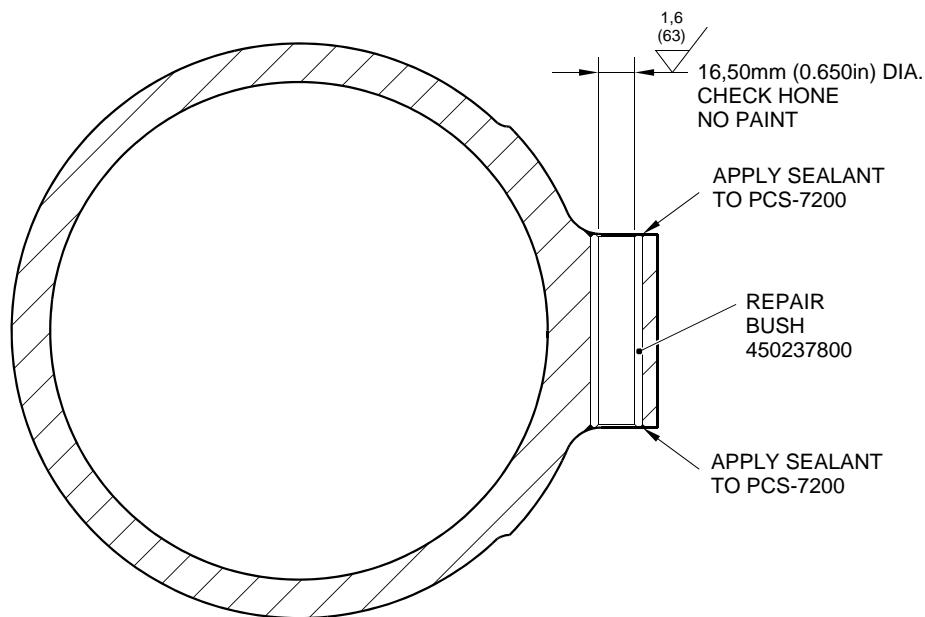
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REPAIR BUSH 450237800



SECTION Z-Z
(REFER TO FIGURE 601)
WITH REPAIR BUSH

A321-S-32-12-22-037-1

Repair Bush - Machining and Installation
Figure 602

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Repair No. 11-12
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■ 1. Repair No. 11-13 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the diameters A and/or B and/or adjacent internal faces.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006600	Press Pad Assembly	Install the repair bush 450237810
460006601	Alignment Bar	Use with Press Pad 460006600
460006602	Cutter	To get the correct dimension across the repair bushes
460006603	Press Pad Assembly	Install the bush made from 450237811
460006604	Guide Bush	Use with Press Pad 460006603

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Mastinox, D40
TBA	Zinc Powder
09-510A	Sealant

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D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237810	Blank Bush	Aluminium Bronze, DTD197 or AMS4-880C
450237811	Blank Bush (Refer to Table 1 for oversize bushes)	Steel, S132

E. Procedure (Refer to Figures [601](#) and [602](#))

- (1) Machine diameters A and/or B sufficiently to remove the damage or corrosion within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the adjacent internal faces sufficiently to remove the damage or corrosion within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (3) Machine the radii and chamfers to the dimensions shown: refer to [Figure 601](#).
- (4) Measure and record the new diameters A and B and dimensions D and E.
- (5) Examine the main fitting for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (6) Shot peen the machined areas: refer to M-DLPS123.
- (7) Apply cadmium plate to the reworked areas: refer to PCS-2141.
- (8) Identify the part with the Safran Landing Systems repair number 450266050 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06. If the PCS-6000-06 is used, the letters must have a depth of 0,051 to 0,102 mm (0.0020 to 0.0040 in) and an approximate height of 3,00 mm (0.118 in).
- (9) Calculate the dimensions to machine the repair bush 450237810 for diameter A:
 $F = A$ (as measured) + 0,023 to 0,072 mm (0.0009 to 0.0028 in),
 $G = D$ (as measured) + 0,65 to 1,35 mm (0.026 to 0.053 in).
- (10) Machine the repair bush 450237810 to the dimensions shown and calculated: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (11) With the measured dimension E, select the applicable oversize bush from [Table 1](#).
- (12) Calculate the diameter of the oversize bush for diameter B:
 $H = B$ (as measured) + 0,023 to 0,072 mm (0.0009 to 0.0028 in).
- (13) Machine the oversize bush to the dimensions shown and calculated: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (14) If necessary machine the flange face of the repair bush (450237810) to get the correct dimension between the bush faces on assembly as shown: refer to [Figure 602](#).
- (15) Restore the chamfers to the dimensions as shown: refer to [Figure 602](#).

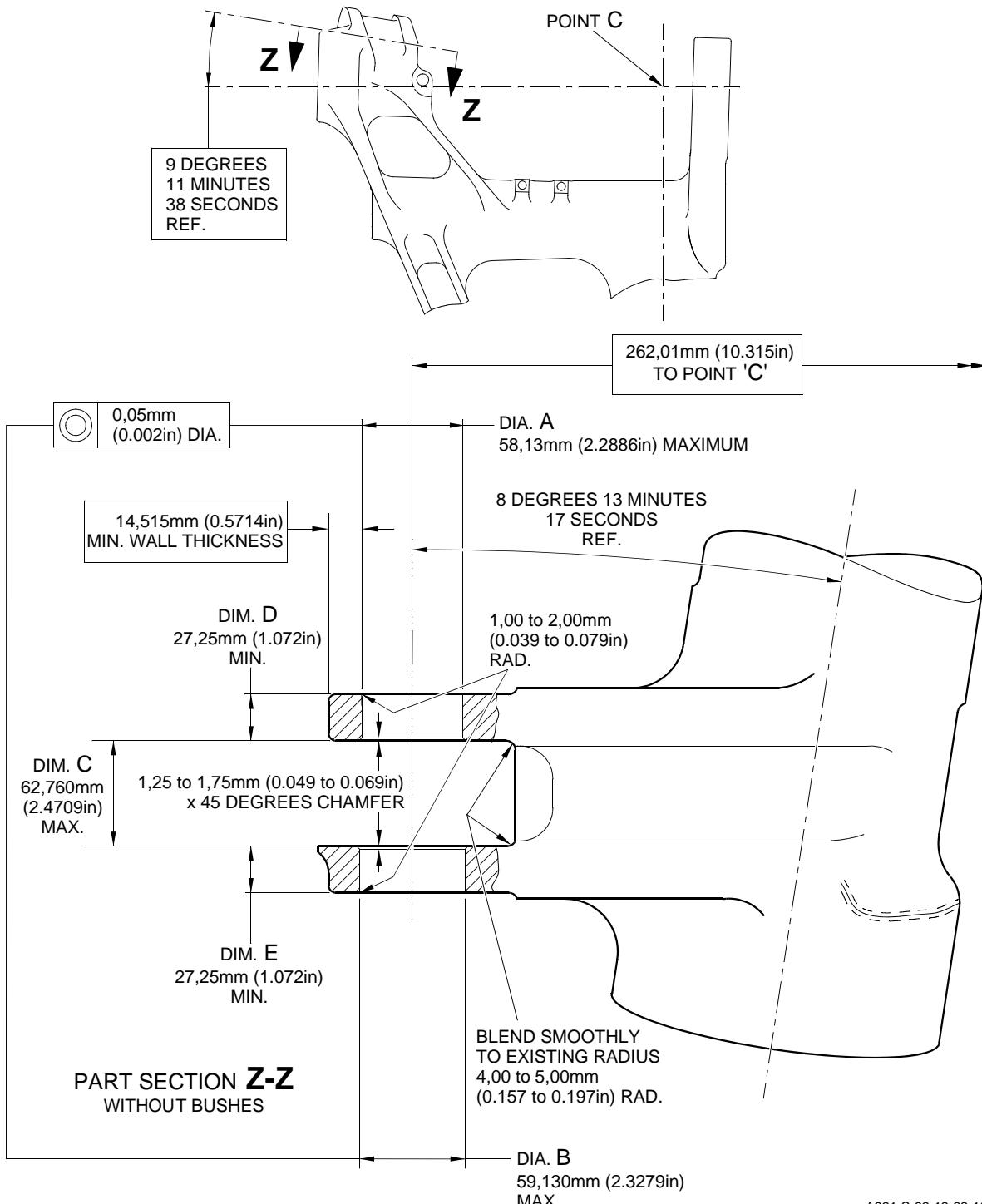
**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

- (16) Apply cadmium plate all over the repair bush (450237810) and only to the reworked areas of selected oversize bush: refer to PCS-2101 and PCS-2141. Do not apply cadmium plate to the bush bores. Make the cadmium plate thickness between 0,010 and 0,015 mm (0.0004 to 0.0006 in).
- (17) Use press pad assembly 460006600 and alignment bar 460006601 and install the repair bush. Use press pad assembly 460006603, alignment bar 460006601 and guide bush 460006604 and install the oversize bush: refer to M-DLPS1011-20. Use electrically conducting mastinox (make from Mastinox D40, Material Ref. Item TBA and Zinc powder, Material Ref. Item TBA): refer to M-DLPS709-14.
- (18) Check line ream the repair bushes to the dimensions shown: refer to [Figure 602](#).
- (19) Apply sealant, Material Ref. Item 09-510A to the joints between the repair bushes and the main fitting: refer to PCS-7200 and [Figure 602](#).
- (20) Identify the main fitting with the Safran Landing Systems repair number 450266050 adjacent to the part number: refer to PCS-6000-07.
- (21) Examine the part to make sure that you have obeyed all the repair instructions correctly.

**Table 1
Oversize Bushes For Diameter B**

Oversize	Step mm (in)	Oversize Bush	Dimension E (as measured) mm (in)	Dimension J mm (in)
-	Std	450237351	27,75 to 28,25 (1.093 to 1.112)	2,45 to 2,55 (0.096 to 0.100)
1	0,127 (0.005)	450237352	27,62 to 28,12 (1.087 to 1.107)	2,58 to 2,68 (0.102 to 0.106)
2	0,254 (0.010)	450237353	27,50 to 28,00 (1.083 to 1.102)	2,70 to 2,80 (0.106 to 0.110)
3	0,381 (0.015)	450237354	27,37 to 27,87 (1.078 to 1.097)	2,83 to 2,93 (0.111 to 0.115)
4	0,508 (0.020)	450237355	27,24 to 27,74 (1.072 to 1.092)	2,96 to 3,06 (0.117 to 0.120)

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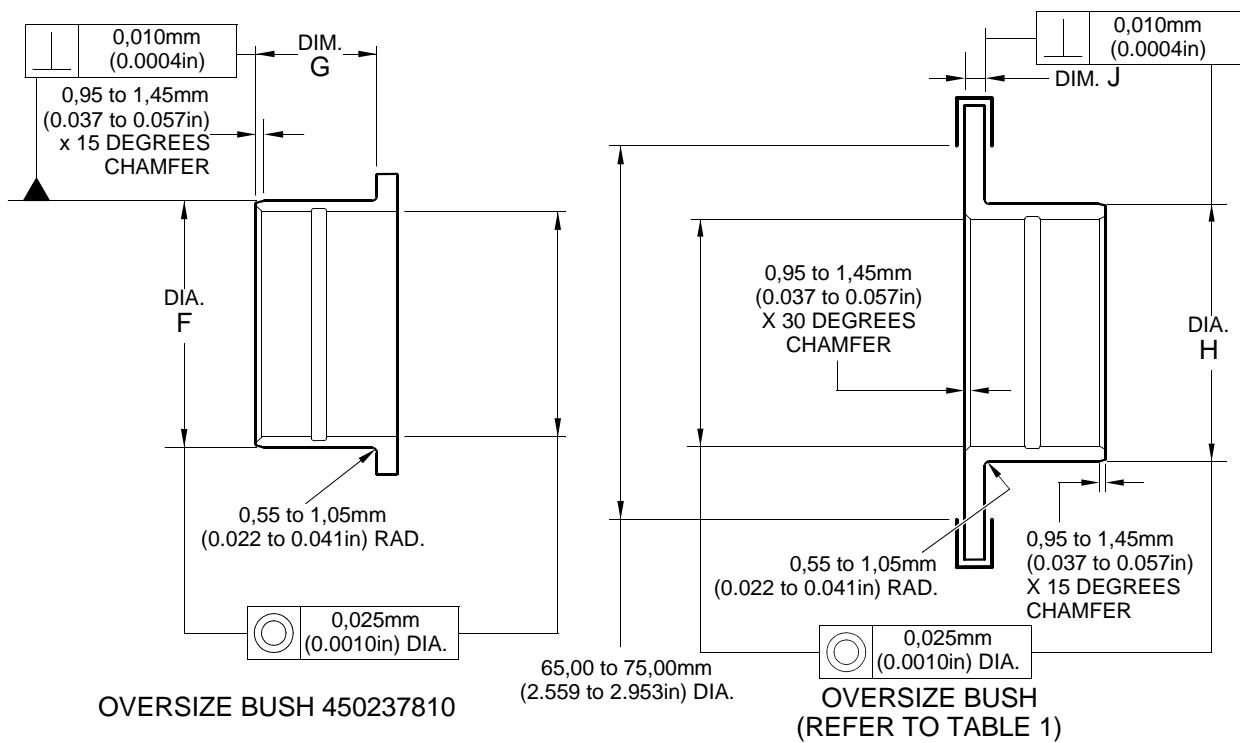
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Repair to Main Fitting
Figure 601

32-12-22

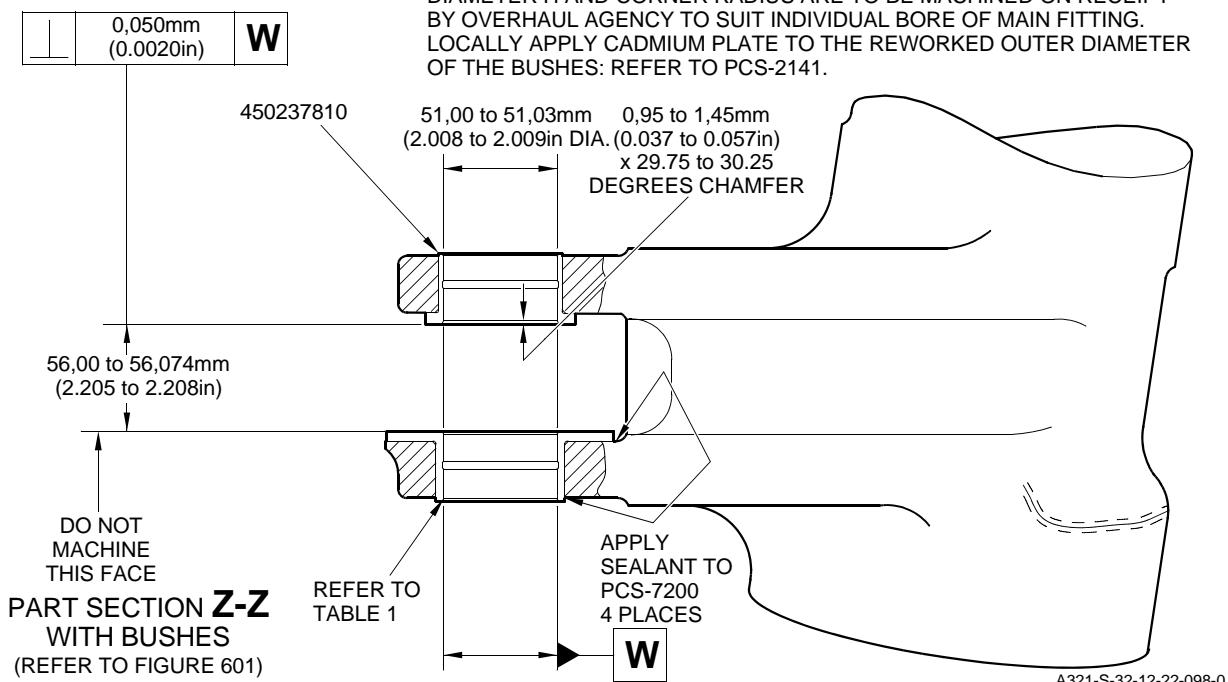
Repair No. 11-13
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MAIN LANDING GEAR LEG**



NITRIDING DEPTH 0,18 to 0,23mm (0,007 to 0,009in), 0,02 to 0,04mm (0,0008 to 0,0016in) REMOVAL OVER AREA SHOWN 750HV MIN.

NOTE: REPAIR BUSHES 450237351, 450237352, 450237353, 450237354 AND 450237355 ARE TO BE NITRIDED BEFORE DESPATCH TO OVERHAUL AGENCY.
DIAMETER H AND CORNER RADIUS ARE TO BE MACHINED ON RECEIPT BY OVERHAUL AGENCY TO SUIT INDIVIDUAL BORE OF MAIN FITTING.
LOCALLY APPLY CADMIUM PLATE TO THE REWORKED OUTER DIAMETER OF THE BUSHES: REFER TO PCS-2141.



**Repair Bushes - Machining and Installation
Figure 602**

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MAIN LANDING GEAR LEG

■ 1. Repair No. 11-14 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the diameter A and/or adjacent faces B.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Mastinox, D40
TBA	Zinc Powder
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
Refer to Table 1 for oversize bearing		

E. Procedure (Refer to [Figure 601](#))

- (1) Machine the diameter A to the smallest oversize shown in [Table 1](#) to remove the damage or corrosion: refer to M-DLPS1004-4-1 and [Figure 601](#). Do not make diameter A more than 167,587 mm (6.598 in). Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the face(s) B, sufficiently only to remove the damage or corrosion within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Do not machine more than 0,75 mm (0.0295 in) from each of the faces. Make the surface finish 1,6 micrometers (63 micro-inches).
- (3) Machine the radii and chamfers to the dimensions shown: refer to [Figure 601](#).
- (4) Examine the main fitting for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

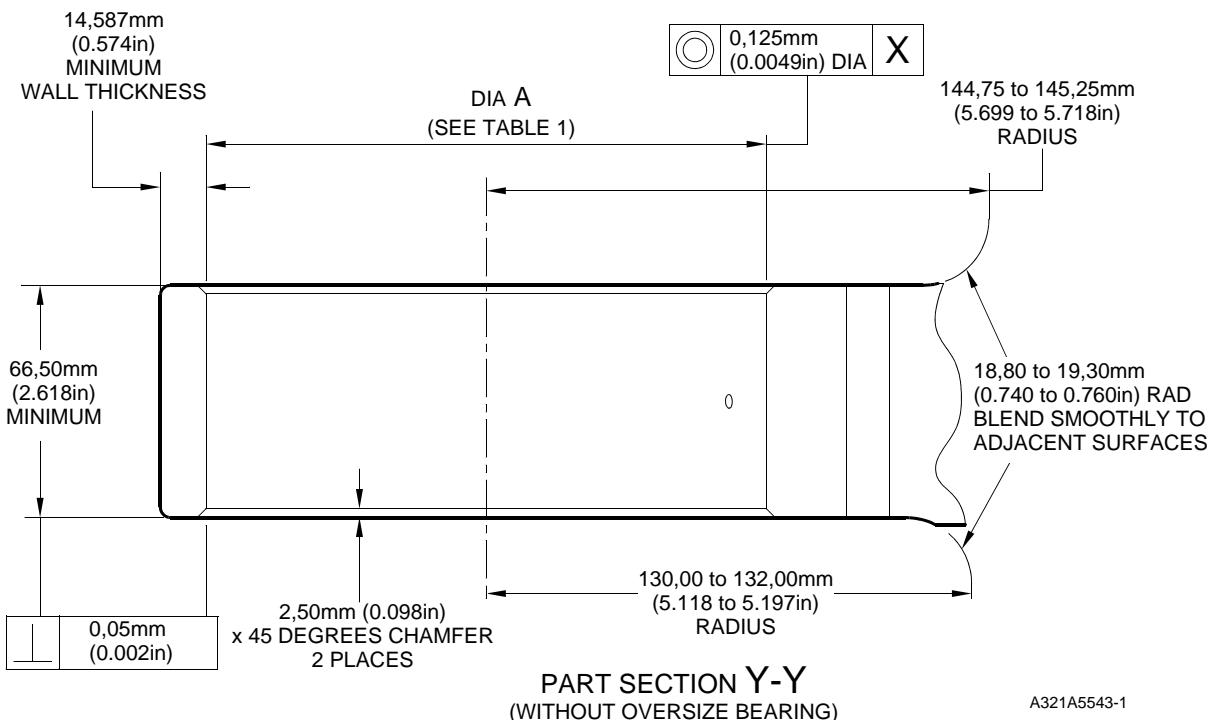
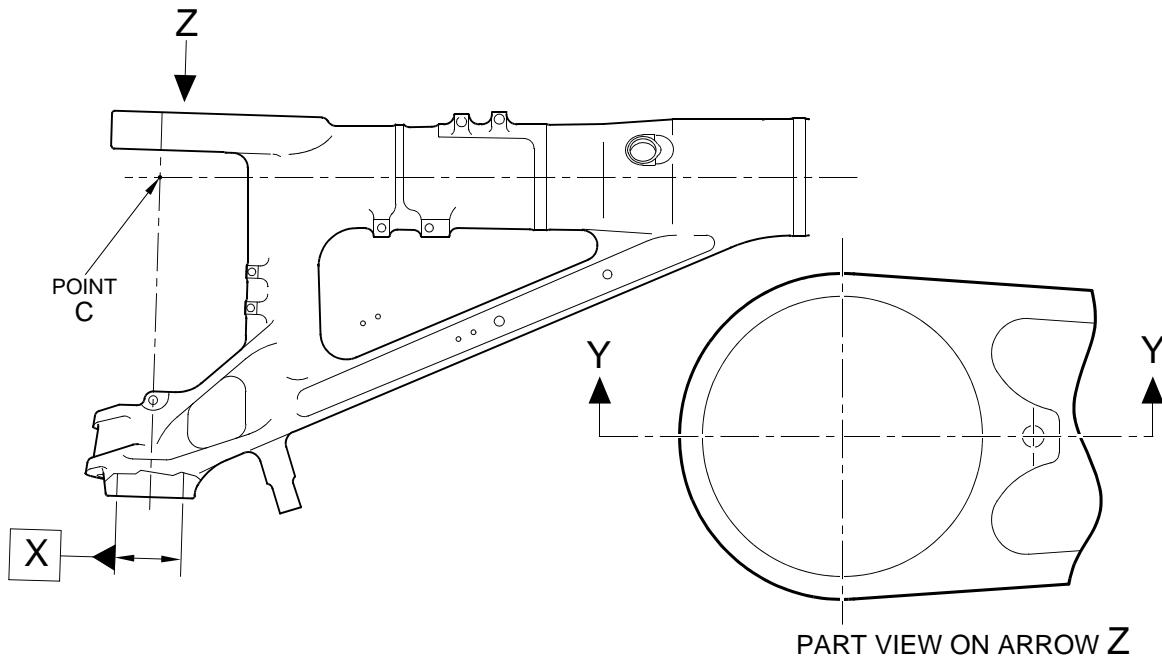
**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

- (5) Shot peen the machined area: refer to M-DLPS123.
- (6) Apply cadmium plate locally to the reworked area: refer to PCS-2141.
- (7) Use the selected spherical bearing assembly in the place of (19-50): refer to **ASSEMBLY**.
- (8) Identify the part with the Safran Landing Systems repair number 450266110 adjacent to the part number: refer to PCS-6000-07.
- (9) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Table 1

Oversize	Step mm (in)	Diameter A mm (in)	Housing O/D (Ref.) mm (in)	Oversize Bearing Assembly
-	Std	166,000 to 166,063 (6.5354 to 6.5378)	165,934 to 165,959 (6.5328 to 6.5337)	-
1	0,127 (.005)	166,127 to 166,190 (6.5404 to 6.5428)	166,061 to 166,086 (6.5378 to 6.5387)	450258301
2	0,254 (.010)	166,254 to 166,317 (6.5454 to 6.5478)	166,188 to 166,213 (6.5428 to 6.5437)	450258302
3	0,381 (.015)	166,381 to 166,444 (6.5504 to 6.5528)	166,315 to 166,340 (6.5478 to 6.5487)	450258303
4	0,508 (.020)	166,508 to 166,571 (6.5554 to 6.5578)	166,442 to 166,467 (6.5528 to 6.5537)	450258304
5	0,635 (.025)	166,635 to 166,698 (6.5604 to 6.5628)	166,569 to 166,594 (6.5578 to 6.5587)	450258305
6	0,762 (.030)	166,762 to 166,825 (6.5654 to 6.5678)	166,696 to 166,721 (6.5628 to 6.5637)	450258306
7	0,889 (.035)	166,889 to 166,952 (6.5704 to 6.5728)	166,823 to 166,848 (6.5678 to 6.5687)	450258307
8	1,016 (.040)	167,016 to 167,079 (6.5754 to 6.5778)	166,950 to 166,975 (6.5728 to 6.5737)	450258308
9	1,143 (.045)	167,143 to 167,206 (6.5804 to 6.5828)	167,077 to 167,102 (6.5778 to 6.5787)	450258309
10	1,270 (.050)	167,270 to 167,333 (6.5854 to 6.5878)	167,204 to 167,229 (6.5828 to 6.5837)	450258310
11	1,397 (.055)	167,397 to 167,460 (6.5904 to 6.5928)	167,331 to 167,356 (6.5878 to 6.5887)	450258311
12	1,524 (.060)	167,524 to 167,587 (6.5954 to 6.5978)	167,458 to 167,483 (6.5928 to 6.5937)	450258312

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Repair to Main Fitting - Machining
Figure 601

Repair No. 11-14
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MAIN LANDING GEAR LEG

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MAIN LANDING GEAR LEG

■ 1. Repair No. 11-15 Main Fitting (20-410 and 20-420 Only)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or corrosion to the diameter(s) A and/or adjacent faces B and/or C.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410 and 20-420 Only	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Mastinox, D40
TBA	Zinc Powder
08-665	Adhesive
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237825	Repair Bush (Qty 4)	Steel, S154

E. Procedure (Refer to Figures 601 to 603).

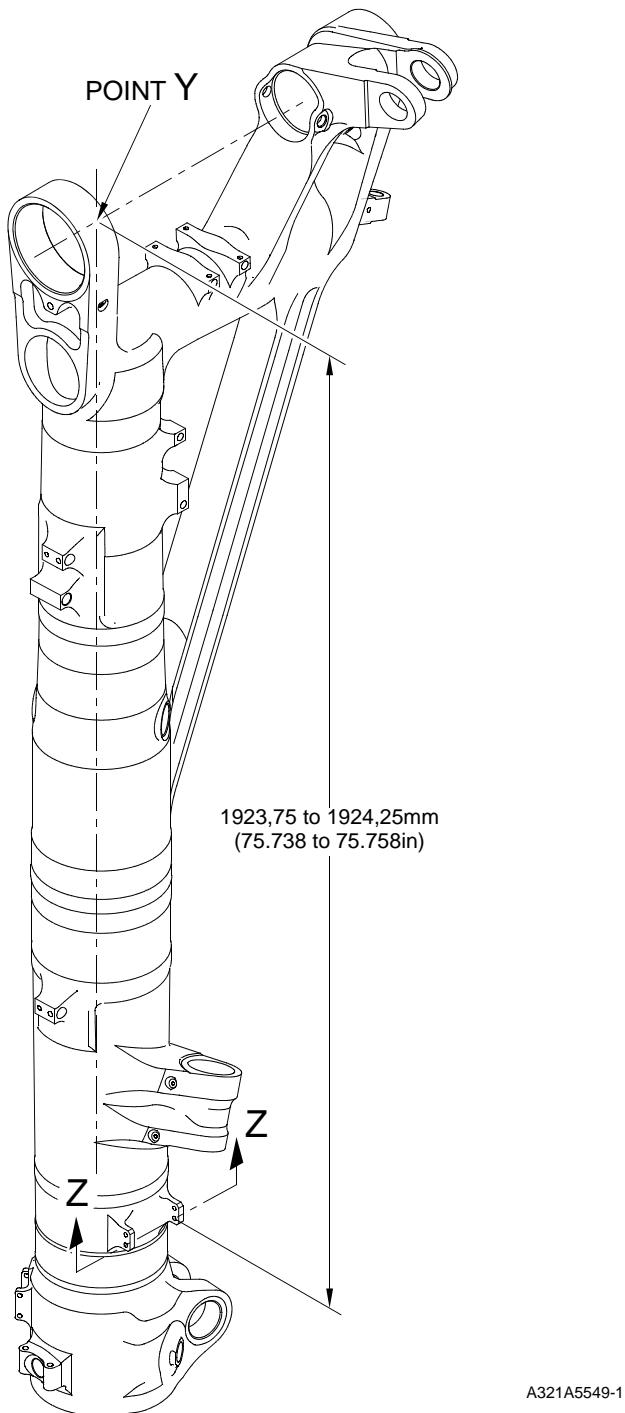
CAUTION: REPAIR WILL NOT BE PERMITTED BEYOND THE LIMITS OF THIS REPAIR SCHEME.

CAUTION: USE THIS PROCEDURE IF THE DAMAGE OR CORROSION TO FACES B OR C IS MORE THAN A DEPTH OF 0,75 MM (0.030 IN).

- (1) Remove the paint locally from the main fitting: refer to PCS-2700.
- (2) Remove the cadmium plate locally from the main fitting: refer to PCS-2100.
- (3) Machine diameter A sufficiently to remove the damage or corrosion: refer to M-DLPS1004-4-1 and Figure 602. Diameter(s) A must be between 9,60 and 10,00 mm (0.378 and 0.394 in). Make the surface finish 1,6 micrometers (63 micro-inches).

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MAIN LANDING GEAR LEG

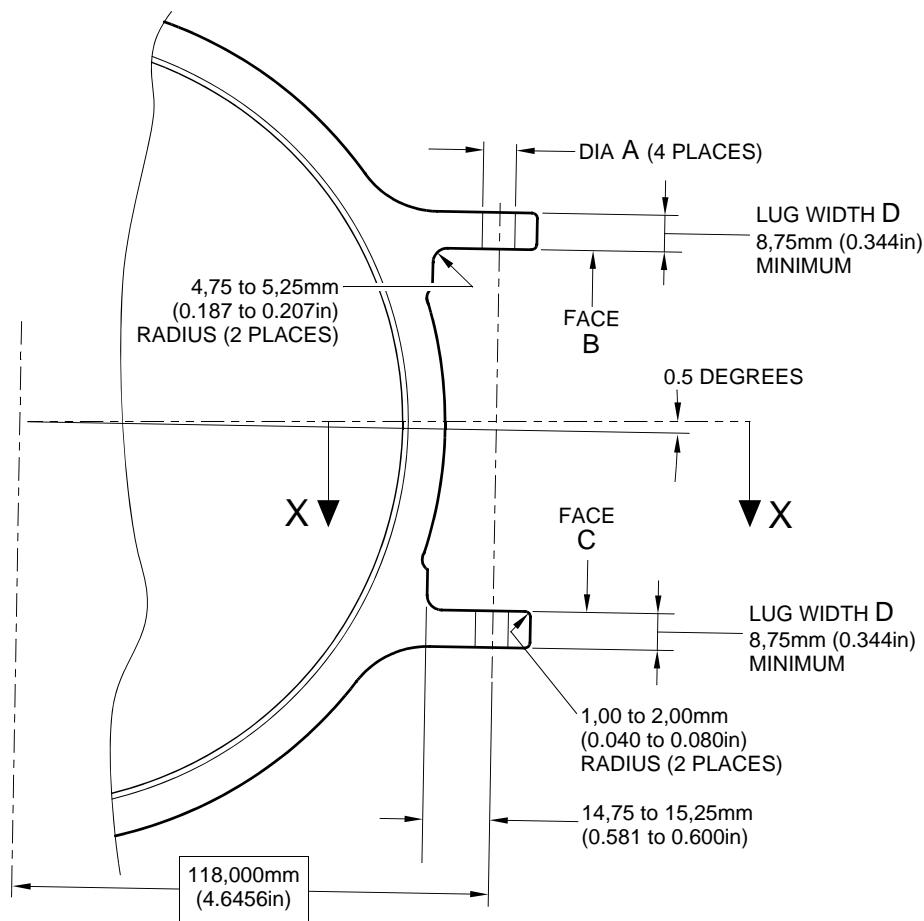
- (4) Machine the faces B and/or C sufficiently to remove the damage or corrosion: refer to [Figure 602](#). Do not remove more than 1,0 mm (0.040 in) from each of the faces. Lug width D must not be less than 8,75 mm (0.344 in). Make the surface finish 1,6 micrometers (63 micro-inches).
- (5) Machine the radii as shown: refer to [Figure 602](#).
- (6) Measure and record the new diameters A.
- (7) Examine the main fitting for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (8) Shot peen the machined areas: refer to M-DLPS123.
- (9) Apply cadmium plate to the reworked areas: refer to PCS-2100 or PCS-2141.
- (10) Identify the part with the Messier-Dowty Limited repair number 450267230 adjacent to the part number: refer to PCS-6000-04.
- (11) Calculate the diameter of each repair bush, use formula:
$$E = A \text{ (as measured)} + 0,008 \text{ to } 0,032 \text{ mm (0.0004 to 0.0012 in)}$$
- (12) Machine the repair bush(es) to the diameter(s) calculated and as shown. Machine the face F to get the correct dimensions after installation: refer to [Figure 603](#).
- (13) Apply cadmium plate all over the repair bushes: refer to PCS-2101 or PCS-2141. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (14) Apply primer paint to main fitting, where the bush flanges will touch: refer to PCS-2500.
- (15) Apply zinc loaded mastinox (made from Mastinox D40, Material Ref. Item TBA and Zinc Powder, Material Ref. Item TBA) to the inner side of bush flanges. Apply adhesive, Material Ref. Item 08-665 to the machined diameter of bushes: refer to PCS-5303.
- (16) Install the repair bushes: refer to M-DLPS1011-5, M-DLPS1011-20 and [Figure 603](#).
- (17) If necessary, machine the bush flange faces and bores to get the dimensions as shown: refer to [Figure 603](#).
- (18) If necessary, apply cadmium plate to the reworked area of repair bushes: refer to PCS-2141.
- (19) Apply sealant Material Ref. Item 09-510A to the joints between the repair bushes and the main fitting: refer to PCS-7200.
- (20) Apply paint to the repaired area: refer to [REPAIR](#) and PCS-2500.
- (21) Identify the part with the Messier-Dowty Limited repair number 450267230 adjacent to the part number: refer to PCS-6000-07.
- (22) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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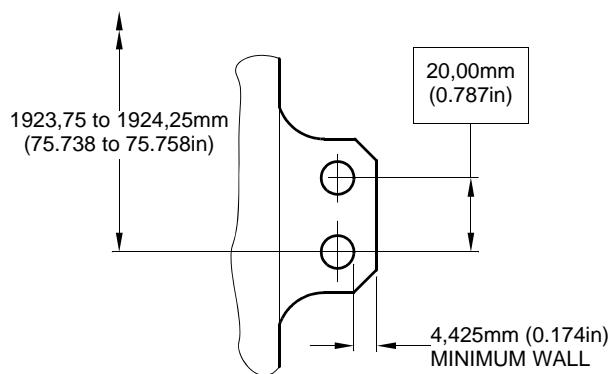
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Repair to Main Fitting
Figure 601**32-12-22**Repair No. 11-15
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SECTION Z-Z
(WITHOUT BUSHES)



SECTION X-X
(WITHOUT BUSHES)

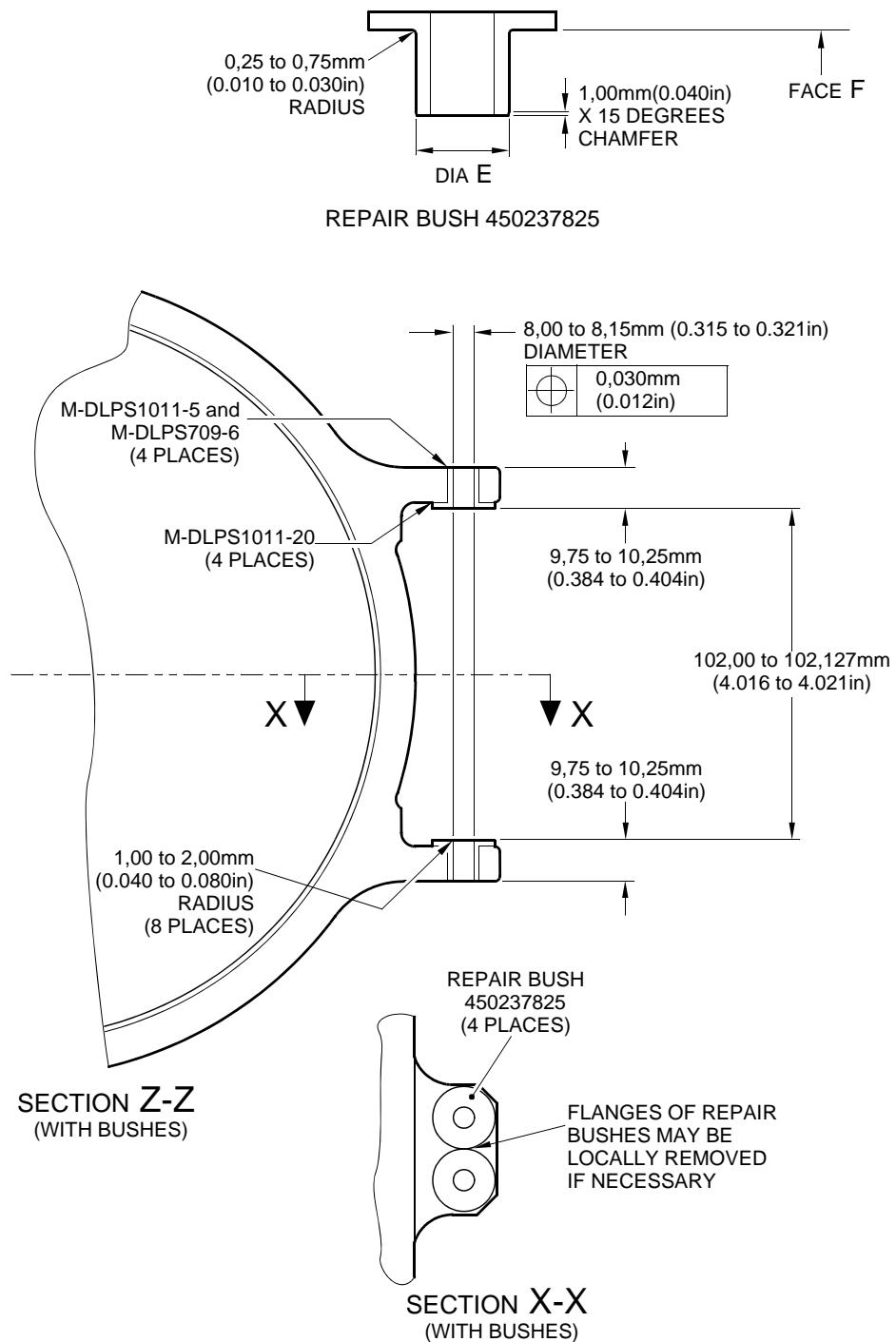
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Repair to Main Fitting - Machining
Figure 602

32-12-22

Repair No. 11-15
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A321A5551-1

Repair Bush - Machining and Installation
Figure 603

32-12-22

Repair No. 11-15
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MAIN LANDING GEAR LEG

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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-16 Main Fitting (20-410 and 20-420 Only)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the chromium plate on diameter A and/or diameter B.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410 and 20-420 Only	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: REPAIR WILL NOT BE PERMITTED BEYOND THE LIMITS OF THIS REPAIR SCHEME.

(1) Chemically remove the chromium plate from diameters A and/or B: refer to PCS-2110 and [Figure 601](#).

(2) Examine the base metal for damage or corrosion:

(a) If there is no damage or corrosion to the base metal proceed with the repair.

(b) If there is damage or corrosion to the base metal, use another applicable repair or apply for a concession.

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH.

CAUTION: DO NOT USE HARD CHROMIUM PLATING TO DIAMETERS A AND B.

(3) Apply flash chromium plate to diameters A and/or B to a thickness of between 0,0075 and 0,0125 mm (0.0003 and 0.0005 in): refer to PCS-2110, type C. The new diameters must be:

Diameter A = 212,000 to 212,072 mm (8.3465 to 8.3493 in) with a surface finish of 1,6 micrometers (64 micro-inches)

Diameter B = 208,890 to 208,966 mm (8.2240 to 8.2270 in) with a surface finish of 0,8 micrometers (32 micro-inches).

(4) Examine the reworked area for flaws: refer to PCS-3100, inclusion class 4.

(5) Identify the part with the Messier-Dowty Limited repair number 450237690 adjacent to the part number: refer to PCS-6000-04.

(6) Examine the part to make sure that you have obeyed all the repair instructions correctly.

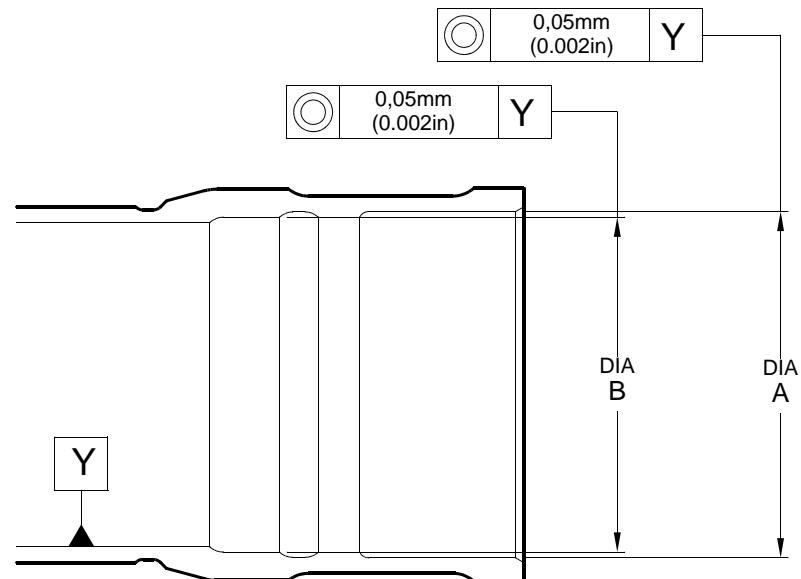
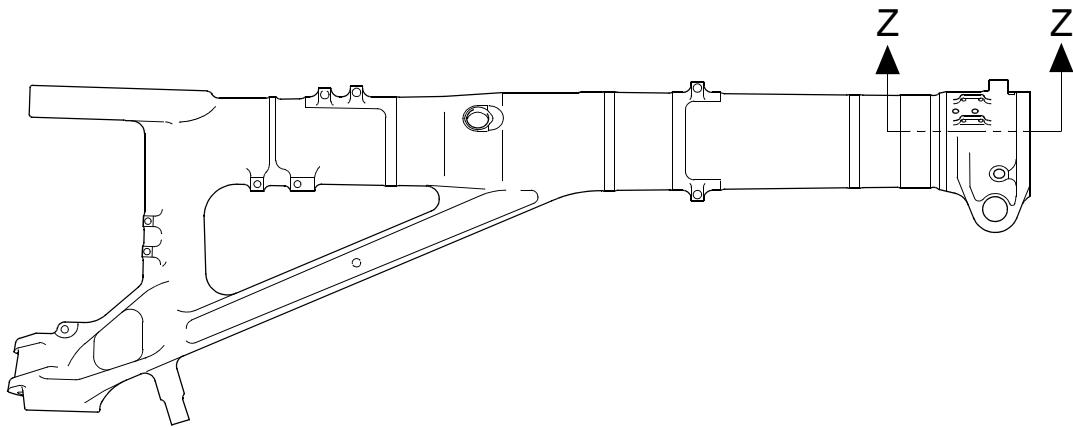
Repair No. 11-16

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MAIN LANDING GEAR LEG



SECTION Z-Z

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Repair to Main Fitting
Figure 601

32-12-22

Repair No. 11-16
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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-17 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or corrosion to the chromium plate on diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

(1) Chemically remove the chromium plate from diameter A: refer to PCS-2110 and [Figure 601](#).

(2) Examine the base metal for damage or corrosion:

(a) If there is no damage or corrosion to the base metal proceed with the repair.

(b) If there is damage or corrosion to the base metal, use another applicable repair or apply for a concession.

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH.

CAUTION: HARD CHROMIUM PLATE MUST NOT BE USED ON THIS DIAMETER.

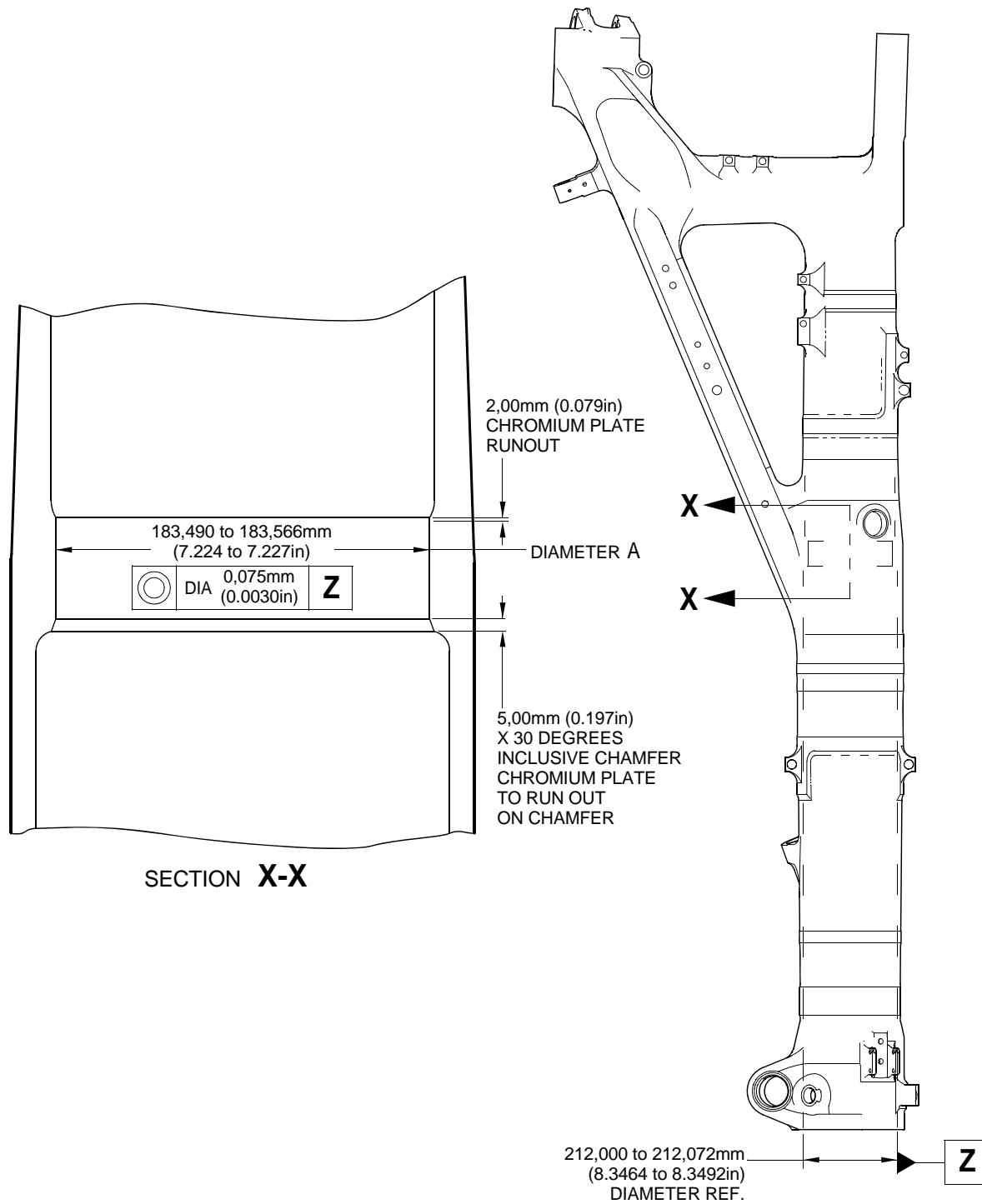
(3) Apply flash chromium plate to diameter A as shown: refer to PCS-2110, type C and [Figure 601](#). The chromium plate thickness must be between 0,0075 and 0,0120 mm (0.0003 and 0.0005 in). Make the surface finish 0,8 micrometers (32 micro-inches). Make the surface finish on the chamfer 1,6 micrometers (63 micro-inches).

(4) Examine the reworked area for flaws: refer to PCS-3100, inclusion class 4.

(5) Identify the part with the Safran Landing Systems repair number 450237695 adjacent to the part number: refer to PCS-6000-04.

(6) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG



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Repair to Main Fitting
Figure 601

Repair No. 11-17
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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-18 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006267	Press Pad Assembly	Install the repair bearing

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
-	Repair bearing	Aluminium Bronze, DTD197

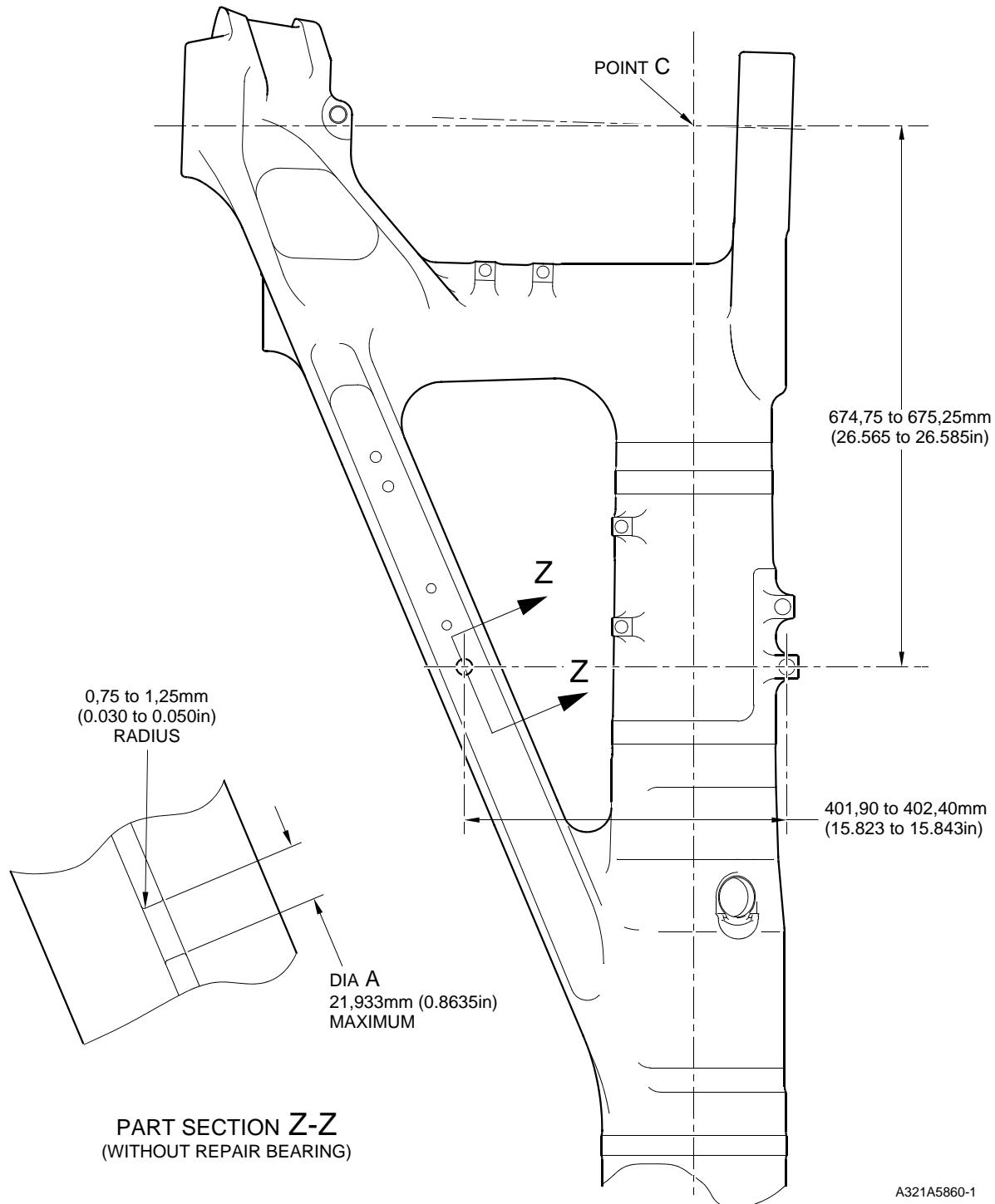
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine diameter A sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the radius to the dimensions shown: refer to [Figure 601](#).
- (3) Measure and record the new diameter A.
- (4) Examine the machined area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.

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MAIN LANDING GEAR LEG

- (5) Apply cadmium plate to the reworked area: refer to PCS-2100 or PCS-2141.
- (6) Identify the part with the Messier-Dowty Limited repair number 450217235 adjacent to the part number: refer to PCS-6000-04.
- (7) Calculate the diameter B for the repair bearing, use the formula:
$$B = A \text{ (as measured)} + 0,0020 \text{ to } 0,0480 \text{ mm (0.00008 to 0.00190 in)}$$
- (8) Machine the repair bearing to the dimensions shown and calculated: refer to [Figure 602](#).
Make the surface finish 3,2 micrometers (125 micro-inches).
- (9) Examine the repair bearing for flaws: refer to PCS-3200.
- (10) Apply cadmium plate all over the repair bearing: refer to M-DLPS100-1. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (11) Use press pad assembly 460006267 and install the repair bearing: refer to M-DLPS1011-14. The bearing must be flush or up to 0,250 mm (0.010 in) below the surface of main fitting.
- (12) Apply sealant, Material Ref. Item 09-510A, to the joints between the repair bearing and the main fitting: refer to PCS-7200 and [Figure 602](#).
- (13) Identify the part with the Messier-Dowty Limited repair number 450217235 adjacent to the part number: refer to PCS-6000-07.
- (14) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG

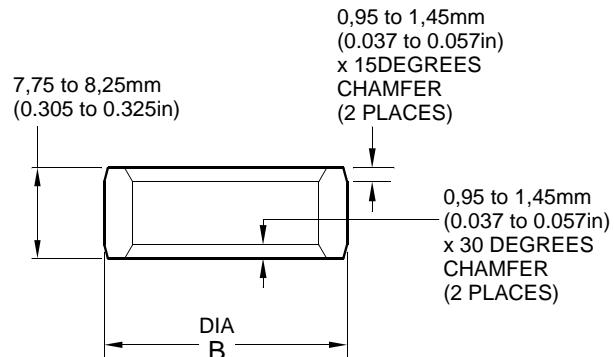


PART SECTION Z-Z
(WITHOUT REPAIR BEARING)

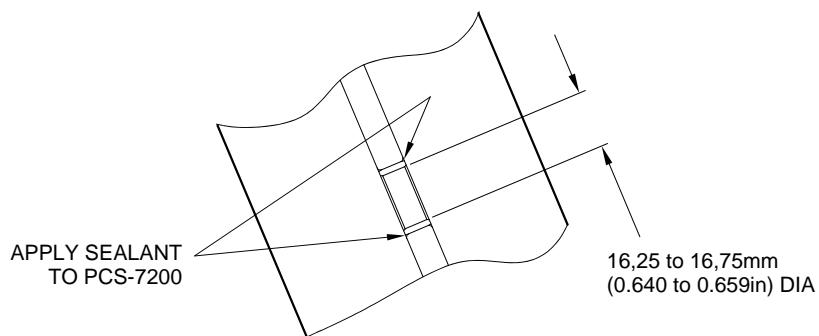
Repair to Main Fitting - Machining
Figure 601

Repair No. 11-18
32-12-22
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MAIN LANDING GEAR LEG



REPAIR BEARING



**PART SECTION Z-Z
(WITH REPAIR BEARING)**

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Repair Bearing - Machining and Installation
Figure 602

Repair No. 11-18
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MAIN LANDING GEAR LEG**

■ 1. Repair No. 11-19 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter(s) A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460004330/110	Press Pad	
460004331/2	Drift	Install the repair bushes

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc powder
05-533	Mastinox, D40
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450237819	Repair bush (Qty 2)	Aluminium Bronze, DTD197

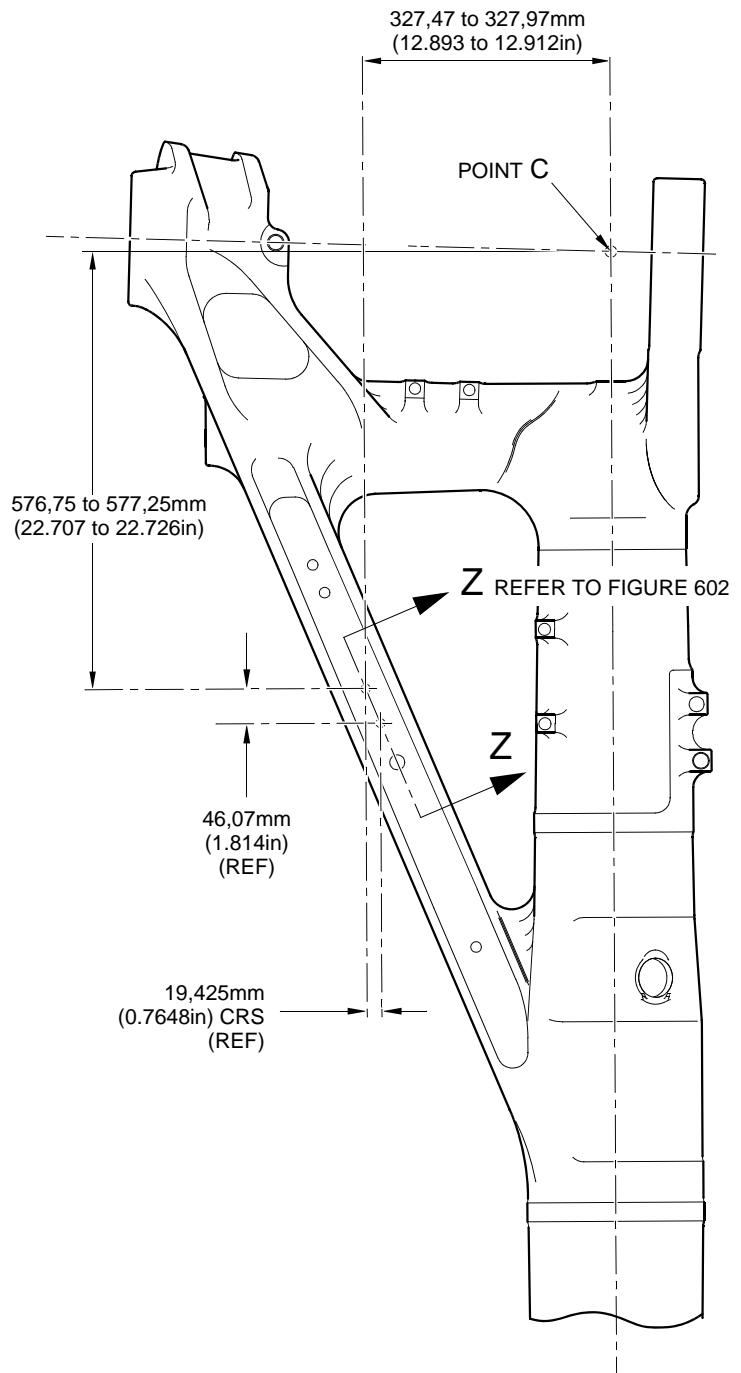
E. Procedure (Refer to Figures 601 and 602)

- (1) Machine diameter(s) A sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 3,2 micrometers (125 micro-inches).
- (2) Machine the radii to the dimensions shown: refer to [Figure 602](#).

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- (3) Measure and record the new diameter(s) A.
- (4) Examine the machined area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (5) Shot peen the machined areas: refer to M-DLPS123.
- (6) Identify the part with the Messier-Dowty Limited repair number 450258210 adjacent to the part number: refer to PCS-6000-05.
- (7) Apply cadmium plate to the reworked areas: refer to PCS-2141.
- (8) Apply primer paint to the reworked areas: refer to PCS-2500.
- (9) Calculate the diameter B for the repair bush(es) (qty 2), use the formula:
 $B = A \text{ (as measured)} - 0,009 \text{ mm (0.0004 in)} \text{ to } + 0,029 \text{ mm (0.0011 in)}$.
- (10) Machine the repair bush(es) to the dimensions shown and calculated: refer to [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (11) Apply cadmium plate all over the repair bush(es): refer to M-DLPS100-1. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (12) Use the Press Pad 460004330/110 and Drift 460004331/2 and install the repair bush(es): refer to M-DLPS1011-20. Use electrically conducting Mastinox (made from Mastinox D40, Material Ref. Item 05-533 and Zinc powder, Material Ref. Item TBA): refer to M-DLPS709-14.
- (13) Apply sealant, Material Ref. Item 09-510A, to the joints between the repair bush(es) and the main fitting: refer to PCS-7200 and [Figure 602](#).
- (14) Identify the part with the Messier-Dowty Limited repair number 450258210 adjacent to the part number: refer to PCS-6000-07.
- (15) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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Repair to Main Fitting - Machining
Figure 601

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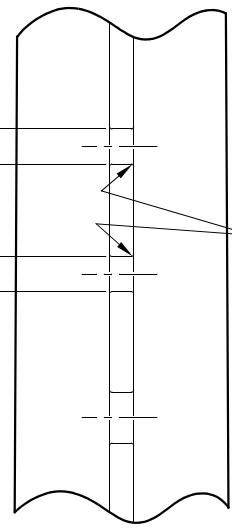
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DIAMETER A

13,727mm
(0.5404in)
MAXIMUM

DIAMETER A
13,727mm
(0.5404in)
MAXIMUM

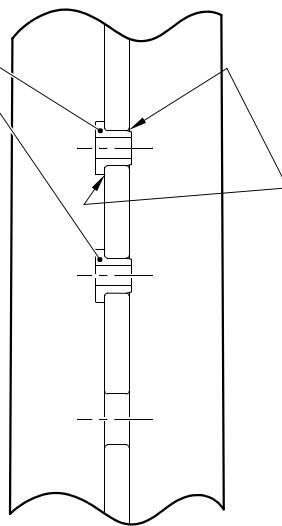


PART SECTION Z-Z

REFER TO FIGURE 601
(WITHOUT REPAIR BUSHES)

REPAIR BUSH

0,80 to 1,20mm
(0.032 to 0.047in) RADIUS
2 PLACES



APPLY SEALANT
TO PCS-7200

PART SECTION Z-Z

REFER TO FIGURE 601
(WITH REPAIR BUSHES)

8,25 to 8,75mm
(0.325 to 0.344in)
(REF)

0,75 to 1,25mm
(0.030 to 0.049in)
x 15 DEGREES CHAMFER

DIAMETER B

0,50 to 0,80mm
(0.020 to 0.031in) RAD

REPAIR BUSH

A321A5992-1

Repair Bushes - Machining and Installation
Figure 602

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1. Repair No. 11-20 Main Fitting (20-410 and 20-420 Only)

■ A. This Repair, Safran Landing Systems Repair No. 450265100, has been withdrawn from use.



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■ 1. Repair No. 11-21 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

(1) Specified Damage

(a) Damage or wear to diameters A and/or B and/or adjacent spotfaces.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460004330/257	Press Pad	Install the oversize bearing 450258809
460004330/258	Press Pad	Install the oversize bearing 450258810

C. Materials

(1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
09-510A	Sealant

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450258809	Oversize bearing	Aluminium Bronze, DTD197
450258810	Oversize bearing	Aluminium Bronze, DTD197

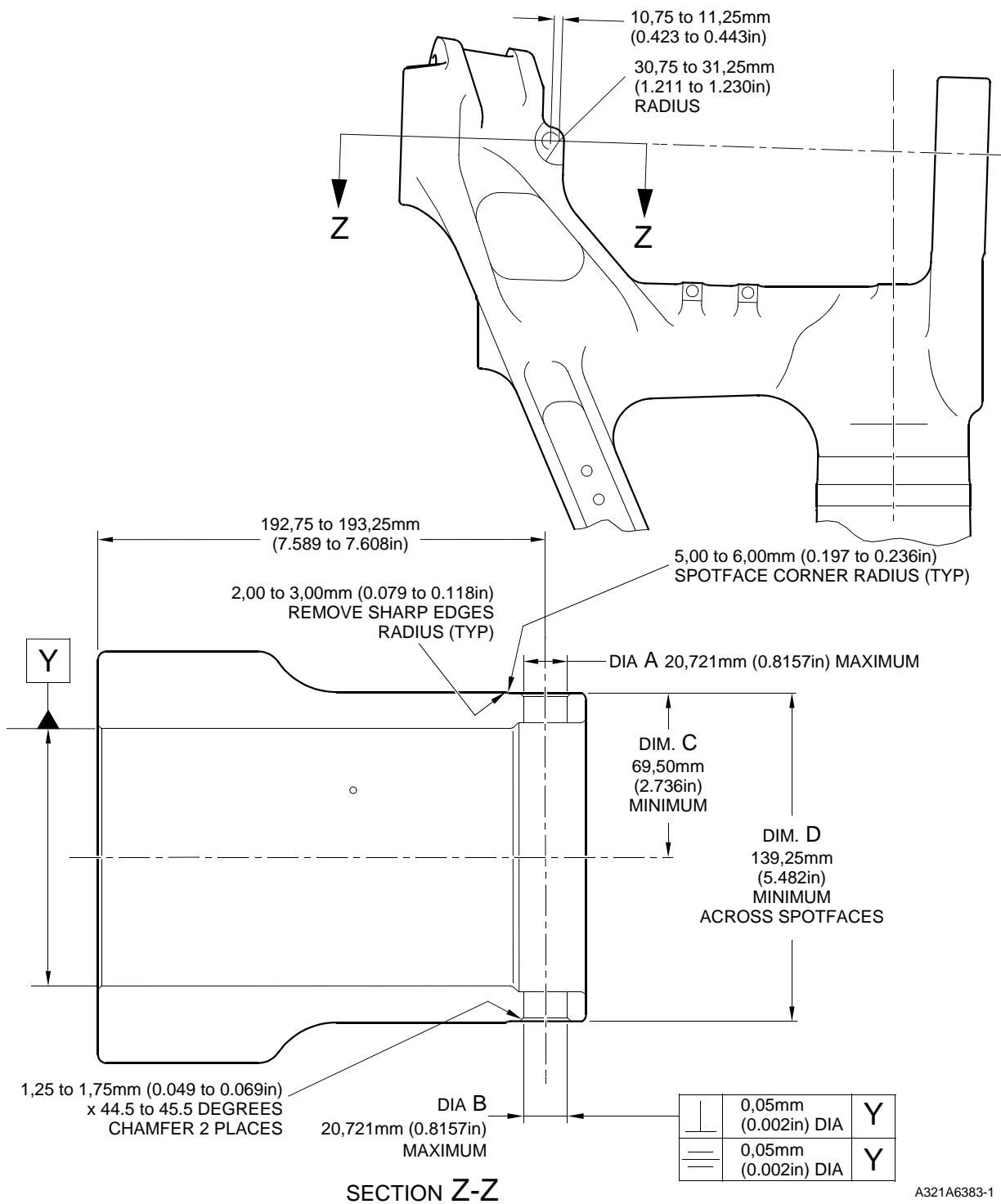
E. Procedure (Refer to Figures 601 and 602)

(1) Machine diameter(s) A and/or B sufficiently to remove damage or wear within the dimensions shown: refer to M-DLPS1004-4-1, M-DLPS914 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).

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- (2) Machine the adjacent spotfaces, sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1, M-DLPS914 and [Figure 601](#). Do not machine below the minimum dimensions C and D. Make the surface finish 1,6 micrometers (63 micro-inches).
- (3) Machine the chamfers and radii as shown: refer to [Figure 601](#).
- (4) Measure and record the new diameters A and B and dimensions C and D.
- (5) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (6) Shot peen the machined areas: refer to M-DLPS123.
- (7) Apply cadmium plate to the machined areas: refer to PCS-2141.
- (8) Identify the part with the Messier-Dowty Limited repair number 450258230 adjacent to the part number: refer to PCS-6000-05.
- (9) Calculate the dimensions of the oversize bearing 450258809, use formulae:
 $E = A$ (as measured) - 0,006 (0.0002 in) to + 0,028 mm (0.0011 in).
 $F = C$ (as measured) - 57,25 to 57,75 mm (2.254 to 2.273 in).
- (10) Calculate the dimensions of the oversize bearing 450258810, use formulae:
 $G = B$ (as measured) - 0,006 (0.0002 in) to + 0,028 mm (0.0011 in).
 $H = C$ (as measured) - 57,25 to 57,75 mm (2.254 to 2.273 in).
- (11) Machine the oversize bearings to the dimensions shown and calculated: refer to [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (12) Apply cadmium plate to the oversize bearings all over, but not to the bores: refer to M-DLPS100-1. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in).
- (13) Use the Press Pad 460004330/257 and install the oversize bearing 450258809 to diameter A: refer to M-DLPS1011-20.
- (14) Use the Press Pad 460004330/258 and install the oversize bearing 450258810 to diameter B: refer to M-DLPS1011-20.
- (15) Check the bores of oversize bearings to the dimensions shown: refer to [Figure 602](#).
- (16) Apply sealant, Material Ref. Item 09-510A, to the joints between the oversize bearings and main fitting: refer to PCS-7200 and [Figure 602](#).
- (17) Apply paint to the reworked areas: refer to [REPAIR](#).
- (18) Identify the part with the Messier-Dowty Limited repair number 450258230 adjacent to the part number: refer to PCS-6000-07.
- (19) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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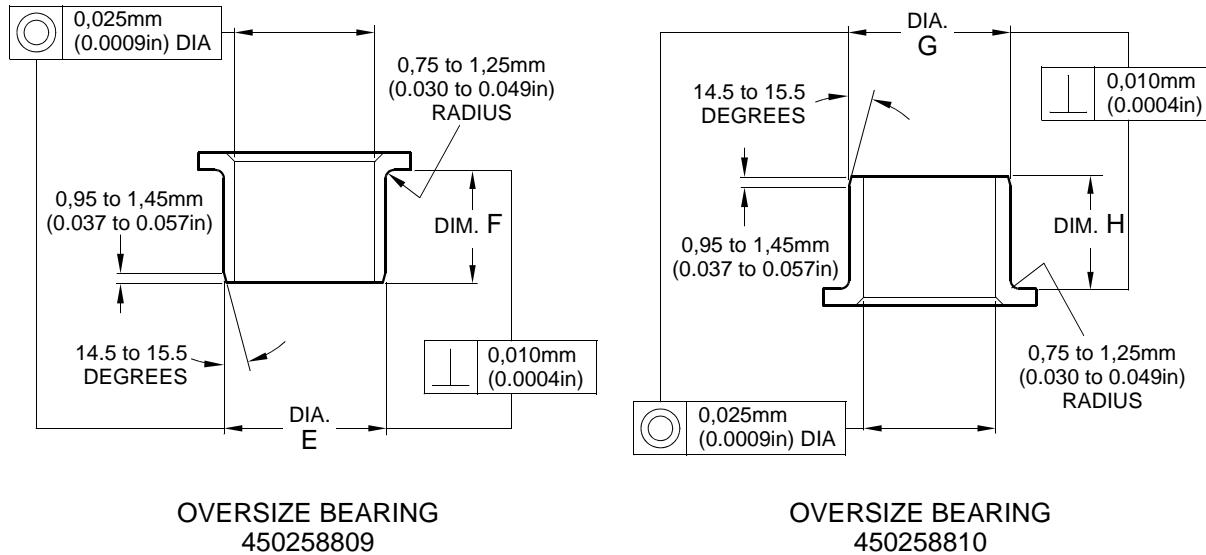
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Repair to Main Fitting - Machining
Figure 601

32-12-22

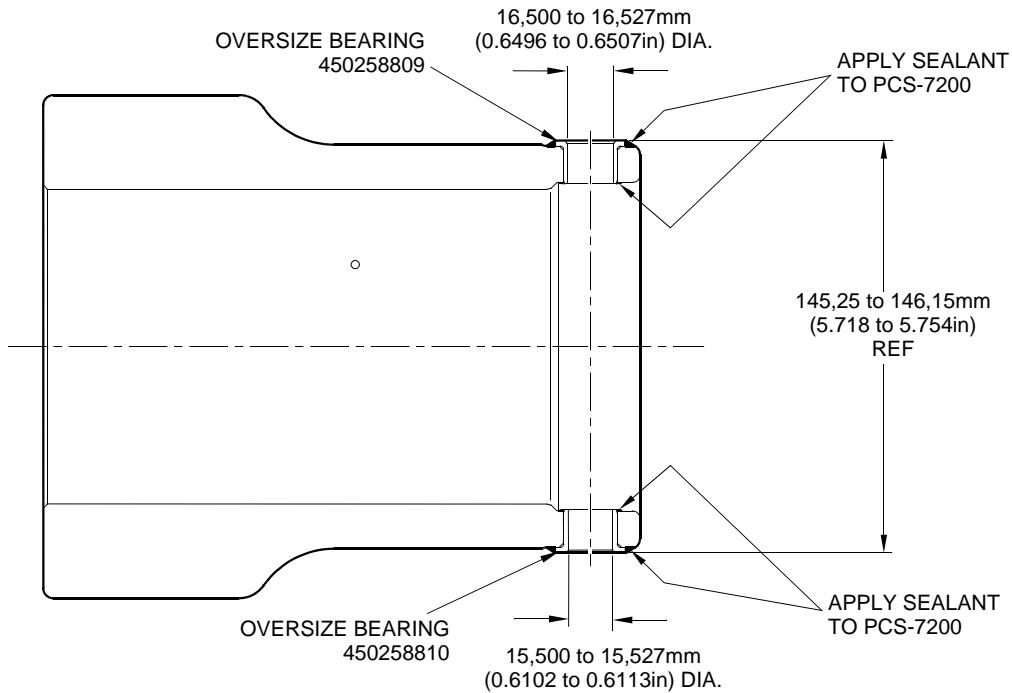
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**OVERSIZE BEARING
450258809**

**OVERSIZE BEARING
450258810**



**SECTION Z-Z
(REFER TO FIGURE 601)**

A321A6384-2

Oversize Bearings - Machining and Installation
Figure 602

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PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG■ 1. Repair No. 11-22 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification

(1) Specified Damage

(a) Damage or wear to the diameter A.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) Materials are not necessary.

D. Repair Parts

(1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

(1) Machine diameter A to remove the damage or wear, removing the minimum amount of material to a maximum diameter of 16,170 mm (0.6366 in) and a minimum wall thickness of 1,915 mm (0.0754 in): refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches) or better.

(2) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.

(3) Identify the main fitting with the Safran Landing Systems repair number 450266450 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.

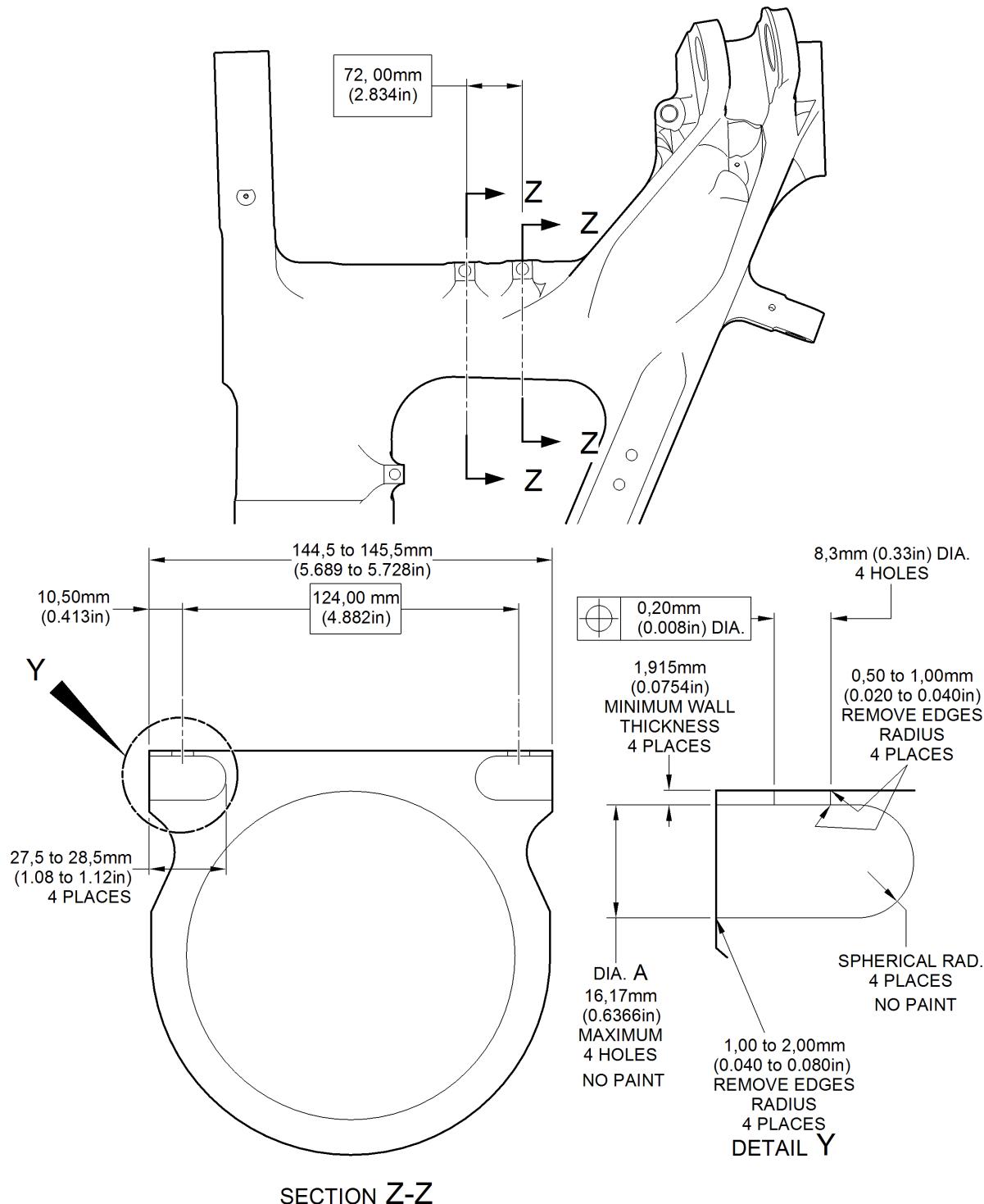
(4) Apply cadmium plate to the repaired areas. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2141.

(5) If necessary, apply paint around the repaired areas, except where shown: refer to PCS-2500 and [Figure 601](#).

(6) Identify the main fitting with the Safran Landing Systems repair number 450266450 adjacent to the part number: refer to PCS-6000-07.

(7) Examine the part to make sure that you have obeyed all the repair procedure instructions correctly.

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Repair to Main Fitting
Figure 601

**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
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■ 1. Repair No. 11-23 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A and/or B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460006268	Press Pad	Install the oversize lubrication adapters

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-558	Adhesive

D. Repair Parts

- (1) Refer to [Table 1](#).

E. Procedure (Refer to Figures 601, 602 and 603)

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS.

- (1) Machine diameter A and/or diameter B to the smallest oversize dimensions shown in [Table 1](#) to remove the damage or wear: refer to M-DLPS1004-4-1. Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the chamfers to the dimensions shown: refer to [Figure 602](#).
- (3) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100 inclusion class 4.
- (4) Identify the part with the Safran Landing Systems repair number 450266400 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.

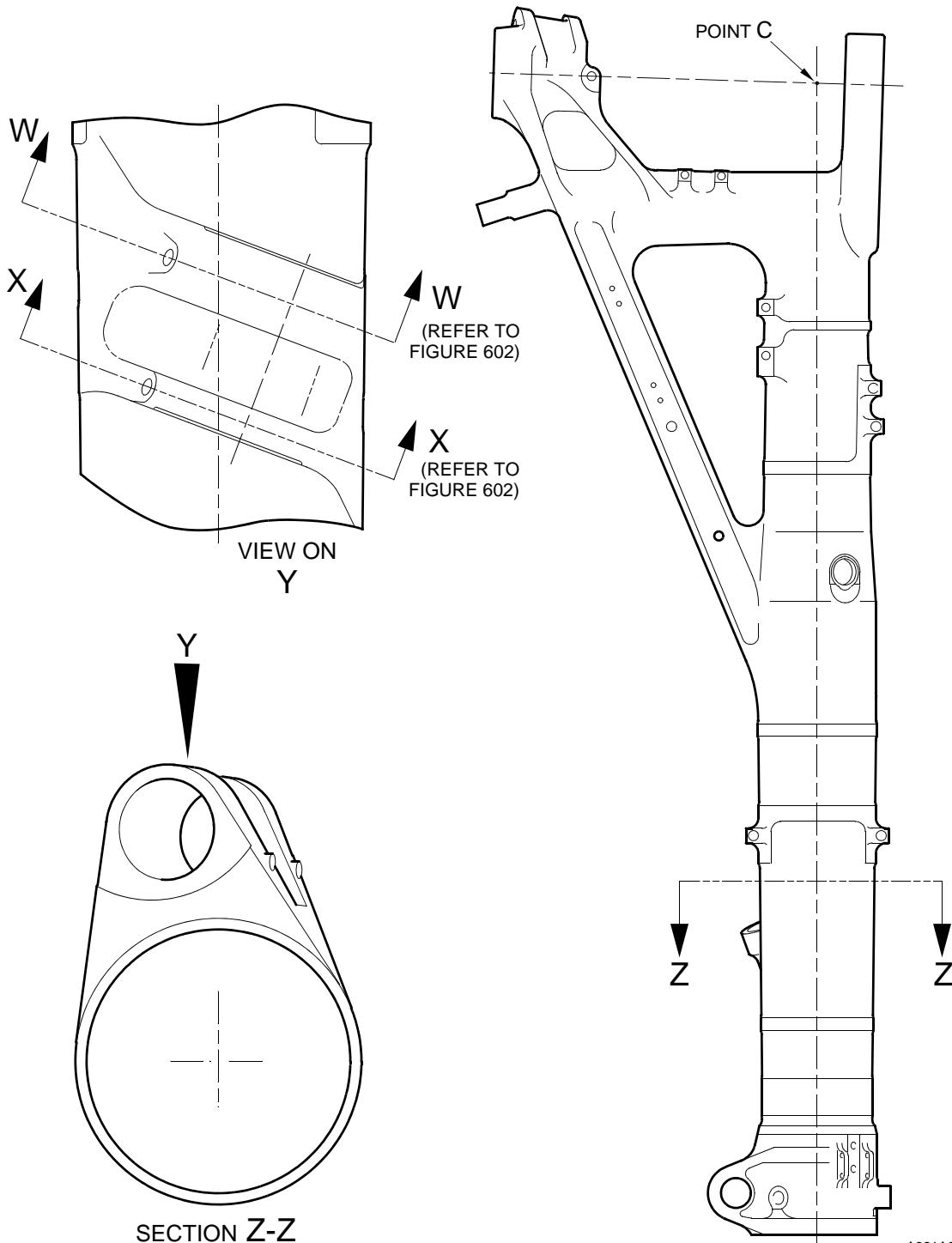
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 MAIN LANDING GEAR LEG

- (5) Apply cadmium plate to repaired areas. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2141.
- (6) Select the applicable oversize lubrication adaptor (Qty 2) for diameter A and/or diameter B from [Table 1](#).
- (7) Install the selected lubrication adaptors to the related diameter: refer to PCS-7310. Use adhesive, Material Ref. Item 08-558: refer to PCS-5303.
- (8) Apply paint to the repaired areas: refer to [REPAIR](#).
- (9) Identify the part with the Safran Landing Systems repair number 450266400 adjacent to the part number: refer to PCS-6000-07.
- (10) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Oversize Lubrication Adaptor
 Table 1

Oversize	Diameter A or B mm (in)	Oversize Lubrication Adaptor Part No.
1	4,986 to 5,052 (0.1963 to 0.1989)	450250161
2	5,113 to 5,179 (0.2013 to 0.2039)	450250162
3	5,240 to 5,306 (0.2063 to 0.2089)	450250163
4	5,367 to 5,433 (0.2113 to 0.2139)	450250164
5	5,494 to 5,560 (0.2163 to 0.2189)	450250165
6	5,621 to 5,687 (0.2213 to 0.2239)	450250166
7	5,748 to 5,814 (0.2263 to 0.2289)	450250241
8	5,875 to 5,941 (0.2313 to 0.2339)	450250242
9	6,002 to 6,068 (0.2363 to 0.2389)	450250243
10	6,129 to 6,195 (0.2413 to 0.2439)	450250244
11	6,256 to 6,322 (0.2463 to 0.2489)	450250245
12	6,383 to 6,449 (0.2513 to 0.2539)	450250246

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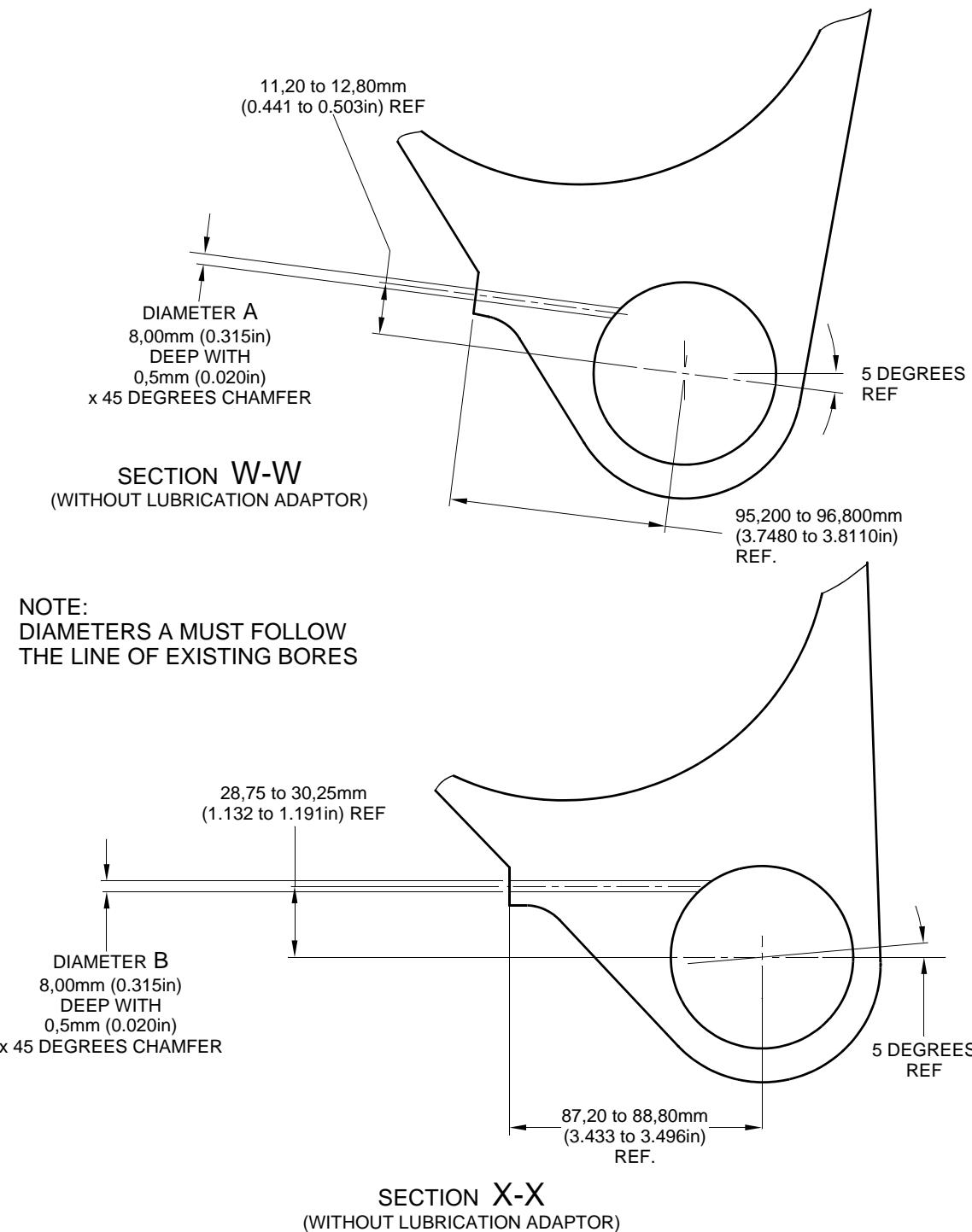


Repair to Main Fitting
Figure 601

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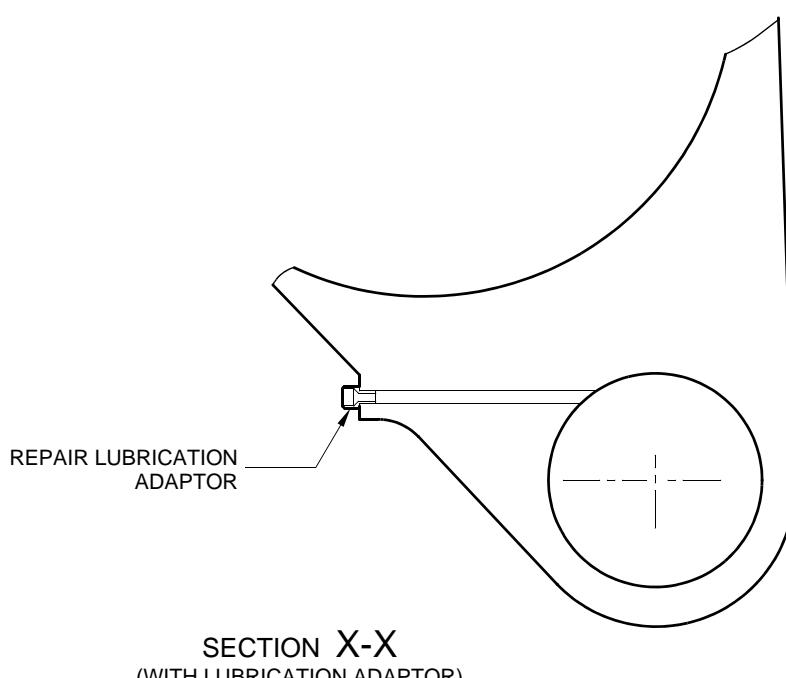
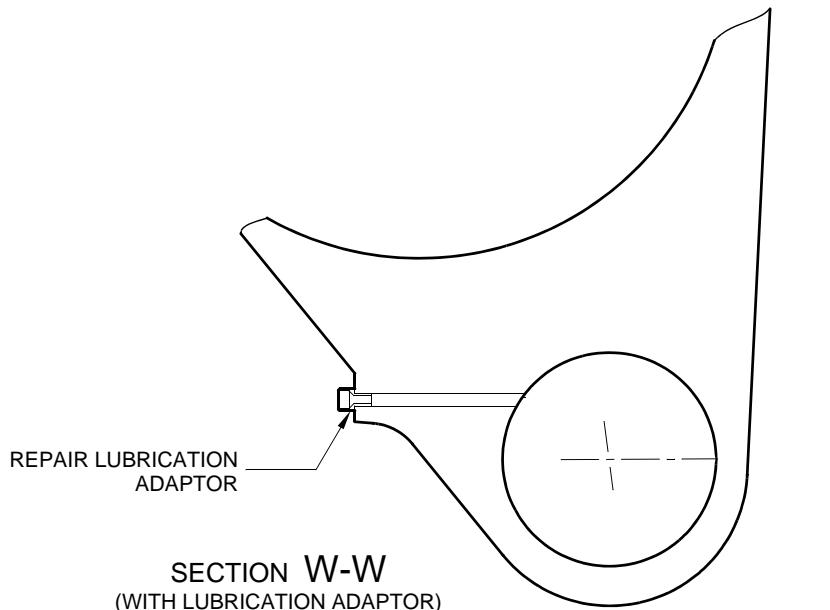


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Repair to Main Fitting - Machining
Figure 602

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Oversize Lubrication adapter - Installation
Figure 603Repair No. 11-23
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■ 1. Repair No. 11-24 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460006268	Press Pad	Install the oversize lubrication adaptor

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-558	Adhesive

D. Repair Parts

- (1) Refer to [Table 1](#).

CAUTION: FOR DEVIATIONS OUTSIDE THE LIMITS OF THIS REPAIR SCHEME CONTACT SAFRAN LANDING SYSTEMS.

E. Procedure (Refer to Figures [601](#) and [602](#))

- (1) Machine diameter A to the smallest oversize dimensions shown in [Table 1](#) to remove the damage or wear: refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the chamfers to the dimensions shown: refer to [Figure 602](#).
- (3) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100 inclusion class 4.
- (4) Identify the part with the Safran Landing Systems repair number 450266390 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.

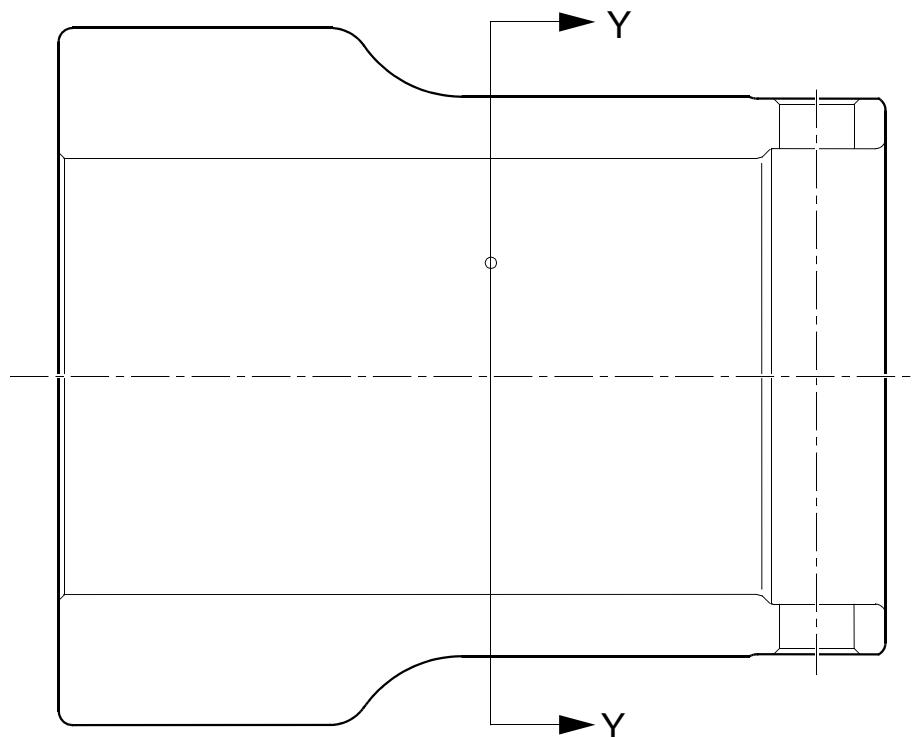
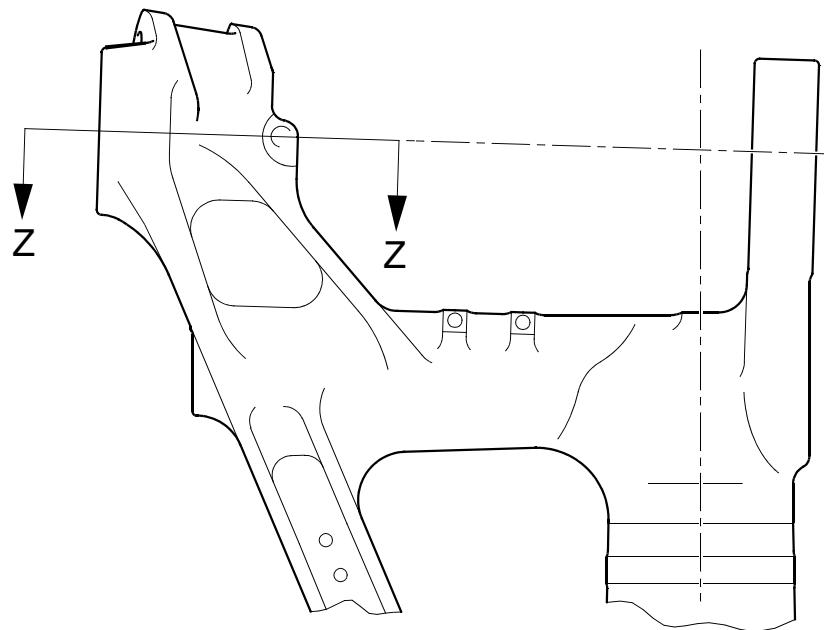
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MAIN LANDING GEAR LEG**

- (5) Apply cadmium plate to the machined areas: refer to PCS-2141. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in).
- (6) Select the applicable oversize lubrication adaptor for diameter A from [Table 1](#).
- (7) Install the selected lubrication adaptor: refer to PCS-7310. Use adhesive, Material Ref. Item 08-558: refer to PCS-5303.
- (8) Apply paint to the repaired areas: refer to PCS-2500 and [REPAIR](#).
- (9) Identify the part with the Safran Landing Systems repair number 450266390 adjacent to the part number: refer to PCS-6000-07.
- (10) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Oversize Lubrication Adaptors
Table 1

Oversize	Diameter A mm (in)	Oversize Lubrication Adaptor Part No.
1	4,986 to 5,052 (0.1963 to 0.1989)	450250161
2	5,113 to 5,179 (0.2013 to 0.2039)	450250162
3	5,240 to 5,306 (0.2063 to 0.2089)	450250163
4	5,367 to 5,433 (0.2113 to 0.2139)	450250164
5	5,494 to 5,560 (0.2163 to 0.2189)	450250165
6	5,621 to 5,687 (0.2213 to 0.2239)	450250166
7	5,748 to 5,814 (0.2263 to 0.2289)	450250241
8	5,875 to 5,941 (0.2313 to 0.2339)	450250242
9	6,002 to 6,068 (0.2363 to 0.2389)	450250243
10	6,129 to 6,195 (0.2413 to 0.2439)	450250244
11	6,256 to 6,322 (0.2463 to 0.2489)	450250245
12	6,383 to 6,449 (0.2513 to 0.2539)	450250246

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SECTION Z-Z

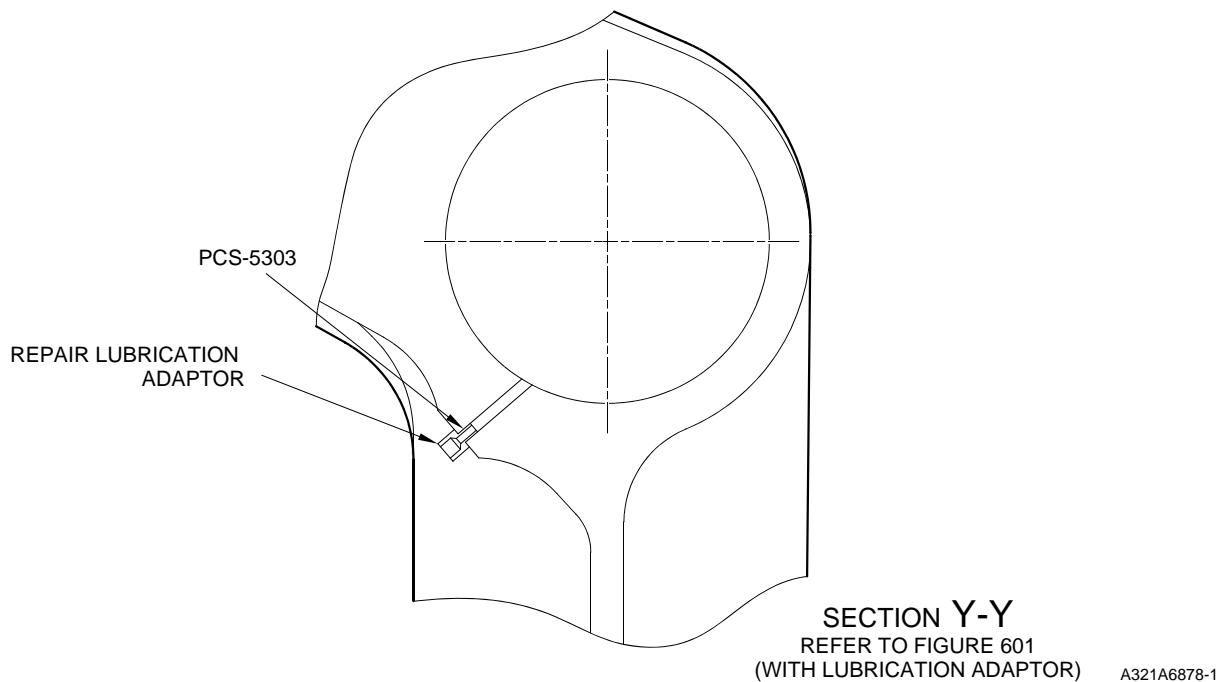
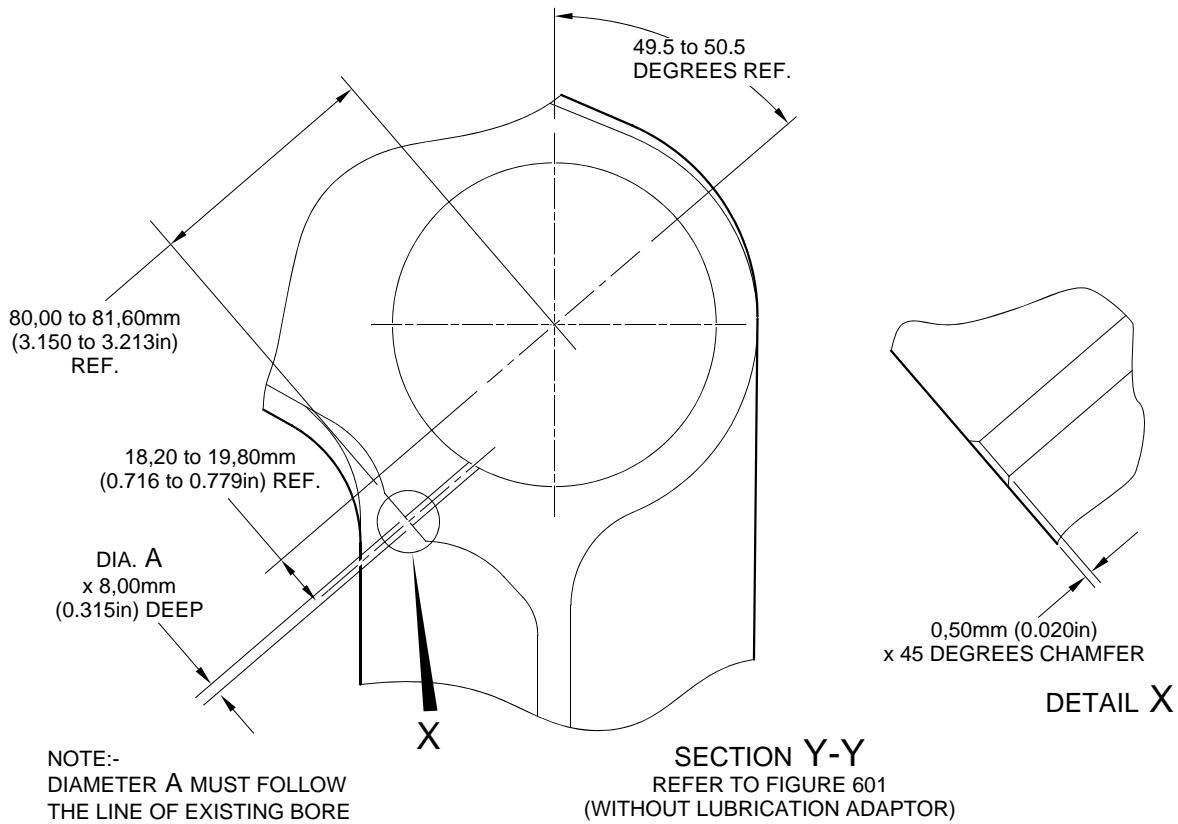
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Repair to Main Fitting
Figure 601

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Repair to Main Fitting
Figure 602

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Repair No. 11-24
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■ 1. Repair No. 11-25 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to the diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460006268	Press Pad	Install the oversize lubrication adaptor

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
08-558	Adhesive

D. Repair Parts

- (1) Refer to [Table 1](#).

CAUTION: FOR DEVIATIONS OUTSIDE THE LIMITS OF THIS REPAIR SCHEME CONTACT SAFRAN LANDING SYSTEMS.

E. Procedure (Refer to Figure 601)

- (1) Machine diameter A to the smallest oversize dimensions shown in [Table 1](#) to remove the damage or wear: refer to M-DLPS1004-4-1. Make the surface finish 1,6 micrometers (63 micro-inches).
- (2) Machine the chamfer to the dimensions shown: refer to [Figure 601](#).
- (3) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100 inclusion class 4.
- (4) Identify the part with the Safran Landing Systems repair number 450266395 adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.

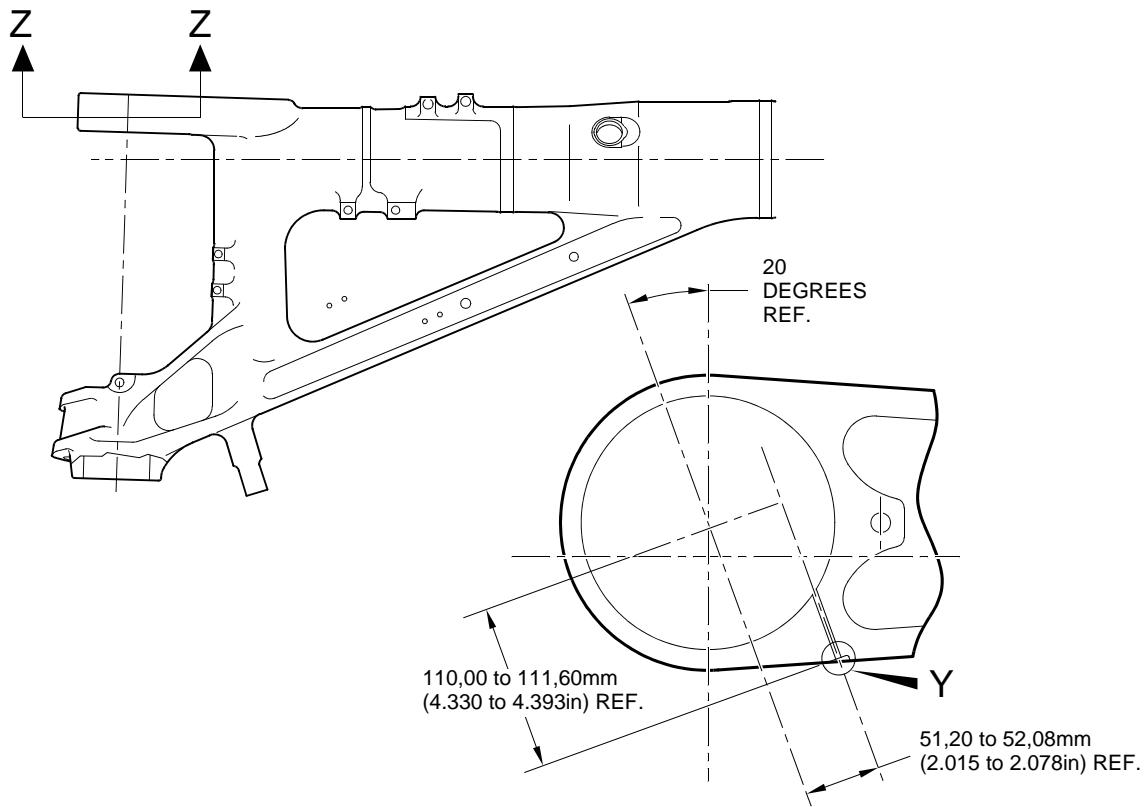
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- (5) Apply cadmium plate to the machined areas. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2141.
- (6) Select the applicable oversize lubrication adaptor for diameter A from [Table 1](#).
- (7) Install the selected lubrication adaptor: refer to PCS-7310. Use adhesive, Material Ref. Item 08-558: refer to PCS-5303.
- (8) Apply paint to the repaired areas: refer to [REPAIR](#).
- (9) Identify the part with the Safran Landing Systems repair number 450266395 adjacent to the part number: refer to PCS-6000-07.
- (10) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Oversize Lubrication Adaptor
Table 1

Oversize	Diameter A mm (in)	Oversize Lubrication Adaptor Part No.
1	4,986 to 5,052 (0.1963 to 0.1989)	450250161
2	5,113 to 5,179 (0.2013 to 0.2039)	450250162
3	5,240 to 5,306 (0.2063 to 0.2089)	450250163
4	5,367 to 5,433 (0.2113 to 0.2139)	450250164
5	5,494 to 5,560 (0.2163 to 0.2189)	450250165
6	5,621 to 5,687 (0.2213 to 0.2239)	450250166
7	5,748 to 5,814 (0.2263 to 0.2289)	450250241
8	5,875 to 5,941 (0.2313 to 0.2339)	450250242
9	6,002 to 6,068 (0.2363 to 0.2389)	450250243
10	6,129 to 6,195 (0.2413 to 0.2439)	450250244
11	6,256 to 6,322 (0.2463 to 0.2489)	450250245
12	6,383 to 6,449 (0.2513 to 0.2539)	450250246

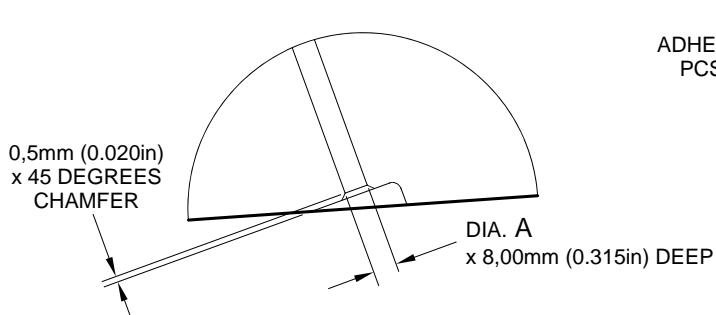
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MAIN LANDING GEAR LEG



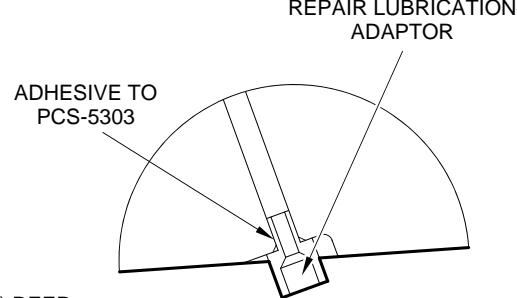
SECTION Z-Z

NOTE:-

**DIAMETER A MUST FOLLOW
THE LINE OF EXISTING BORE**



DETAIL Y
(WITHOUT LUBRICATION ADAPTOR)



DETAIL Y
(WITH LUBRICATION ADAPTOR)

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Repair to Main Fitting
Figure 601

32-12-22

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■ 1. Repair No. 11-26 Main Fitting (20-410 and 20-420 Only)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or wear to diameter(s) A and B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410 and 20-420 Only	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460006405	Assembly sleeve	Install the lower bearing subassembly

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
04-512	Molykote 111

D. Repair Parts

- (1) These repair parts are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Repair Part	Material Specification
450266371 to 383	Repair lower bearing subassembly	-
201646300	Repair inner liner	-

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CAUTION: FOR DEVIATIONS OUTSIDE THE LIMITS OF THIS REPAIR SCHEME CONTACT M-DL GLOUCESTER.

- E. Procedure (Refer to Figures 601, 602 and 603)

CAUTION: USE THIS PROCEDURE ONLY FOR POST SB 201-32-58 UNITS AND REQUIREMENTS OF THESE SB MUST BE FOLLOWED FULLY. FOR PRE SB 201-32-58 UNITS REFER TO REPAIR NO. 11-10.

- (1) Machine diameters A and B to the nearest oversize dimensions shown in [Table 1](#) to remove the damage or wear: refer to M-DLPS1004-4-1 and [Figure 602](#). Blend any sharp edges smoothly into the adjacent surfaces. Make the surface finish for diameter A, 1,6 micrometers (63 micro-inches) and the surface finish for diameter B, 0,8 micrometers (32 micro-inches).
- (2) Measure and record the new diameters A and B for information at para (8).
- (3) Machine the chamfers and radii as shown: refer to [Figure 602](#).
- (4) Examine the machined areas for flaws: refer to PCS-3600 and PCS-3100 inclusion class 4.
- (5) Shot peen the machined areas in the main fitting: refer to M-DLPS123.
- (6) Hone the shot peened diameters A and B to the recorded diameters at para (2) +0,00 to 0,025 mm (0.000 to 0.001 in).

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH.

- (7) Apply thin chromium plate to diameters A and B to the dimensions shown in [Table 1](#): refer to PCS-2110 Type C. The chromium plate thickness must be between 0,0075 and 0,0125 mm (0.00030 and 0.00050 in).
- (8) Select the applicable oversize lower bearing subassembly for diameters A and B from [Table 1](#).

NOTE: The oversize lower bearing subassembly can be made from the related PRE SB 201-32-58 lower bearing subassembly: refer to [Table 2](#).

- (9) If necessary, machine the inner diameter of bronze liner: [Figure 603](#).

NOTE: The lower bearing 201522662 can only be machined when it is installed in the lower bearing subassembly.

- (10) If necessary, examine the reworked area of inner liner for flaws: refer to PCS-3200.
- (11) If necessary, apply Molykote 111, Material Ref. Item 04-521 to the outside diameter of liner. Install the inner liner into the oversize lower bearing subassembly: refer to PCS-7303. The holes in the inner liner must align with the holes in the oversize lower bearing subassembly.
- (12) If necessary, strike through the old part number and re-identify the new lower bearing subassembly with the new inner liner with part number identified in [Table 2](#): refer to PCS-6000-07.
- (13) Use the Assembly Sleeve 460006405 to install the oversize lower bearing subassembly on the sliding tube subassembly at the applicable assembly stage: refer to [ASSEMBLY](#).

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- (14) Apply paint locally to the main fitting: refer to PCS-2500 and **REPAIR**.
- (15) Install the repaired shock absorber subassembly in the main fitting at the applicable assembly stage: refer to **ASSEMBLY**.
- (16) Identify the main fitting with the Messier-Dowty Limited repair number 450267370 adjacent to the part number: refer to PCS-6000-04.
- (17) Examine the part to make sure that you have obeyed all the repair instructions correctly

Lower Bearing Subassembly Details

Table 1

	Bore Diameter A		Bore Diameter B		
	Machined Diameter A mm (in)	After honing and chromium plating mm (in)	Machined Diameter B mm (in)	After honing and chromium plating mm (in)	Lower bearing subassembly
1	212,138 to 212,194 (8.3519 to 8.3541)	212,122 to 212,194 (8.3513 to 8.3541)	209,027 to 209,088 (8.2294 to 8.2318)	209,012 to 209,088 (8.2288 to 8.2318)	450267371
2	212,288 to 212,344 (8.3578 to 8.3600)	212,272 to 212,344 (8.3572 to 8.3600)	209,177 to 209,238 (8.2353 to 8.2377)	209,162 to 209,238 (8.2347 to 8.2377)	450267373
3	212,438 to 212,494 (8.3637 to 8.3659)	212,422 to 212,494 (8.3631 to 8.3659)	209,327 to 209,388 (8.2412 to 8.2436)	209,312 to 209,388 (8.2406 to 8.2436)	450267375
4	212,588 to 212,644 (8.3696 to 8.3718)	212,572 to 212,644 (8.3690 to 8.3718)	209,477 to 209,538 (8.2471 to 8.2495)	209,462 to 209,538 (8.2465 to 8.2495)	450267377
5	212,738 to 212,794 (8.3755 to 8.3777)	212,722 to 212,794 (8.3749 to 8.3777)	209,627 to 209,688 (8.2530 to 8.2554)	209,612 to 209,688 (8.2524 to 8.2554)	450267379
6	213,129 to 213,185 (8.3909 to 8.3931)	213,113 to 213,185 (8.3902 to 8.3931)	209,627 to 209,688 (8.2530 to 8.2554)	209,612 to 209,688 (8.2524 to 8.2554)	450267381
7	213,429 to 213,485 (8.4027 to 8.4049)	213,413 to 213,485 (8.4020 to 8.4049)	209,627 to 209,688 (8.2530 to 8.2554)	209,612 to 209,688 (8.2524 to 8.2554)	450267383

Oversize Lower Bearing Subassembly

Table 2

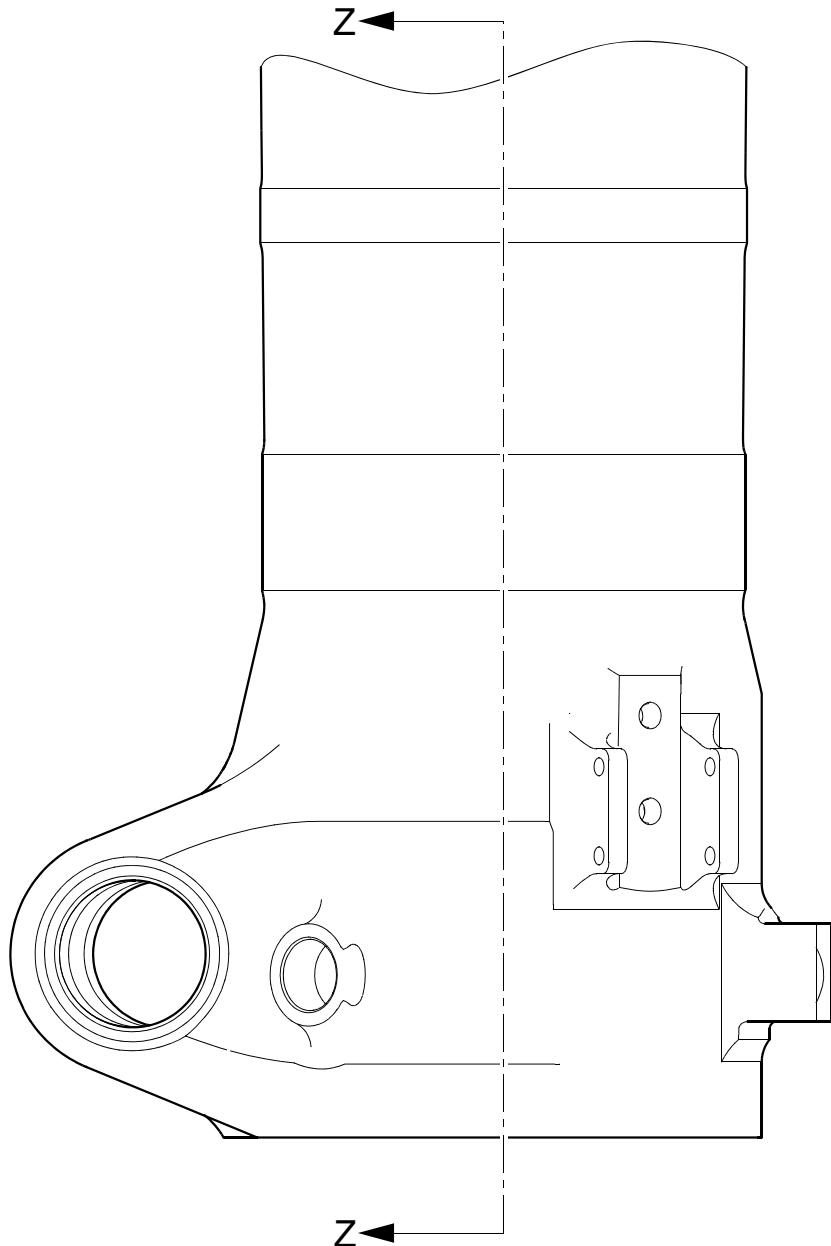
PRE SB 200-32-58 Part Number	POST SB 200-32-58 Part Number
450266261	450267371
450266262	450267373
450266263	450267375
450266264	450267377
450266265	450267379
450266266	450267381
450266267	450267383

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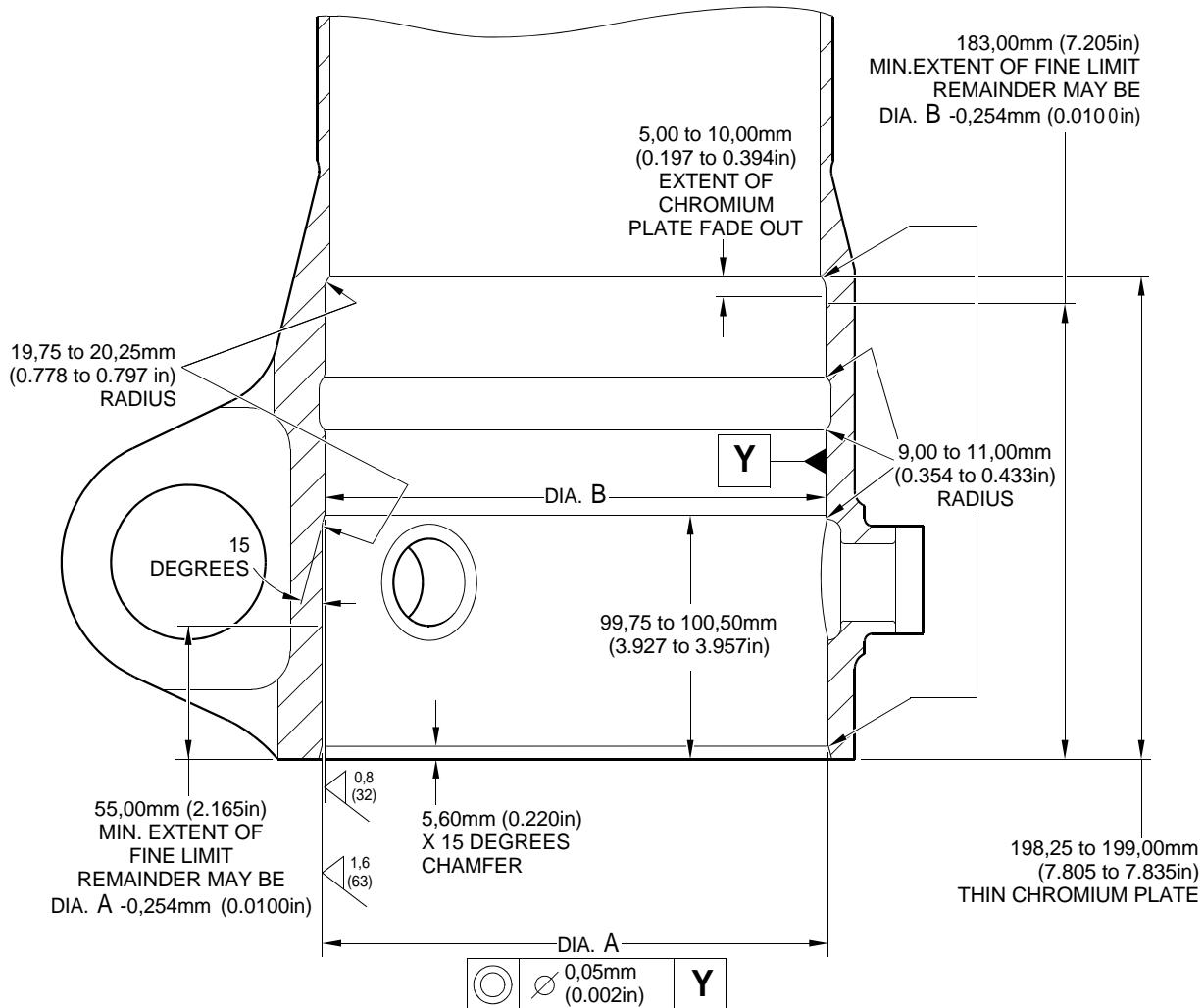
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Repair to Main Fitting
Figure 601Repair No. 11-26
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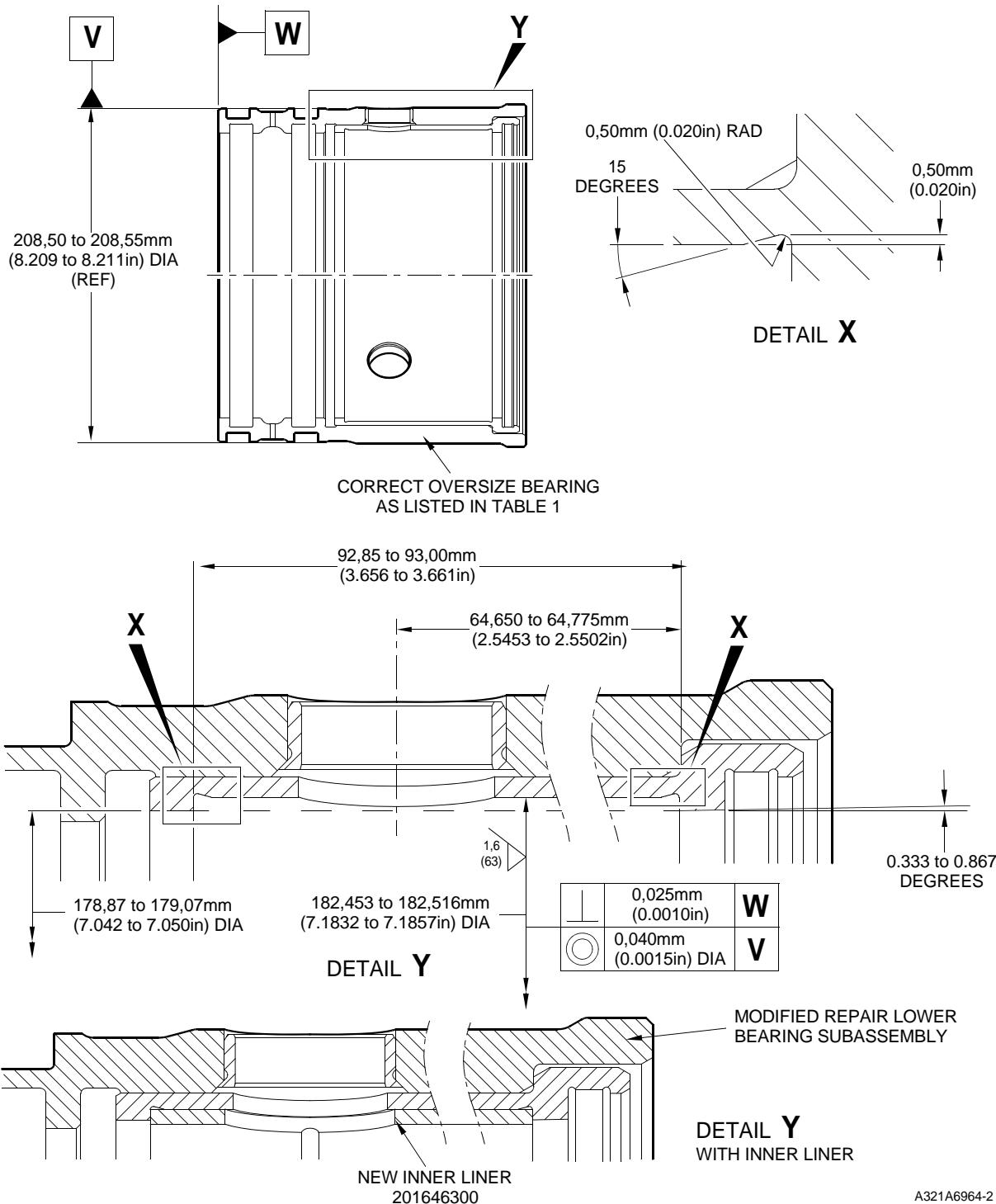


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Repair to Main Fitting - Machining
Figure 602

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Lower Bearing Subassembly Machining and Liner Installation
Figure 603

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■ 1. Repair No. 11-27 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or wear to diameter A and/or face B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Tool Part No.	Special Tool	Function
460006614	Assembly tool	Install the bearing

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc
05-533	MastinoxD40
09-510A	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Repair Part	Material Specification
450266337	Repair Bearing	AMS 4881 or AMS 4590

E. Procedure (Refer to Figures 601 and 602)

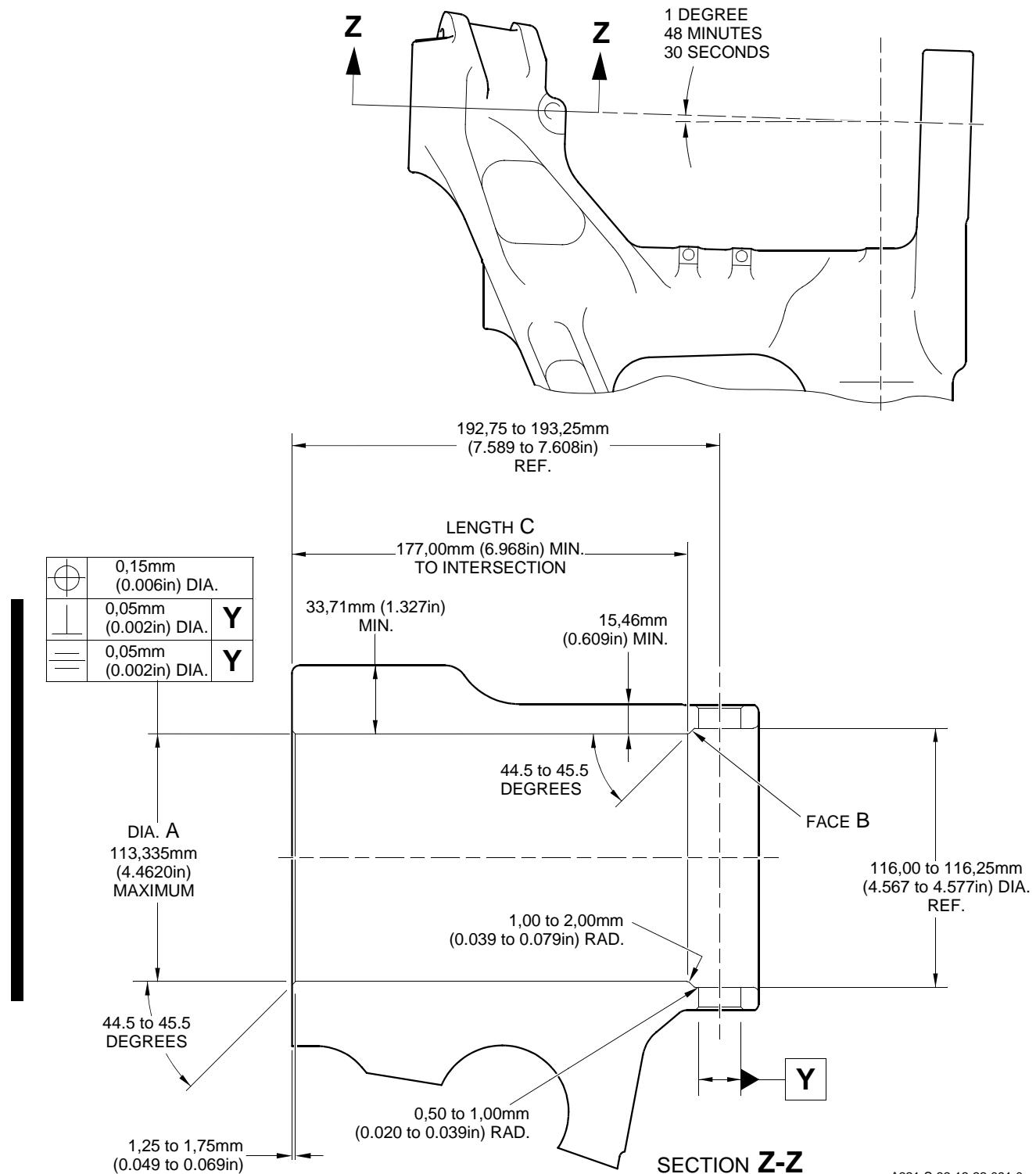
CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Machine diameter A and/or face B sufficiently to remove the damage or wear within the dimensions shown: refer to M-DLPS1004-4-1 and [Figure 601](#). Make the surface finish 1,6 micrometers (63 micro-inches).

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- (2) Machine the radii and chamfer as the dimensions shown: refer to [Figure 601](#).
- (3) Measure and record the new diameter A and length C.
- (4) Examine the reworked area for flaws: refer to PCS-3600 and PCS-3100, inclusion class 4.
- (5) Shot peen the machined surfaces: refer to M-DLPS123.
- (6) Apply cadmium plate to the machined areas: refer to PCS-2100 or PCS-2141. The cadmium plate thickness must be between 0,01 and 0,02 mm (0.004 and 0.008 in).
- (7) Identify the part with the Safran Landing Systems repair number 450266040 adjacent to the part number: refer to PCS-6000-04, an alternative reference is PCS-6000-06. If the alternative reference is used, the characters must be 0,051 to 0,102 mm (0.0020 to 0.0040 in) deep and approximately 3,00 mm (0.118 in) high.
- (8) Calculate the dimensions for the repair bush, use formula:
Diameter D = Diameter A (as measured) + 0.069 to 0.126 mm (0.0027 to 0.0049 in)
Length E = Length C (as measured) + 2,25 to 3,00 mm (0.089 to 0.118 in).
- (9) Machine the repair bearing to the dimensions shown and calculated: refer to [Figure 602](#).
Make the surface finish 1,6 micrometers (63 micro-inches).
- (10) Apply cadmium plate all over the repair bearing except the bore and the internal grooves: refer to PCS-2101. The cadmium plate thickness must be between 0,01 and 0,015 mm (0.0004 and 0.0006 in).
- (11) Use Assembly Tool 460006614 and install the repair bearing: refer to PCS-5100. Use electrically conducting Mastinox (made from Mastinox D40, Material Ref. Item 05-533 and Zinc powder, Material Ref. Item TBA).
- (12) Check ream the repair bearing bore to the dimensions shown: refer to [Figure 602](#).
- (13) Apply a bead of sealant, Material Ref. Item 09-510A to joints between the repair bearing and the main fitting: refer to PCS-7200 and [Figure 602](#).
- (14) Identify the part with the Safran Landing Systems repair number 450266040 adjacent to the part number: refer to PCS-6000-07.
- (15) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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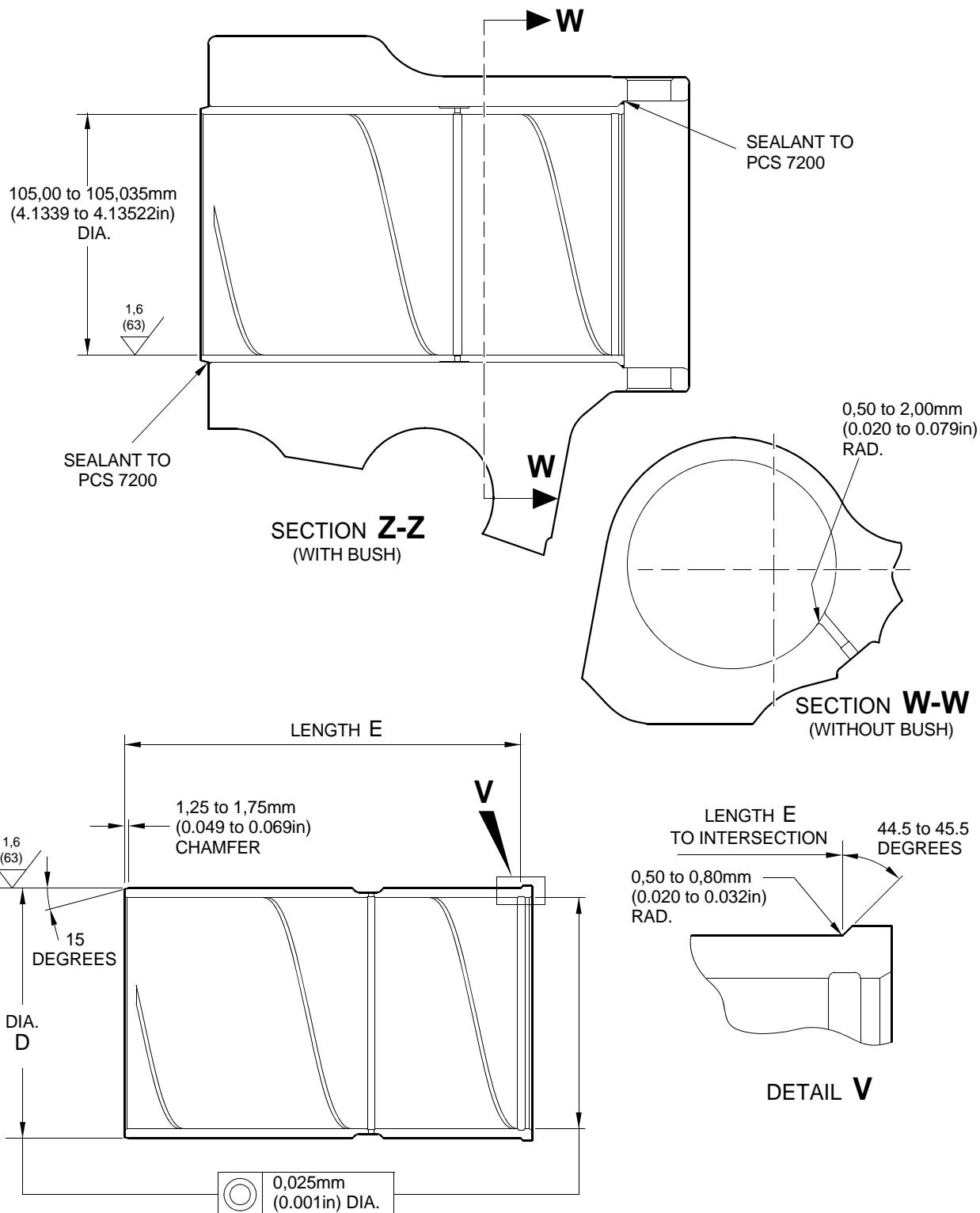


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Repair to Main Fitting
Figure 601

Repair No. 11-27
32-12-22
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A321-S-32-12-22-095-0

Repair Bearing - Machining and Installation
Figure 602

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Repair No. 11-27
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■ 1. Repair No. 11-28 Main Fitting (20-410, 20-410A, 20-420 and 20-420A)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Damage or wear to diameters A and/or C.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410, 20-410A, 20-420 and 20-420A	Main Fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) These repair parts are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Repair Part	Material Specification
MS28774-012	1 st Oversize backing ring	-
MS28774-013	2 nd Oversize backing ring	-
MS28775-012	1 st Oversize O-ring	-
MS28775-013	2 nd Oversize O-ring	-
450239351	1 st Oversize transfer dowel	Aluminium alloy L168-T6511
450239352	2 nd Oversize transfer dowel	Aluminium alloy L168-T6511

E. Procedure (Refer to Figures 601 and 602)

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is damage or wear to diameter A:

- (a) Machine diameter A sufficiently to remove the damage or wear to the nearest possible dimensions as shown in [Table 601](#): refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
- (b) Examine the reworked area for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.

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- (c) Identify the part with Safran Landing Systems repair number 450266405A for 1st oversize or 450266405B for 2nd oversize adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.
- (d) Select the applicable oversize transfer dowel, oversize O-ring and oversize backing ring: refer to [Table 601](#).
- (e) Install the selected oversize parts to the main fitting: refer to [Figure 603](#).
- (f) Apply paint to external surfaces, but not to the dowel bores: refer to PCS-2500.
- (g) Identify the part with Safran Landing Systems repair number 450266405A for 1st oversize or 450266405B for 2nd oversize adjacent to the part number: refer to PCS-6000-07.
- (h) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Oversize dimensions
Table 601

Oversize	Diameter A mm (in)	Diameter B mm (in)	Oversize Transfer dowel Part No.	Oversize O-ring Part No.	Oversize Backing ring Part No.
1	12,3190 to 12,3444 (0.4850 to 0.4860)	13,65 (0.537)	450239351	MS28775-012	MS28774-012
2	13,9700 to 14,0208 (0.5500 to 0.5520)	15,37 (0.605)	450239352	MS28775-013	MS28774-013

- (2) Do this procedure, if there is damage or wear to diameter C:
 - (a) Machine diameter C sufficiently to remove the damage or wear to the nearest possible dimensions as shown in [Table 602](#): refer to M-DLPS1004-4-1 and [Figure 602](#). Make the surface finish 1,6 micrometers (63 micro-inches).
 - (b) Examine the reworked area for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
 - (c) Identify the part with Safran Landing Systems repair number 450266405D for 1st oversize or 450266405E for 2nd oversize adjacent to the part number: refer to PCS-6000-04 or PCS-6000-06.
 - (d) Select the applicable oversize transfer dowel, oversize O-ring and oversize backing ring: refer to [Table 602](#).
 - (e) Install the selected oversize parts to the main fitting: refer to [Figure 603](#).
 - (f) Apply paint to external surfaces, but not to the dowel bores: refer to PCS-2500.
 - (g) Identify the part with Safran Landing Systems repair number 450266405D for 1st oversize or 450266405E for 2nd oversize adjacent to the part number: refer to PCS-6000-07.

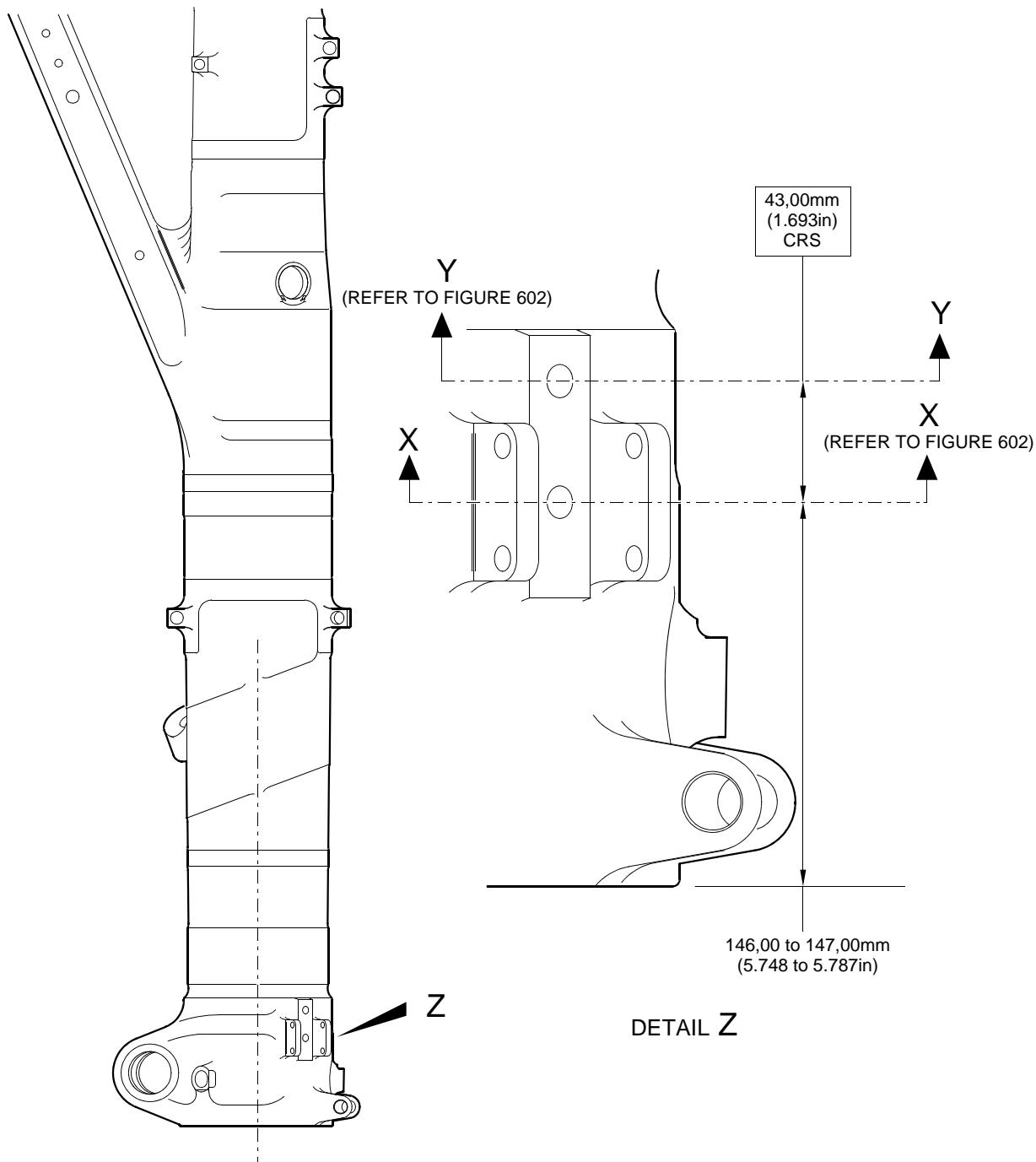
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- (h) Examine the part to make sure that you have obeyed all the repair instructions correctly.

Oversize dimensions
Table 602

Oversize	Diameter C mm (in)	Diameter D mm (in)	Oversize Transfer dowel Part No.	Oversize O-ring Part No.	Oversize Backing ring Part No.
1	12,3190 to 12,3444 (0.4850 to 0.4860)	13,65 (0.537)	450239351	MS28775-012	MS28774-012
2	13,9700 to 14,0208 (0.5500 to 0.5520)	15,37 (0.605)	450239352	MS28775-013	MS28774-013

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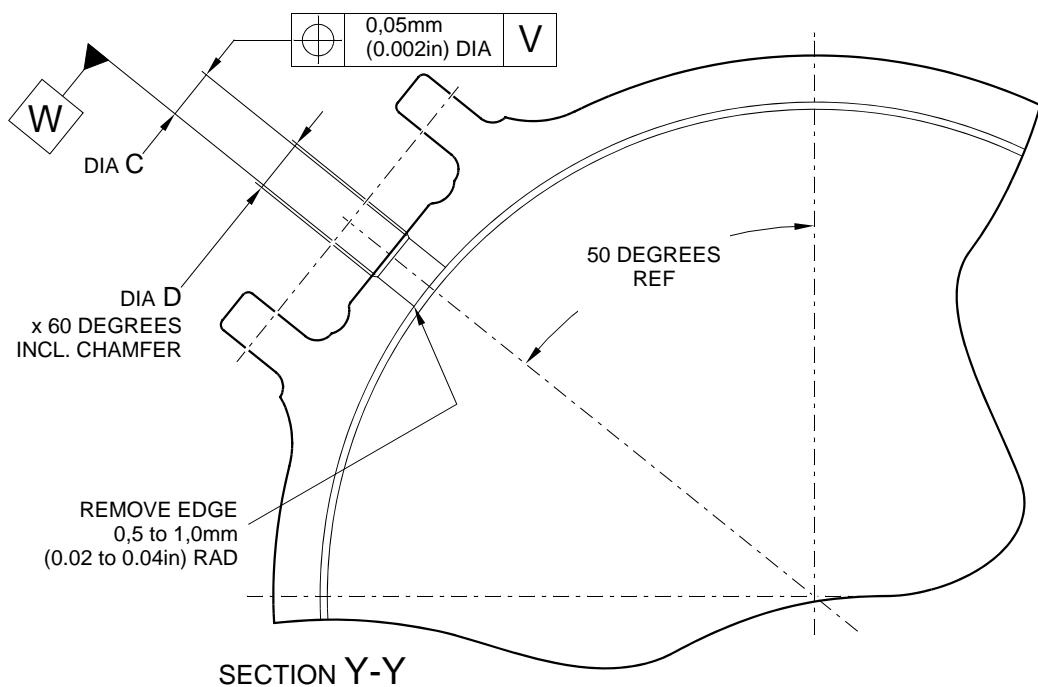
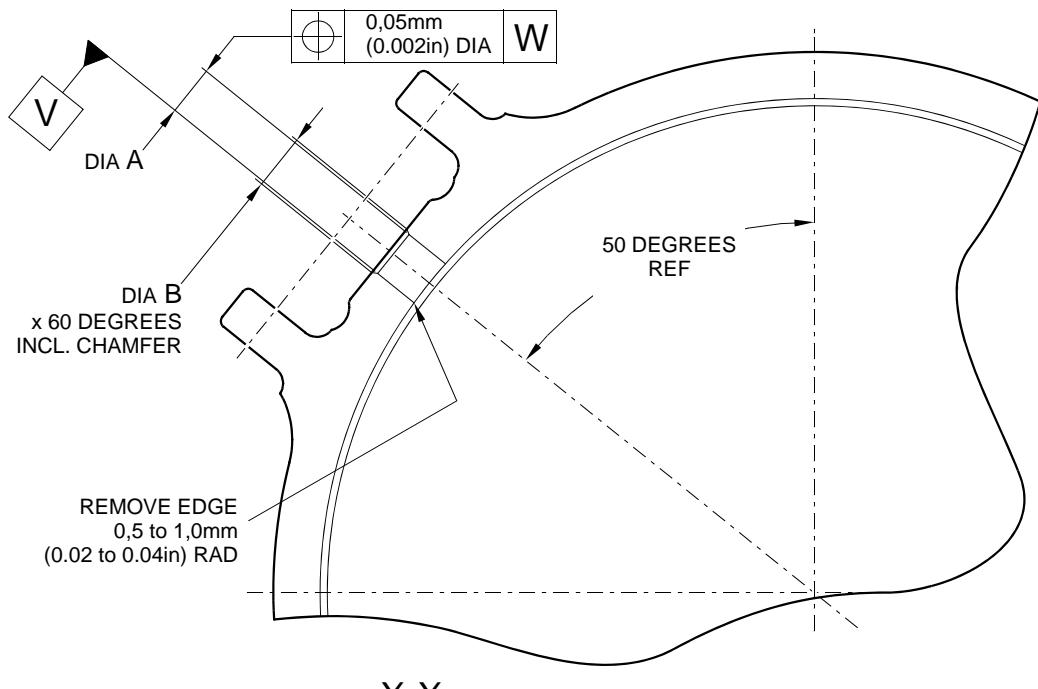


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Repair to Main Fitting
Figure 601

Repair No. 11-28
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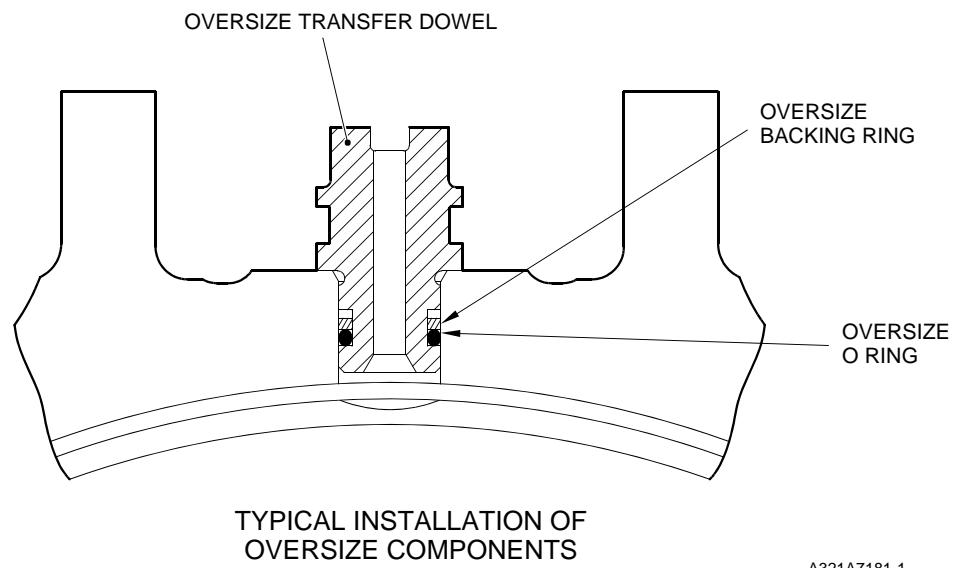


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Repair to Main Fitting
Figure 602

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A321A7181-1

Oversize Transfer Dowel - Installation
Figure 603

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Repair No. 11-28
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1. Repair No. 11-29 Main Fitting (20-410A and 20-420A Only)

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or corrosion to the diameter(s) A and/or B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410A and 20-420A Only	Main fitting	Steel, MAT135, 35NCD16THQ

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006405	Assembly Sleeve	Install the lower bearing subassembly

C. Materials

- (1) None.

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450266221 to 450266225	Lower bearing subassembly (Option 1 - Pre SB 201-32-49)	-
450266261 to 450266267	Lower bearing subassembly (Option 2 - Post SB 201-32-49)	-

E. Procedure (Refer to Figures 601, 602 and 603)

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LIMITED: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is damage or corrosion to the chromium plate on diameter(s) A and/or B. The bare metal must not be damaged.
 - (a) Remove the paint from the main fitting as necessary: refer to PCS-2700 and **REPAIR**.
 - (b) Locally remove the chromium plate from diameter(s) A and/or B: refer to PCS-2110.

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- (c) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH. USE HONING OR LAPPING TOOLS.

- (d) Apply chromium plate to diameter A to between 212,000 and 212,072 mm (8.3465 and 8.3493 in) with a surface finish of 1,6 micrometers (63 micro-inches) and to diameter B between 208,890 and 208,966 mm (8.2240 and 8.2270 in) with a surface finish of 0,8 micrometers (32 micro-inches): refer to PCS-2110 and Figures [601](#), [602](#) and [603](#). The plating thickness must be between 0,040 and 0,060 mm (0.0016 and 0.0024 in).
- (e) Examine the reworked areas for flaws: refer to PCS-3100, inclusion class 4.
- (f) Apply wet primer to diameters A and B: refer to PCS-2804.
- (g) Identify the part with the Messier-Dowty Limited repair number 450267275A adjacent to the part number: refer to PCS-6000-04, maximum depth 0,13 mm (0.005 in).
- (h) Restore all protective treatments to the main fitting: refer to [REPAIR](#).
- (i) Identify the part with the Messier-Dowty Limited repair number 450267275A adjacent to the part number: refer to PCS-6000-07.
- (j) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (2) Do this procedure to diameter A and/or B if there is damage to the bare metal.
- (a) Remove the paint from the main fitting as necessary: refer to PCS-2700 and [REPAIR](#).
- (b) Remove the chromium plate from diameter(s) A and/or B: refer to PCS-2110.
- (c) Machine diameters A and B, as a matched pair to remove the wear or damage. Remove the minimum amount of material to get the nearest oversize pair of bores given in [Table 601](#) (Option 1 and 2). Blend any sharp edges smoothly into the adjacent surfaces. The surface finish for diameter A must be 1,6 micrometers (63 micro-inches) and the surface finish for diameter B must be 0,8 micrometers (32 micro-inches): refer to M-DLPS1004-4-1 and [Figure 601](#).
- (d) Measure and record the machined diameter(s) A and/or B.
- (e) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- (f) Shot peen the reworked areas of the main fitting: refer to M-DLPS123.
- (g) Hone diameters A and B shot peened areas to the recorded diameters +0,00 to 0,05 mm (0.000 to 0.002 in).

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MAIN LANDING GEAR LEG

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH. USE HONING OR LAPPING TOOLS.

- (h) Apply chromium plate to diameters A and B to the nearest dimensions shown in [Table 601](#) (Option 1 and 2): refer to PCS-2110, Figures [601](#), [602](#) and [603](#). The plating thickness must be between 0,040 and 0,060 mm (0.0016 and 0.0024 in). Refer to [Figure 601](#) for the surface finish of diameters A and B.
- (i) Examine the reworked areas for flaws: refer to PCS-3100, inclusion class 4.
- (j) Apply wet primer to diameters A and B: refer to PCS-2804.
- (k) Identify the part with the Messier-Dowty Limited repair number 450267275B adjacent to the part number: refer to PCS-6000-04, maximum depth 0,13 mm (0.005 in).
- (l) Restore all protective treatments to the main fitting: refer to [REPAIR](#).
- (m) Use the correct lower bearing subassembly from the [Table 601](#) (Option 1 or 2).
- (n) Use the Assembly Sleeve 460006405 to install the lower bearing subassembly.

NOTE: If you use an Option 2 Lower bearing subassembly you must use the sealant procedure Post SB [201-32-49](#) at installation of the sliding tube subassembly to the main fitting.

- (o) Identify the part with the Messier-Dowty Limited repair number 450267275B adjacent to the part number: refer to PCS-6000-07.
- (p) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG**

Table 601 (Option 1 - Pre SB 201-32-49)

	Bore Diameter A		Bore Diameter B		
	Before chromium plate mm (in)	After chromium plate mm (in)	Before chromium plate mm (in)	After chromium plate mm (in)	Lower bearing subassembly
1	212,242 to 212,274 (8.3560 to 8.3572)	212,122 to 212,194 (8.3513 to 8.3541)	209,132 to 209,168 (8.2335 to 8.2350)	209,012 to 209,088 (8.2288 to 8.2318)	450266221
2	212,392 to 212,424 (8.3619 to 8.3631)	212,272 to 212,344 (8.3572 to 8.3600)	209,282 to 209,318 (8.2394 to 8.2409)	209,162 to 209,238 (8.2347 to 8.2377)	450266222
3	212,542 to 212,574 (8.3678 to 8.3691)	212,422 to 212,494 (8.3631 to 8.3659)	209,432 to 209,468 (8.2454 to 8.2468)	209,312 to 209,388 (8.2406 to 8.2436)	450266223
4	212,692 to 212,724 (8.3737 to 8.3750)	212,572 to 212,644 (8.3690 to 8.3718)	209,582 to 209,618 (8.2513 to 8.2527)	209,462 to 209,538 (8.2465 to 8.2495)	450266224
5	212,842 to 212,874 (8.3796 to 8.3809)	212,722 to 212,794 (8.3749 to 8.3777)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450266225

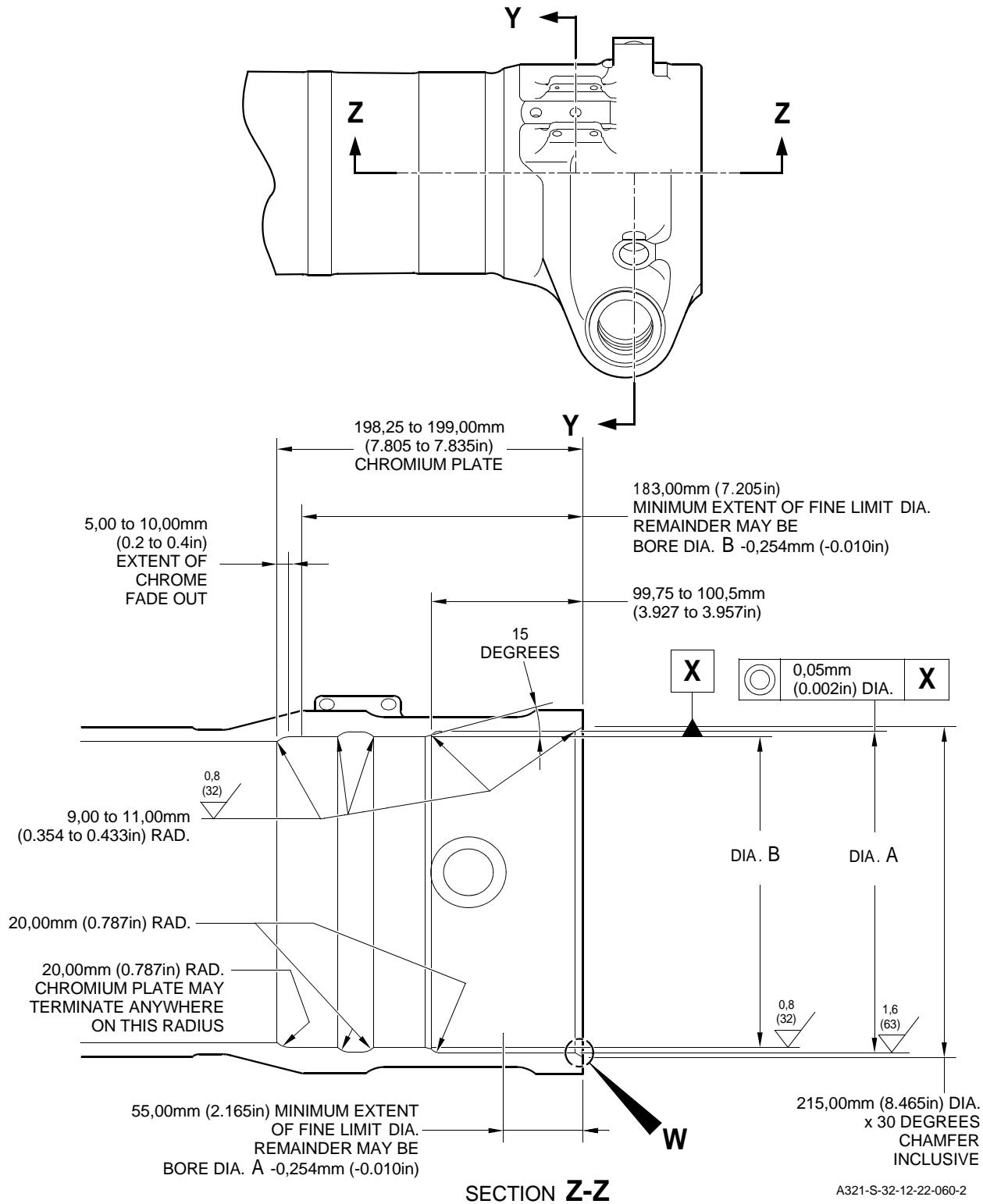
Table 601 (Option 2 - Post SB 201-32-49)

	Bore Diameter A		Bore Diameter B		
	Before chromium plate mm (in)	After chromium plate mm (in)	Before chromium plate mm (in)	After chromium plate mm (in)	Lower bearing subassembly
1	212,242 to 212,274 (8.3560 to 8.3572)	212,122 to 212,194 (8.3513 to 8.3541)	209,132 to 209,168 (8.2335 to 8.2350)	209,012 to 209,088 (8.2288 to 8.2318)	450266261
2	212,392 to 212,424 (8.3619 to 8.3631)	212,272 to 212,344 (8.3572 to 8.3600)	209,282 to 209,318 (8.2394 to 8.2409)	209,162 to 209,238 (8.2347 to 8.2377)	450266262
3	212,542 to 212,574 (8.3678 to 8.3691)	212,422 to 212,494 (8.3631 to 8.3659)	209,432 to 209,468 (8.2454 to 8.2468)	209,312 to 209,388 (8.2406 to 8.2436)	450266263
4	212,692 to 212,724 (8.3737 to 8.3750)	212,572 to 212,644 (8.3690 to 8.3718)	209,582 to 209,618 (8.2513 to 8.2527)	209,462 to 209,538 (8.2465 to 8.2495)	450266264
5	212,842 to 212,874 (8.3796 to 8.3809)	212,722 to 212,794 (8.3749 to 8.3777)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450266265

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MAIN LANDING GEAR LEG
Table 601 (Option 2 - Post SB 201-32-49) (Continued)

	Bore Diameter A		Bore Diameter B		Lower bearing subassembly
	Before chromium plate mm (in)	After chromium plate mm (in)	Before chromium plate mm (in)	After chromium plate mm (in)	
6	213,233 to 213,265 (8.3950 to 8.3963)	213,113 to 213,185 (8.3903 to 8.3931)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450266266
7	213,533 to 213,565 (8.4068 to 8.4081)	213,413 to 213,485 (8.4020 to 8.4049)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450266267

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MAIN LANDING GEAR LEG

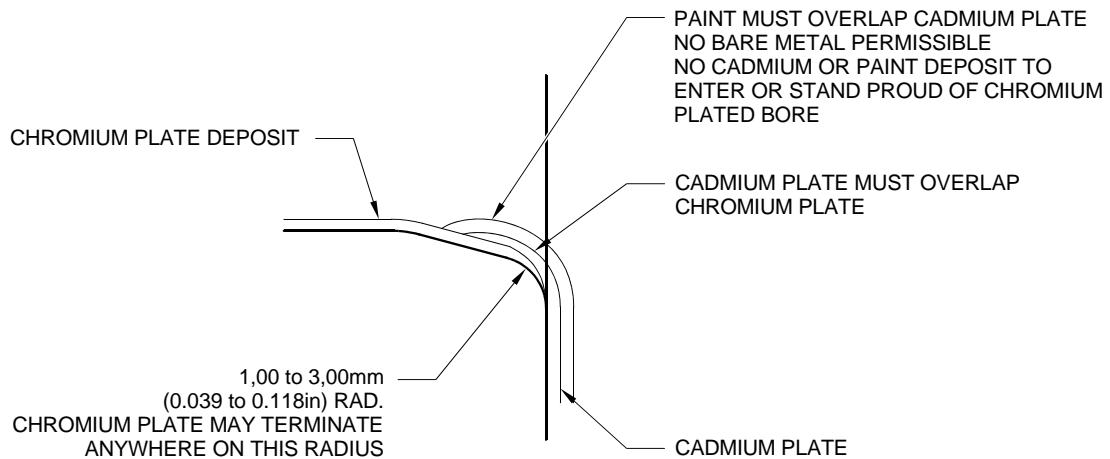


Repair to Main Fitting - Machining
Figure 601

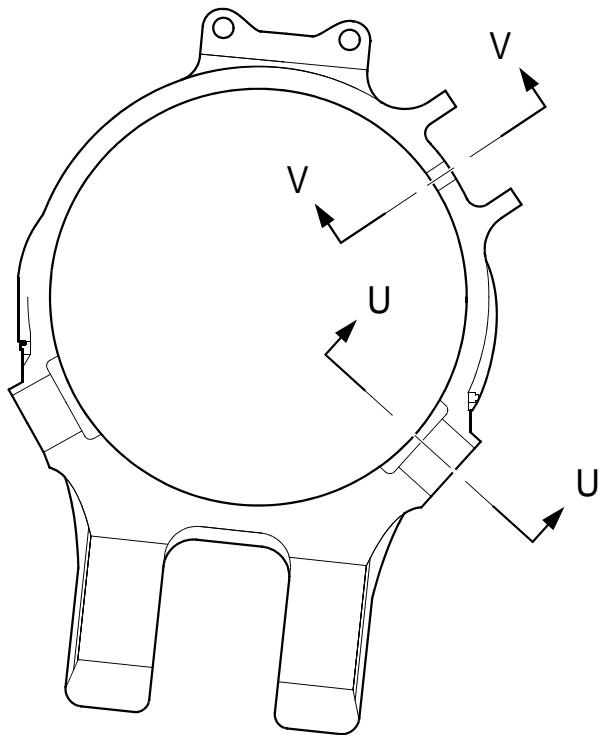
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MAIN LANDING GEAR LEG



DETAIL W
CHROMIUM PLATE TERMINATION
LOWER BARREL



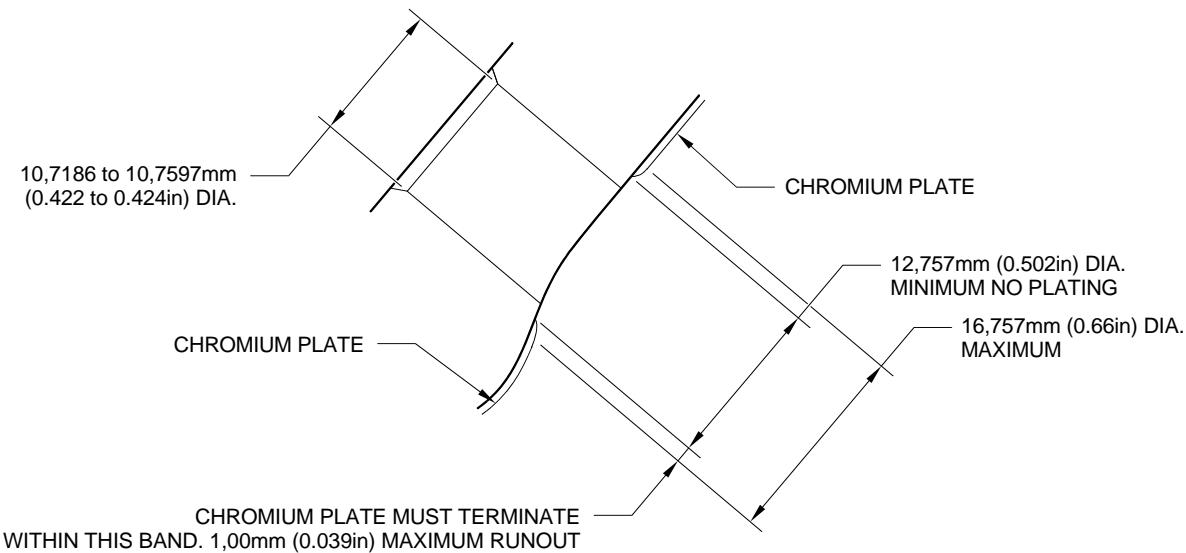
SECTION Y-Y

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Repair to Main Fitting
Figure 602

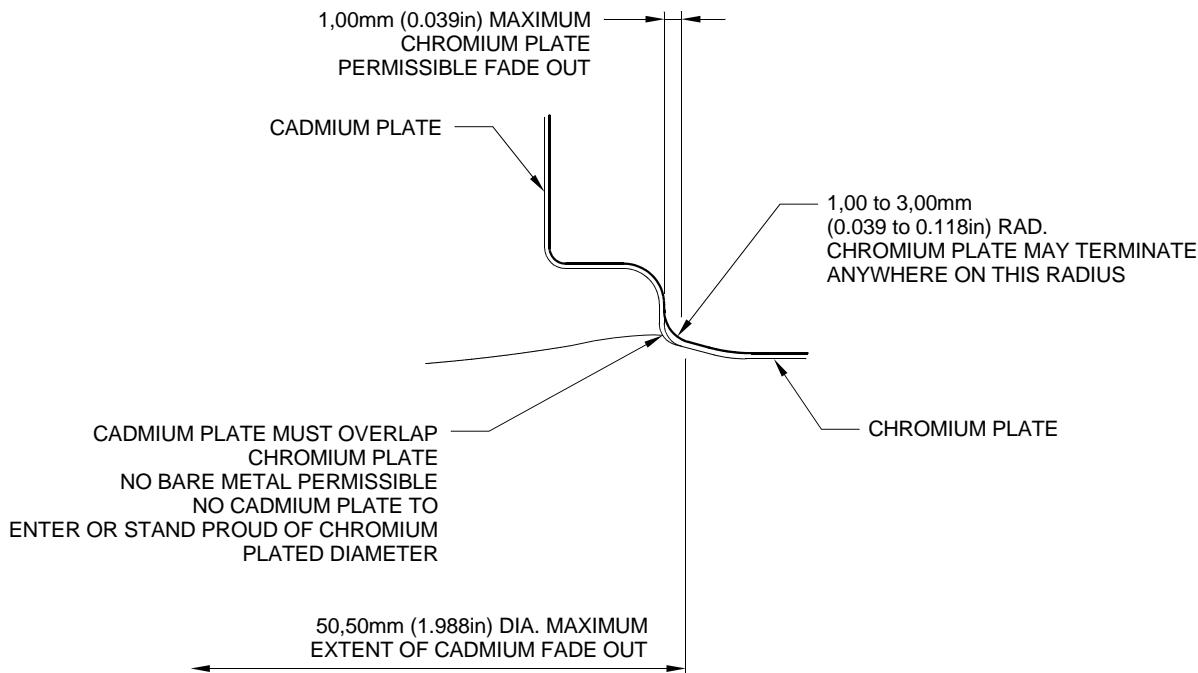
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MAIN LANDING GEAR LEG



SECTION V-V

CHROMIUM PLATE TERMINATION
AROUND CHANGEOVER VALVE HOLES
TYPICAL 2 POSITIONS



SECTION U-U

CHROMIUM PLATE TERMINATION
AROUND DOWEL HOLES
TYPICAL 3 POSITIONS

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Repair to Main Fitting - Chromium Plate Termination
Figure 603

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MAIN LANDING GEAR LEG

- 1. Repair No. 11-30 Main Fitting (20-410A and 20-420A Only)

CAUTION: THIS REPAIR IS FOR THE POST SB 201-32-58 UNITS ONLY. FOLLOW THE REQUIREMENTS OF SB 201-32-58 COMPLETELY. FOR PRE SB 201-32-58, REFER TO REPAIR NO. 11-29 (450267275).

A. Specified Damage and Material Specification.

- (1) Specified Damage
 - (a) Damage or corrosion to the diameter(s) A and/or B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410A and 20-420A Only	Main fitting	Steel to MAT135 (35NCD16THQ)

B. Special Tools

- (1) These special tools are necessary:

NOTE: Alternative equivalents are permitted.

Part No.	Special Tool	Function
460006405	Assembly Sleeve	Install the lower bearing subassembly

C. Materials

- (1) This material is necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Molykote 111, PCS-7303

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450267371 to 450267383 Refer to Table 601	Lower bearing subassembly	-
201646300	Inner liner	-

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MAIN LANDING GEAR LEGE. Procedure (Refer to Figures [601](#), [602](#), [603](#) and [604](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO MESSIER-DOWTY LIMITED: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is damage or corrosion to the chromium plate on diameter(s) A and/or B. The bare metal must not be damaged.
 - (a) Remove the paint from the main fitting as necessary: refer to PCS-2700.
 - (b) Locally remove the chromium plate from diameter(s) A and/or B: refer to PCS-2110.

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH. USE HONING OR LAPPING TOOLS.

- (c) Apply chromium plate to diameter A to between 212,000 and 212,072 mm (8.3465 and 8.3493 in) with a surface finish of 1,6 micrometers (63 micro-inches) and to diameter B to between 208,890 and 208,966 mm (8.2240 and 8.2270 in) with a surface finish of 0,8 micrometers (32 micro-inches): refer to PCS-2110 and Figures [601](#), [602](#) and [603](#). The plating thickness must be between 0,040 and 0,060 mm (0.0016 and 0.0024 in).
 - (d) Examine the reworked areas for flaws: refer to PCS-3100, inclusion class 4.
 - (e) Apply wet primer to diameters A and B: refer to PCS-2804.
 - (f) Identify the part with the Messier-Dowty Limited repair number 450267385A adjacent to the part number: refer to PCS-6000-04, maximum depth 0,13 mm (0.005 in).
 - (g) Restore all protective treatments to the main fitting: refer to [REPAIR](#).
 - (h) Identify the part with the Messier-Dowty Limited repair number 450267385A adjacent to the part number: refer to PCS-6000-07.
 - (i) Examine the part to make sure that you have obeyed all the repair instructions correctly.
- (2) Do this procedure to diameter(s) A and/or B if there is damage to the bare metal.
 - (a) Remove the paint from the main fitting as necessary: refer to PCS-2700.
 - (b) Locally remove the chromium plate from diameter(s) A and B: refer to PCS-2110.
 - (c) Machine diameters A and B, as a matched pair to remove the wear or damage. Remove the minimum amount of material to get the nearest oversize pair of bores given in [Table 601](#). Blend any sharp edges smoothly into the adjacent surfaces. The surface finish for diameter A must be 1,6 micrometers (63 micro-inches) and the surface finish for diameter B must be 0,8 micrometers (32 micro-inches): refer to M-DLPS1004-4-1 and [Figure 601](#).
 - (d) Machine the chamfers and radii as shown: refer to Figures [601](#), [602](#) and [603](#). Blend all sharp edges smoothly into the adjacent surface. Make the surface finish for the radii 0,8 micrometers (32 micro-inches).
 - (e) Measure and record the machined diameter(s) A and/or B.

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MAIN LANDING GEAR LEG

- (f) Examine the bare metal for flaws: refer to PCS-3100, inclusion class 4 and PCS-3600.
- (g) Shot peen the reworked areas of the main fitting: refer to M-DLPS123.
- (h) Hone diameters A and B shot peened areas to the recorded diameters +0,00 to 0,025 mm (0.000 to 0.001 in).

CAUTION: DO NOT USE A MECHANICAL MOP POLISHER TO GET THE SURFACE FINISH. USE HONING OR LAPPING TOOLS.

- (i) Apply chromium plate to diameters A and B to the nearest dimensions shown in [Table 601](#). The plating thickness must be between 0,040 and 0,060 mm (0.0016 and 0.0024 in). To get the necessary surface finish hone or lap diameters A and B: refer to PCS-2110 and Figures [601](#) to [603](#).
- (j) Examine the reworked areas for flaws: refer to PCS-3100, inclusion class 4.
- (k) Apply wet primer to diameters A and B: refer to PCS-2804.
- (l) Identify the part with the Messier-Dowty Limited repair number 450267385B adjacent to the part number on the main fitting: refer to PCS-6000-04, maximum depth 0,13 mm (0.005 in).
- (m) Restore all protective treatments to the main fitting. Make sure that the cadmium plate overlaps the chromium plate terminations: refer to [REPAIR](#), Figures [602](#) and [603](#).
- (n) Select the correct oversize lower bearing subassembly from the [Table 601](#) for the repaired diameters A and B.

NOTE: Each POST oversize lower bearing subassembly can be made from the related PRE SB [201-32-58](#) lower bearing subassembly: refer to [Table 602](#).

- (o) If necessary, machine the inner bore of the bronze liner: refer to [Figure 604](#).

NOTE: The lower bearing ([16-150](#)) bore can only be machined when it is installed in the lower bearing subassembly.

- (p) If necessary, examine the machined area for flaws: refer to PCS-3200.
- (q) If necessary, apply a small quantity of Molykote 111, Material Ref. Item TBA, to the outside diameter of inner liner ([16A-117](#)) and install it in the lower bearing subassembly: refer to PCS-7303 and [Figure 604](#). Make sure that the holes in the new inner liner align with the holes in the lower bearing subassembly.
- (r) If necessary, strike through the old part number and re-identify the new lower bearing subassembly with the new inner liner with a part number given in [Table 602](#): refer to PCS-6000-04 and PCS-6000-07.
- (s) At the applicable assembly step, use the Assembly Sleeve 460006405 and install the lower bearing subassembly on the sliding tube subassembly: refer to [ASSEMBLY \(INCLUDING STORAGE\)](#).
- (t) At the applicable assembly step, install the repaired shock absorber subassembly in the main fitting: refer to [ASSEMBLY \(INCLUDING STORAGE\)](#).

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- (u) Identify the part with the Messier-Dowty Limited repair number 450267385B adjacent to the part number: refer to PCS-6000-07.
- (v) Examine the part to make sure that you have obeyed all the repair instructions correctly.

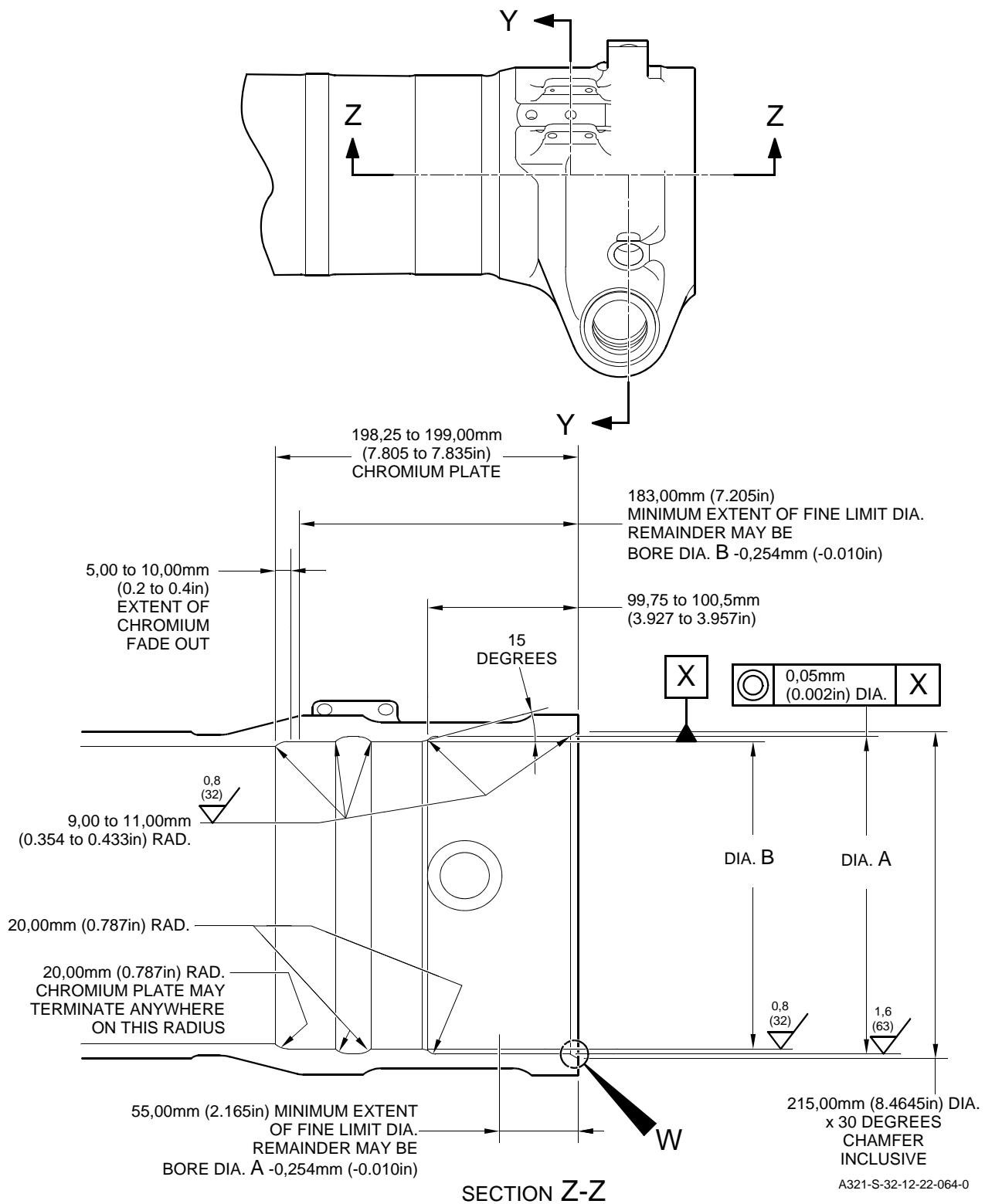
Oversize Lower Bearing Subassembly Dimensions (Post SB [201-32-58](#))

Table 601

	Bore Diameter A		Bore Diameter B		
	Before chromium plate mm (in)	After chromium plate mm (in)	Before chromium plate mm (in)	After chromium plate mm (in)	Lower bearing subassembly
1	212,242 to 212,274 (8.3560 to 8.3572)	212,122 to 212,194 (8.3513 to 8.3541)	209,132 to 209,168 (8.2335 to 8.2350)	209,012 to 209,088 (8.2288 to 8.2318)	450267371
2	212,392 to 212,424 (8.3619 to 8.3631)	212,272 to 212,344 (8.3572 to 8.3600)	209,282 to 209,318 (8.2394 to 8.2409)	209,162 to 209,238 (8.2347 to 8.2377)	450267373
3	212,542 to 212,574 (8.3678 to 8.3691)	212,422 to 212,494 (8.3631 to 8.3659)	209,432 to 209,468 (8.2454 to 8.2468)	209,312 to 209,388 (8.2406 to 8.2436)	450267375
4	212,692 to 212,724 (8.3737 to 8.3750)	212,572 to 212,644 (8.3690 to 8.3718)	209,582 to 209,618 (8.2513 to 8.2527)	209,462 to 209,538 (8.2465 to 8.2495)	450267377
5	212,842 to 212,874 (8.3796 to 8.3809)	212,722 to 212,794 (8.3749 to 8.3777)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450267379
6	213,233 to 213,265 (8.3950 to 8.3963)	213,113 to 213,185 (8.3903 to 8.3931)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450267381
7	213,533 to 213,565 (8.4068 to 8.4081)	213,413 to 213,485 (8.4020 to 8.4049)	209,732 to 209,768 (8.2572 to 8.2586)	209,612 to 209,688 (8.2524 to 8.2554)	450267383

**Oversize Lower Bearing Subassembly
Table 602**

Pre SB 201-32-58 Part number	Post SB 201-32-58 Part number (fitted with inner liner 201646300)
450266261	450267371
450266262	450267373
450266263	450267375
450266264	450267377
450266265	450267379
450266266	450267381
450266267	450267383

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 MAIN LANDING GEAR LEG

 Repair to Main Fitting - Machining
 Figure 601

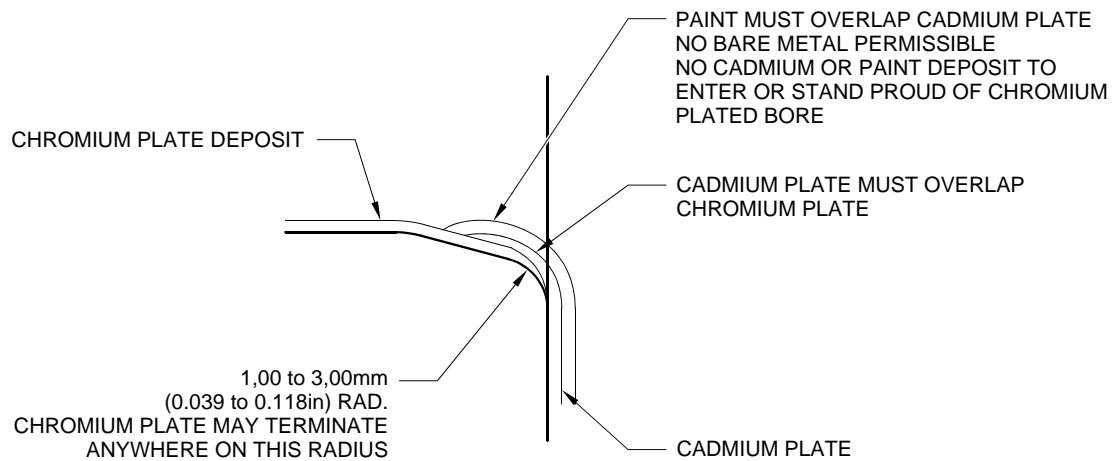
Repair No. 11-30

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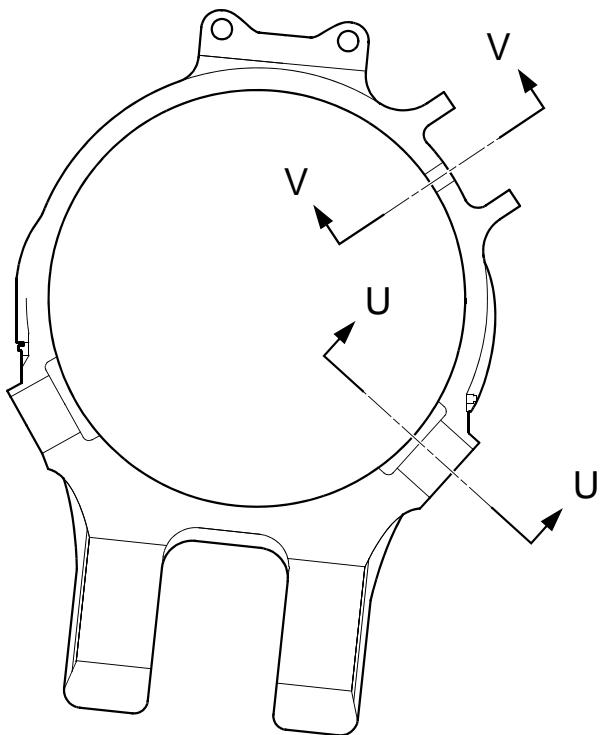
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MAIN LANDING GEAR LEG



DETAIL W



SECTION Y-Y

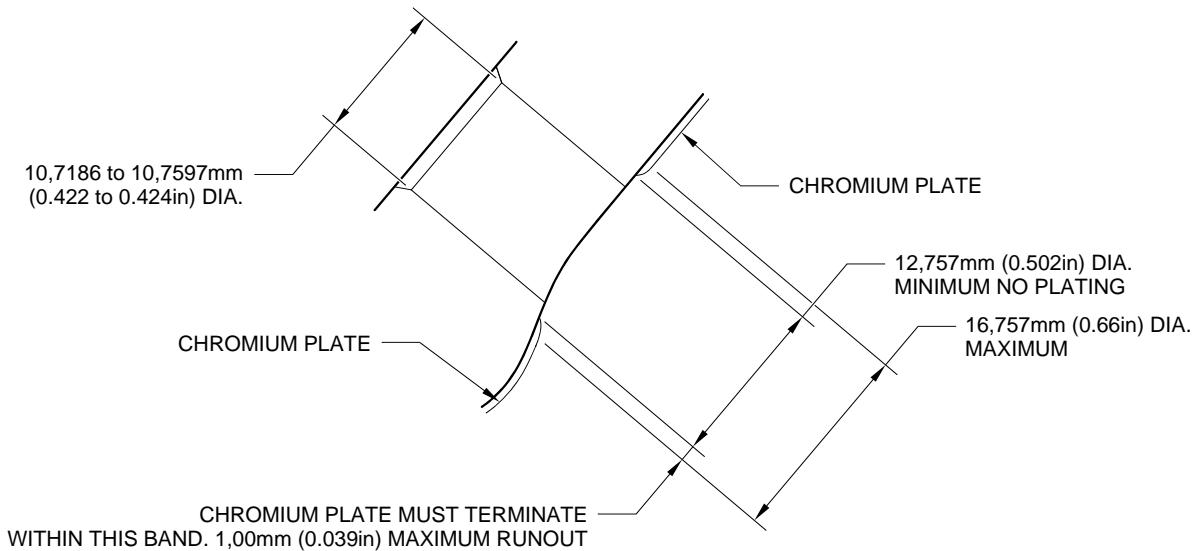
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Repair to Main Fitting
Figure 602

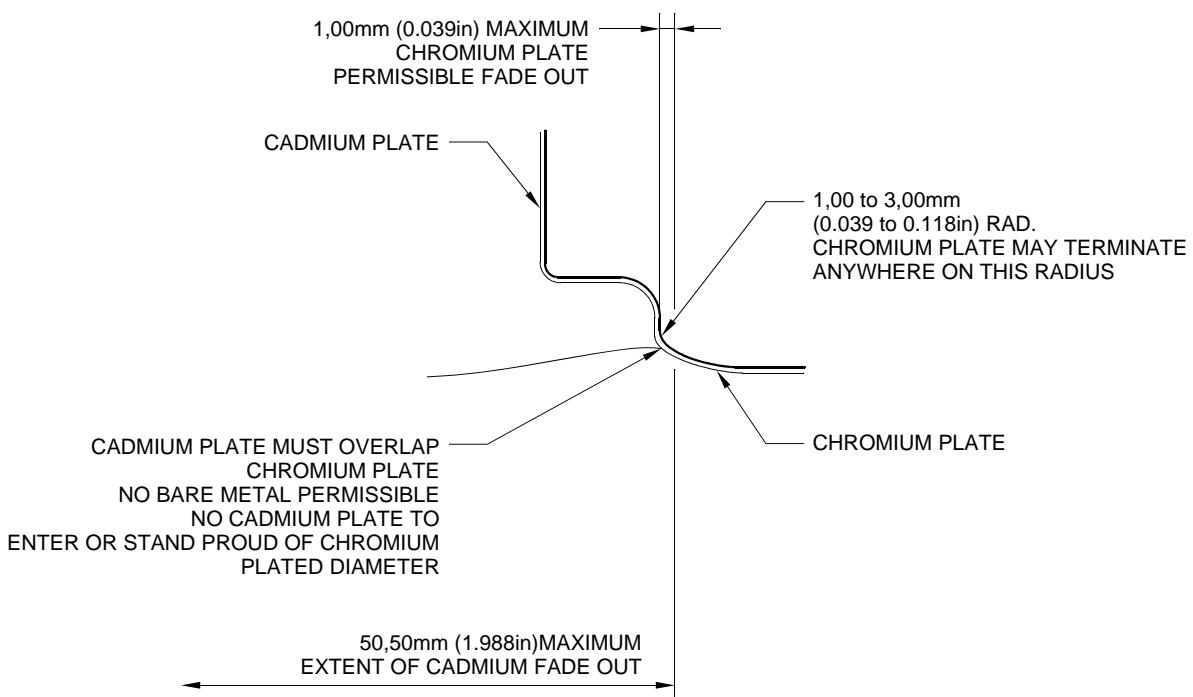
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MAIN LANDING GEAR LEG**



SECTION V-V
CHROMIUM PLATE TERMINATION
AROUND CHANGEOVER VALVE HOLES
TYPICAL 2 POSITIONS



SECTION U-U
CHROMIUM PLATE TERMINATION
AROUND DOWEL HOLES
TYPICAL 3 POSITIONS

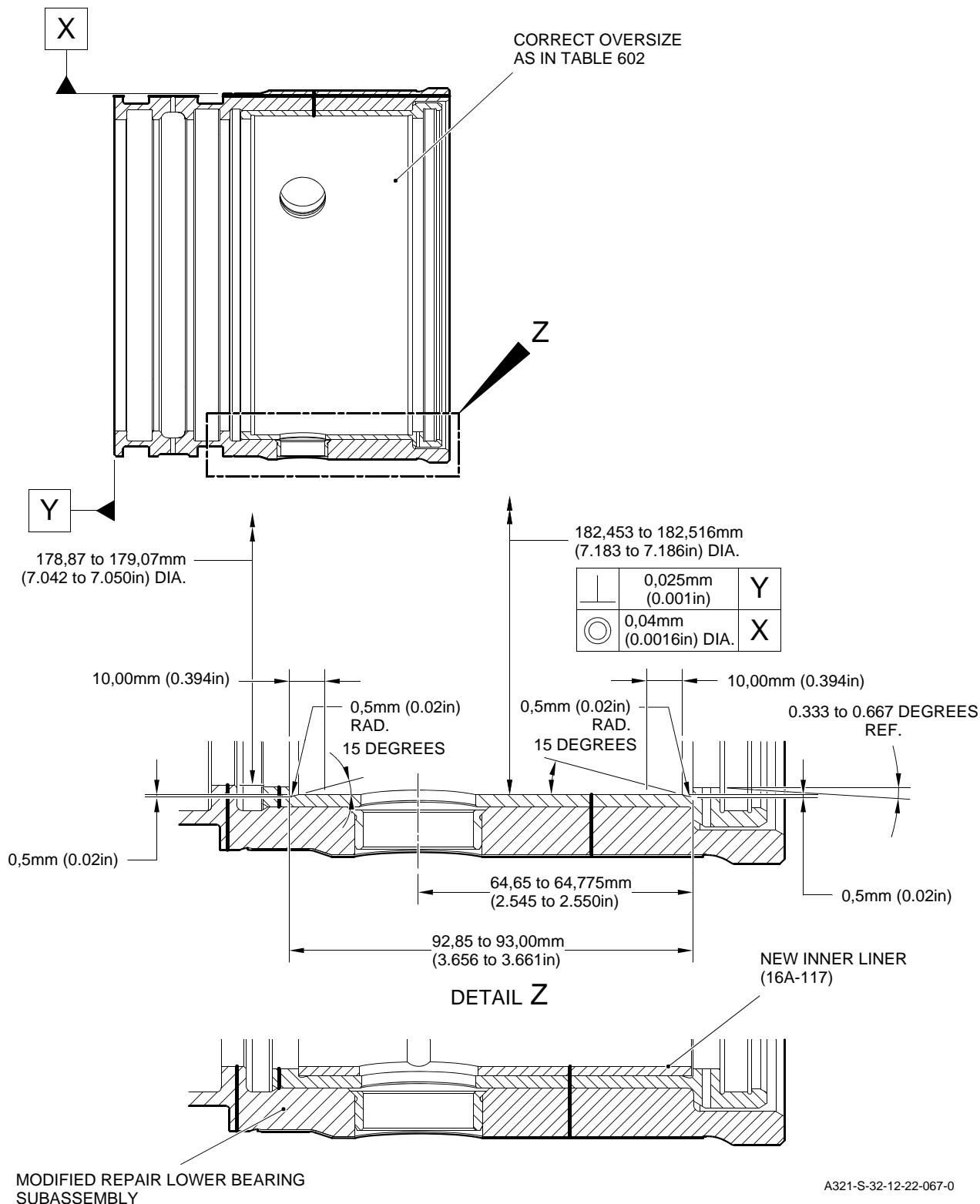
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Repair to Main Fitting - Chromium Plate Termination
Figure 603

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MAIN LANDING GEAR LEG



Lower Bearing Subassembly - Machining and Inner Liner Installation
Figure 604

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MAIN LANDING GEAR LEG**

1. Repair No. 11-31 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Wear or damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) This material is necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Loctite Grade 270

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450250161 to 450250166	Oversize lubrication adaptor	Steel, S154 or 4340 to AMS6409 and heat treated to S154
450250241 to 450250246	Oversize lubrication adaptor	Steel, S154 or 4340 to AMS6409 and heat treated to S154

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MAIN LANDING GEAR LEGE. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

CAUTION: APPLY TEMPORARY CORROSION AND DAMAGE PROTECTION: REFER TO PCS-2800.

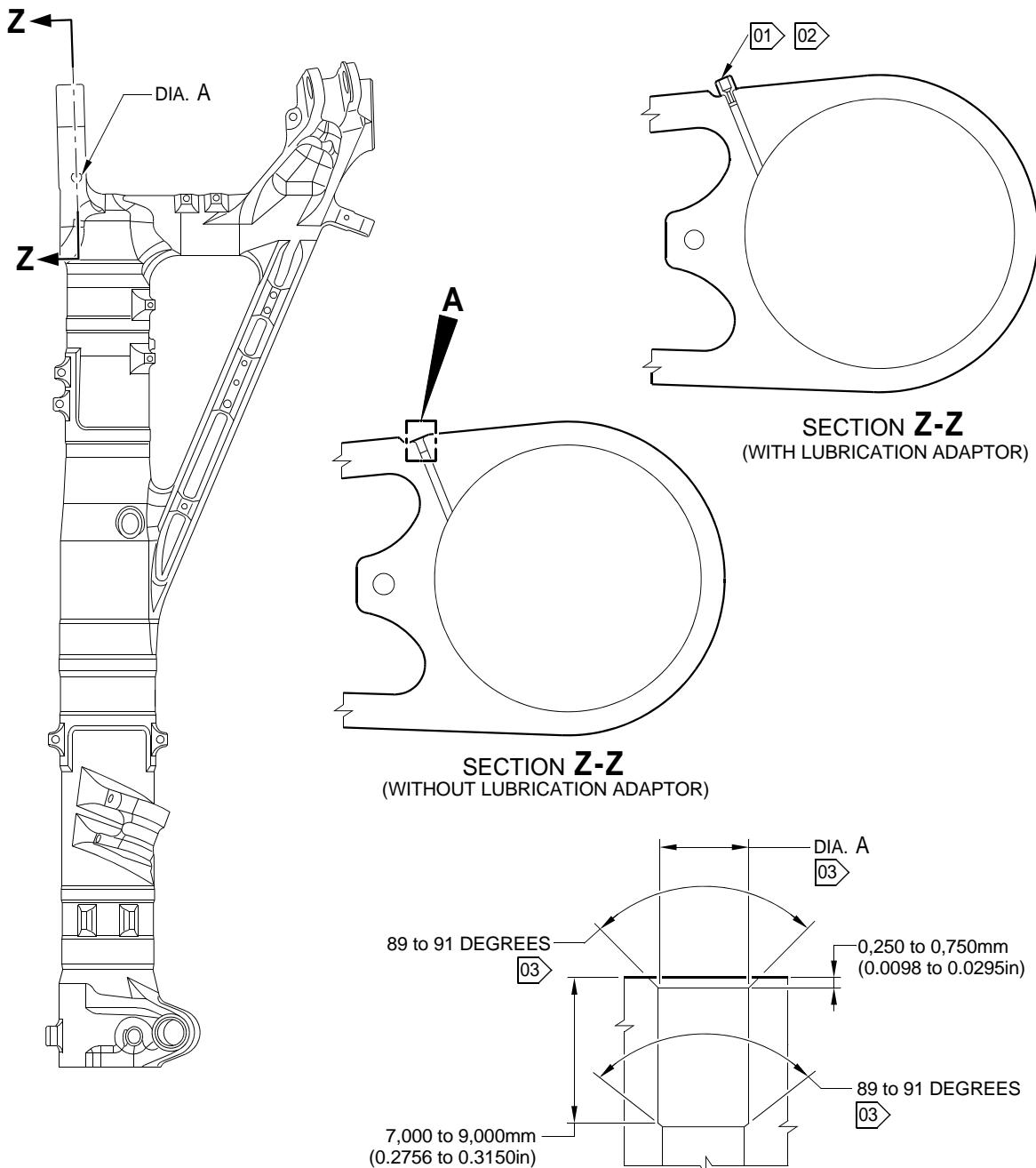
- (1) Do this procedure if there is wear or damage or corrosion to diameter A: refer to [Figure 601](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.
 - (c) Machine diameter A to the nearest dimensions shown in [Table 601](#) to remove the damage or wear or corrosion. Do not increase diameter A to more than 6,449 mm (0.2539 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better: refer to PCS-4100 and [Figure 601](#).
 - (d) Measure and record the diameter A.
 - (e) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
 - (f) Examine the machined area for flaws: refer to PCS-3100, inclusion Class 4 and PCS-3600.
 - (g) Apply cadmium plate all over but not to the areas shown. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100 and [Figure 601](#).
 - (h) Select the correct oversize lubrication adaptor from [Table 601](#) applicable for diameter A.
 - (i) Use Loctite Grade 270, Material Ref. Item TBA, to install the correct oversize lubrication adaptor from [Table 601](#): refer to PCS-5303 and [Figure 601](#).
 - (j) Apply primer and top coat paint all over but not to the areas shown: refer to PCS-2500 and [Figure 601](#).
 - (k) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505236-00 adjacent to the existing part number: refer to PCS-6000-07.
 - (l) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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**Oversize Lubrication Adaptors
Table 601**

Oversize	Oversize Step mm (in)	Bore Diameter A mm (in)	Oversize Lubrication Adaptor Number
-	Production	4,859 to 4,925 (0.1913 to 0.1939)	899005010
1st	0,127 (0.0050)	4,986 to 5,052 (0.1963 to 0.1989)	450250161
2nd	0,127 (0.0050)	5,113 to 5,179 (0.2013 to 0.2039)	450250162
3rd	0,127 (0.0050)	5,240 to 5,306 (0.2063 to 0.2089)	450250163
4th	0,127 (0.0050)	5,367 to 5,433 (0.2113 to 0.2139)	450250164
5th	0,127 (0.0050)	5,494 to 5,560 (0.2163 to 0.2189)	450250165
6th	0,127 (0.0050)	5,621 to 5,687 (0.2213 to 0.2239)	450250166
7th	0,127 (0.0050)	5,748 to 5,814 (0.2263 to 0.2289)	450250241
8th	0,127 (0.0050)	5,875 to 5,941 (0.2313 to 0.2339)	450250242
9th	0,127 (0.0050)	6,002 to 6,068 (0.2363 to 0.2389)	450250243
10th	0,127 (0.0050)	6,129 to 6,195 (0.2413 to 0.2439)	450250244
11th	0,127 (0.0050)	6,256 to 6,322 (0.2463 to 0.2489)	450250245
12th	0,127 (0.0050)	6,383 to 6,449 (0.2513 to 0.2539)	450250246

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MAIN LANDING GEAR LEG



DETAIL A

NOTE:

THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.
DIAMETER A MUST BE FOLLOW THE LINE OF EXISTING BORE.

01> APPLY LOCTITE GRADE 270 TO ADAPTOR INTERFACE WITH MAIN FITTING: REFER TO PCS-5303.

02> INSTALL THE APPLICABLE LUBRICATION ADAPTOR: REFER TO TABLE 601.

03> CADMIUM PLATE OPTIONAL AND NO PAINT.

A321-T-32-12-22-111-0

Repair to Main Fitting
Figure 601

32-12-22

Repair No. 11-31
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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

1. Repair No. 11-32 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

(1) Specified Damage

(a) Wear or damage or corrosion to diameter(s) A and/or B.

(2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

(1) Special tools are not necessary.

C. Materials

(1) This material is necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Loctite Grade 270

D. Repair Parts

(1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
450250161 to 450250166	Oversize lubrication adaptor	Steel, S154 or 4340 to AMS6409 and heat treated to S154
450250241 to 450250246	Oversize lubrication adaptor	Steel, S154 or 4340 to AMS6409 and heat treated to S154

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MAIN LANDING GEAR LEGE. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

CAUTION: APPLY TEMPORARY CORROSION AND DAMAGE PROTECTION: REFER TO PCS-2800.

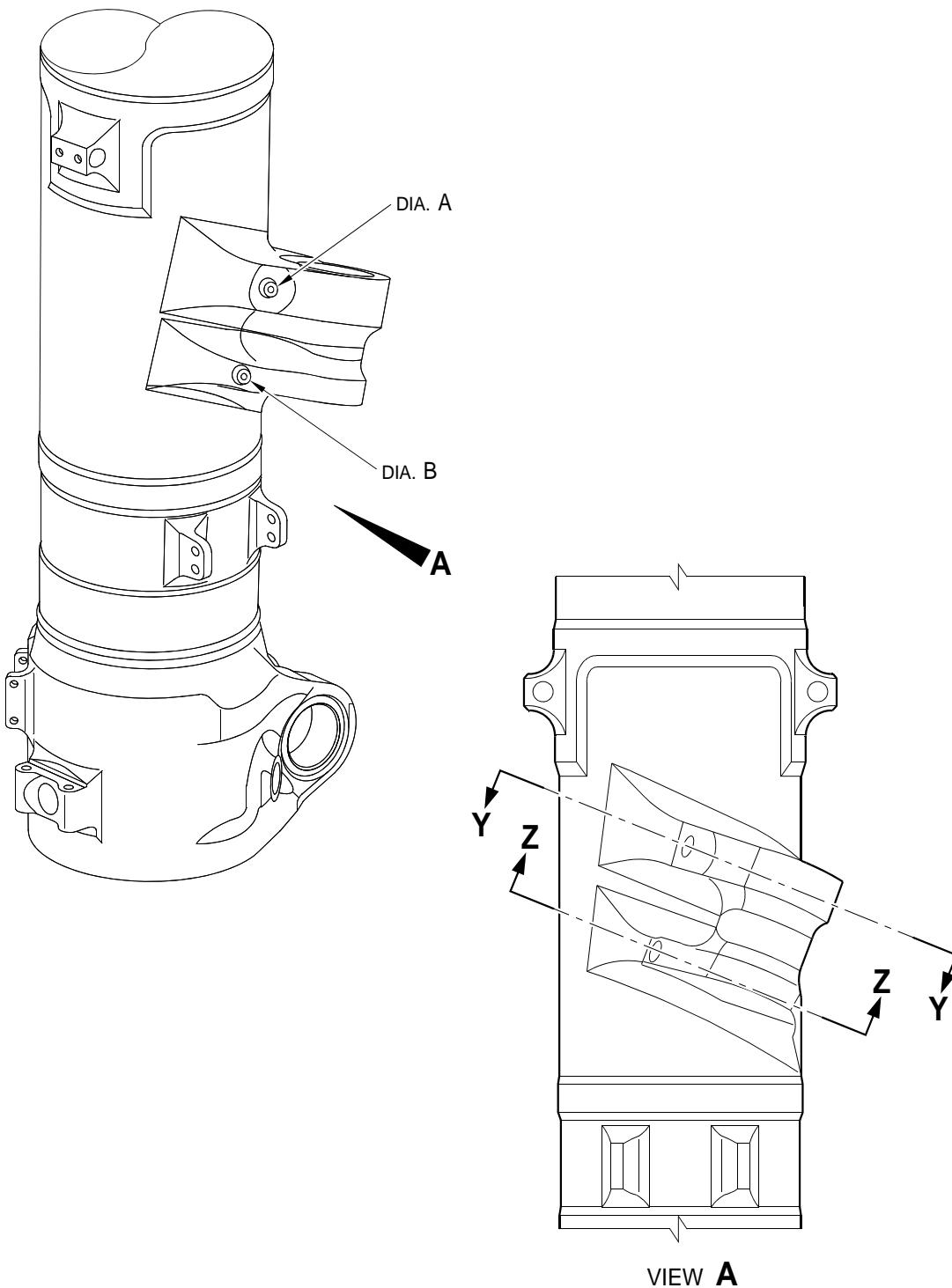
- (1) Do this procedure if there is wear or damage or corrosion to diameter(s) A and/or B: refer to [Figure 601](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.
 - (c) Machine diameter(s) A and/or B to the nearest dimensions shown in [Table 601](#) to remove the damage or wear or corrosion. Do not increase the diameter(s) A and/or B to more than 6,449 mm (0.2539 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better: refer to PCS-4100 and [Figure 601](#).
 - (d) Measure and record the diameter(s) A and/or B. Refer to [Table 601](#) for the oversize lubrication adaptor.
 - (e) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
 - (f) Examine the machined area(s) for flaws: refer to PCS-3100, inclusion Class 4 and PCS-3600.
 - (g) Apply cadmium plate all over but not to the areas shown. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100 and [Figure 601](#).
 - (h) Select the correct oversize lubrication adaptor from [Table 601](#) applicable for diameter(s) A and/or B.
 - (i) Use Loctite Grade 270, Material Ref. Item TBA, to install the correct oversize lubrication adaptor from [Table 601](#) (qty 1 to 2 as necessary): refer to PCS-5303 and [Figure 601](#).
 - (j) Apply primer and top coat paint all over but not to the areas shown: refer to PCS-2500 and [Figure 601](#).
 - (k) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505233-00 adjacent to the existing part number: refer to PCS-6000-07.
 - (l) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG**

**Oversize Lubrication Adaptors
Table 601**

Oversize	Oversize Step mm (in)	Bore Diameter(s) A and/or B mm (in)	Oversize Lubrication Adaptor Number
-	Production	4,859 to 4,925 (0.1913 to 0.1939)	899005010
1st	0,127 (0.0050)	4,986 to 5,052 (0.1963 to 0.1989)	450250161
2nd	0,127 (0.0050)	5,113 to 5,179 (0.2013 to 0.2039)	450250162
3rd	0,127 (0.0050)	5,240 to 5,306 (0.2063 to 0.2089)	450250163
4th	0,127 (0.0050)	5,367 to 5,433 (0.2113 to 0.2139)	450250164
5th	0,127 (0.0050)	5,494 to 5,560 (0.2163 to 0.2189)	450250165
6th	0,127 (0.0050)	5,621 to 5,687 (0.2213 to 0.2239)	450250166
7th	0,127 (0.0050)	5,748 to 5,814 (0.2263 to 0.2289)	450250241
8th	0,127 (0.0050)	5,875 to 5,941 (0.2313 to 0.2339)	450250242
9th	0,127 (0.0050)	6,002 to 6,068 (0.2363 to 0.2389)	450250243
10th	0,127 (0.0050)	6,129 to 6,195 (0.2413 to 0.2439)	450250244
11th	0,127 (0.0050)	6,256 to 6,322 (0.2463 to 0.2489)	450250245
12th	0,127 (0.0050)	6,383 to 6,449 (0.2513 to 0.2539)	450250246

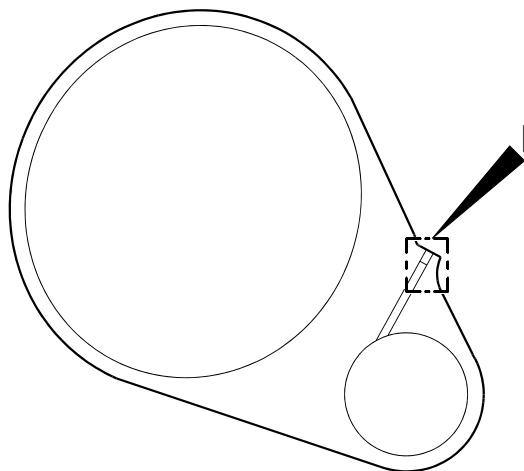
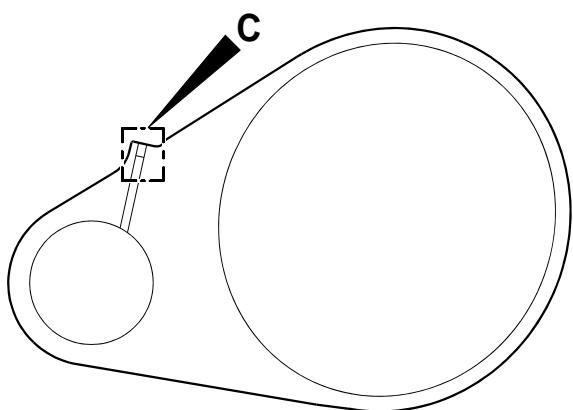
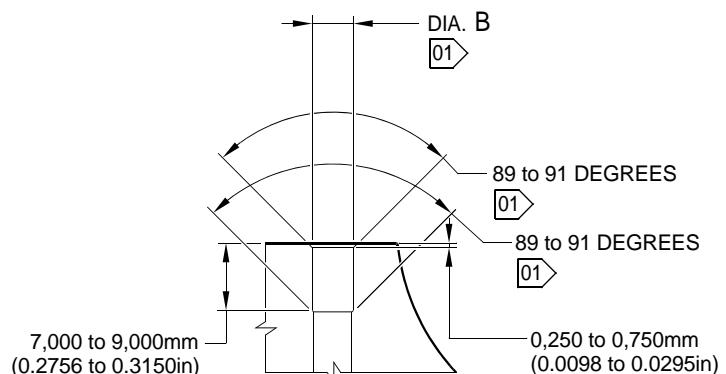
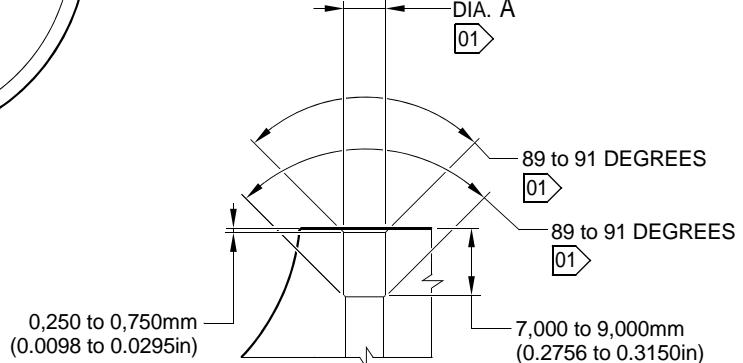
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG



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Repair to Main Fitting
Figure 601 - Sheet 1

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 MAIN LANDING GEAR LEG

SECTION Z-Z
 (WITHOUT LUBRICATION ADAPTOR)

SECTION Y-Y
 (WITHOUT LUBRICATION ADAPTOR)
**DETAIL C****NOTE:**
 THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.
 DIAMETER(S) A AND/OR B MUST FOLLOW THE LINE OF EXISTING BORES.

01 CADMIUM PLATE OPTIONAL AND NO PAINT.

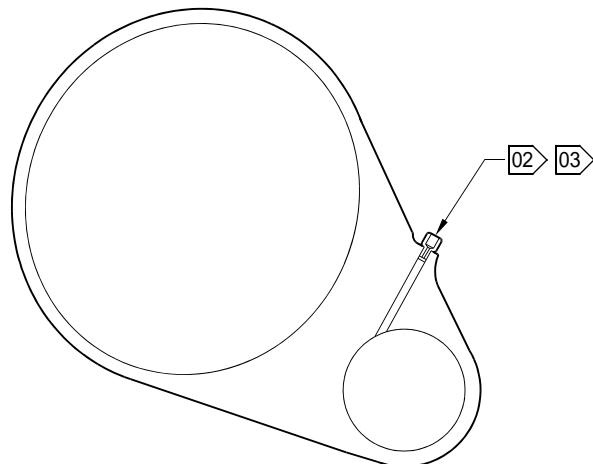
A321-T-32-12-22-113-0

 Repair to Main Fitting
 Figure 601 - Sheet 2

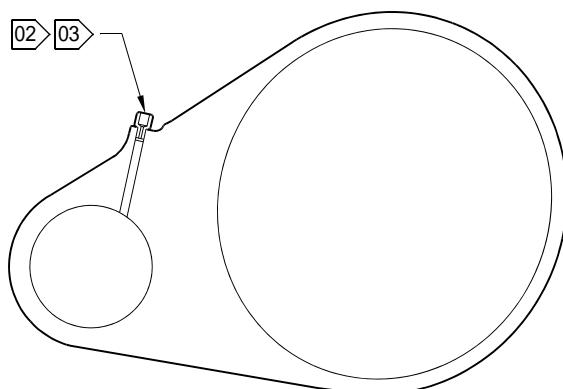
32-12-22

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MAIN LANDING GEAR LEG



SECTION Z-Z
(WITH LUBRICATION ADAPTOR)



SECTION Y-Y
(WITH LUBRICATION ADAPTOR)

NOTE:

[02] APPLY LOCTITE GRADE 270 TO ADAPTOR INTERFACE WITH MAIN FITTING: REFER TO PCS-5303.

[03] INSTALL THE APPLICABLE LUBRICATION ADAPTOR: REFER TO TABLE 601.

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Repair to Main Fitting
Figure 601 - Sheet 3

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

1. Repair No. 11-33 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Wear or damage or corrosion to diameter A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	Steel 35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT steel, 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc loaded Molykote 111
TBA	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
Refer to Table 601 for the correct oversize spherical bearing assembly		-

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is wear or damage to diameter A: refer to [Figure 601](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.

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MAIN LANDING GEAR LEG

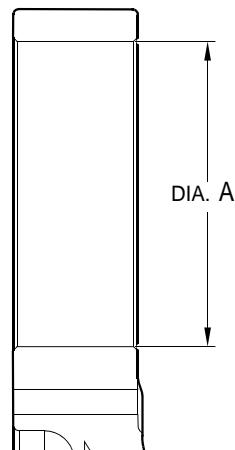
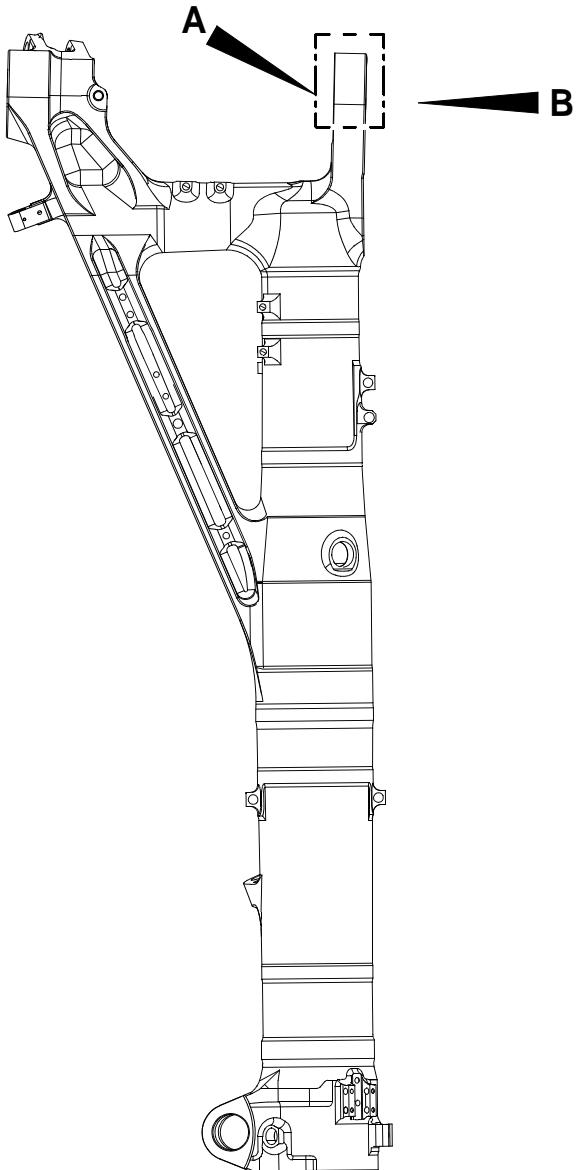
- (c) Machine diameter A to the nearest dimensions shown in [Table 601](#) to remove the damage or wear. Do not increase diameter A to more than 167,587 mm (6.5979 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better. The minimum wall thickness must not be between 15,382 mm (0.6056 in) and 15,582 mm (0.6134 in): refer to PCS-4100 and [Figure 601](#).
- (d) Measure and record diameter A. Refer to [Table 601](#) for correct oversize spherical bearing assembly.
- (e) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
- (f) Examine the machined areas for flaws: refer to PCS-3100, inclusion Class 4 and PCS-3600.
- (g) Shot peen the reworked areas only: refer to PCS-2300.
- (h) Apply cadmium plate all over but not to the areas shown. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100. No bare metal is permitted.
- (i) Apply primer paint where shown: refer to PCS-2500 and [Figure 601](#).
- (j) Select the correct oversize spherical bearing assembly from [Table 601](#) applicable for diameter A.
- (k) Install the spherical bearing assembly to the main fitting.
- (l) Use Zinc loaded Molykote 111, Material Ref. Item TBA, to install the oversize spherical bearing assembly from [Table 601](#) (qty 1 as necessary): refer to PCS-7303 and [Figure 601](#).
- (m) Apply fillet of Sealant, Material Ref. Item TBA, to the oversize spherical bearing assembly: refer to PCS-7200 and [Figure 601](#).
- (n) Apply top coat paint all over but not to the areas shown: refer to PCS-2500 and [Figure 601](#).
- (o) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505109-00 adjacent to the existing part number: refer to PCS-6000-07.
- (p) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG**

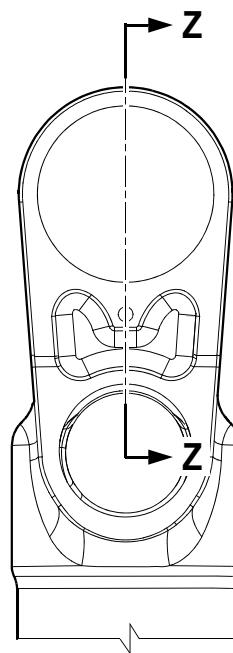
**Oversize Lubrication Adaptors
Table 601**

Oversize	Oversize Step mm (in)	Inner Diameter A Before Plating mm (in)	Oversize Bearing Housing Outer Diameter Ref. mm (in)	Oversize Spherical Bearing Assembly Number
-	Production	166,000 to 166,063 (6.5354 to 6.5379)	165,934 to 165,959 (6.5328 to 6.5338)	-
1st	0,127 (0.0050)	166,127 to 166,190 (6.5404 to 6.5429)	166,061 to 166,086 (6.5378 to 6.5388)	450258301
2nd	0,254 (0.0100)	166,254 to 166,317 (6.5454 to 6.5479)	166,188 to 166,213 (6.5428 to 6.5438)	450258302
3rd	0,381 (0.0150)	166,381 to 166,444 (6.5504 to 6.5529)	166,315 to 166,340 (6.5478 to 6.5488)	450258303
4th	0,508 (0.0200)	166,508 to 166,571 (6.5554 to 6.5579)	166,442 to 166,467 (6.5528 to 6.5538)	450258304
5th	0,635 (0.0250)	166,635 to 166,698 (6.5604 to 6.5629)	166,569 to 166,594 (6.5578 to 6.5588)	450258305
6th	0,762 (0.0300)	166,762 to 166,825 (6.5654 to 6.5679)	166,696 to 166,721 (6.5628 to 6.5638)	450258306
7th	0,889 (0.0350)	166,889 to 166,952 (6.5704 to 6.5729)	166,823 to 166,848 (6.5678 to 6.5688)	450258307
8th	1,016 (0.0400)	167,016 to 167,079 (6.5754 to 6.5779)	166,950 to 166,975 (6.5728 to 6.5738)	450258308
9th	1,143 (0.0450)	167,143 to 167,206 (6.5804 to 6.5829)	167,077 to 167,102 (6.5778 to 6.5788)	450258309
10th	1,270 (0.0500)	167,270 to 167,333 (6.5854 to 6.5879)	167,204 to 167,229 (6.5828 to 6.5838)	450258310
11th	1,397 (0.0550)	167,397 to 167,460 (6.5904 to 6.5929)	167,331 to 167,356 (6.5878 to 6.5888)	450258311
12th	1,524 (0.0600)	167,524 to 167,587 (6.5954 to 6.5979)	167,458 to 167,483 (6.5928 to 6.5938)	450258312

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MAIN LANDING GEAR LEG



DETAIL A



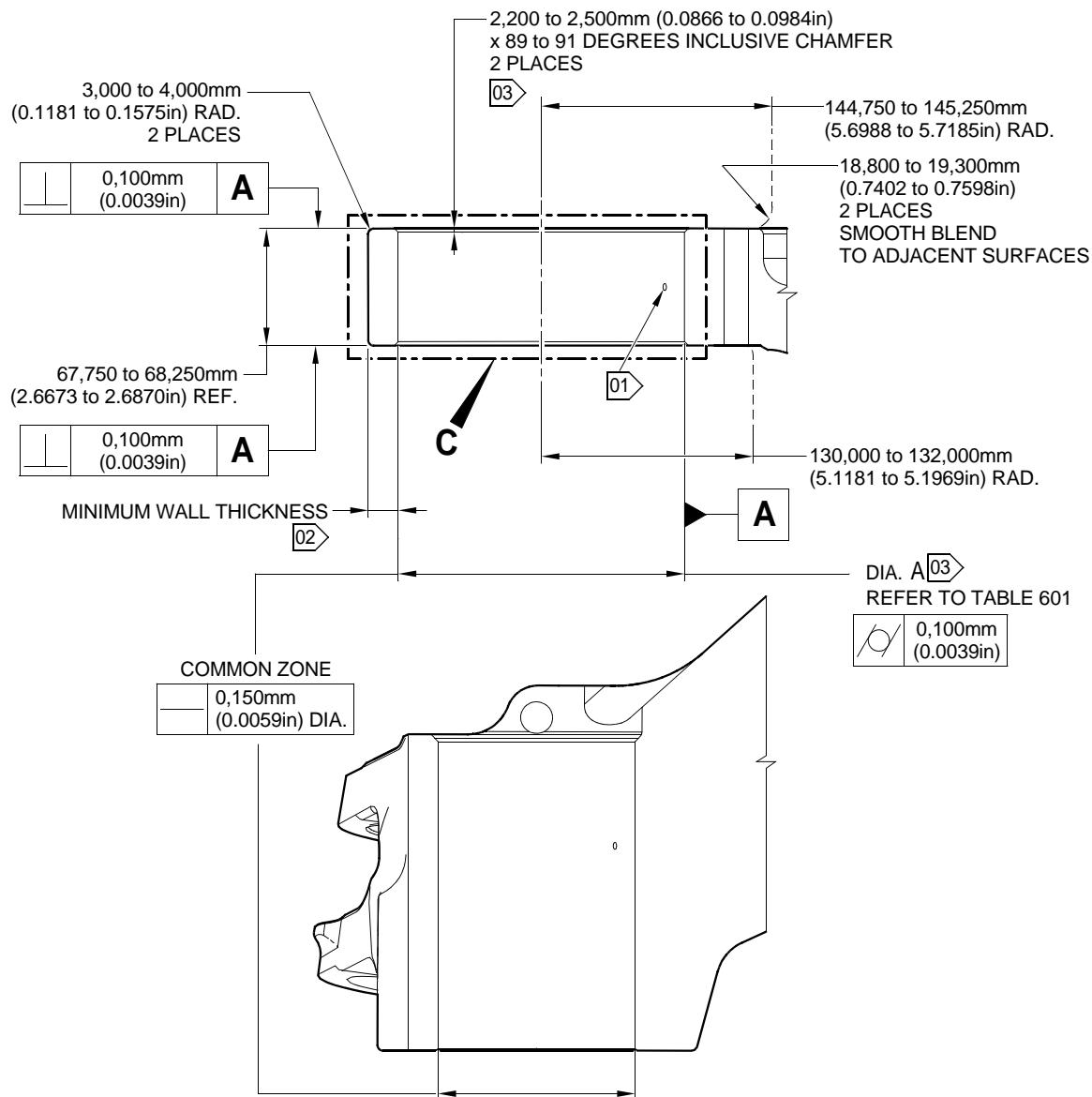
VIEW B

A321-T-32-12-22-146-0

Repair to Main Fitting
Figure 601 - Sheet 1

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

**NOTE:**

THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.

DIAMETER A MUST FOLLOW THE AXIS OF EXISTING BORE.

01 REMOVE THE BREAK EDGES WITHIN 0,500 to 2,000mm (0.0197 to 0.0787in) RAD.

02 FOR THE MAIN FITTING (20-410B), (20-410C), (20-420B) and (20-420C):
THE MINIMUM WALL THICKNESS IS 15,382mm (0.6056in).
FOR THE MAIN FITTING (20-410D) and (20-420D):
THE MINIMUM WALL THICKNESS IS 15,582mm (0.6134in).

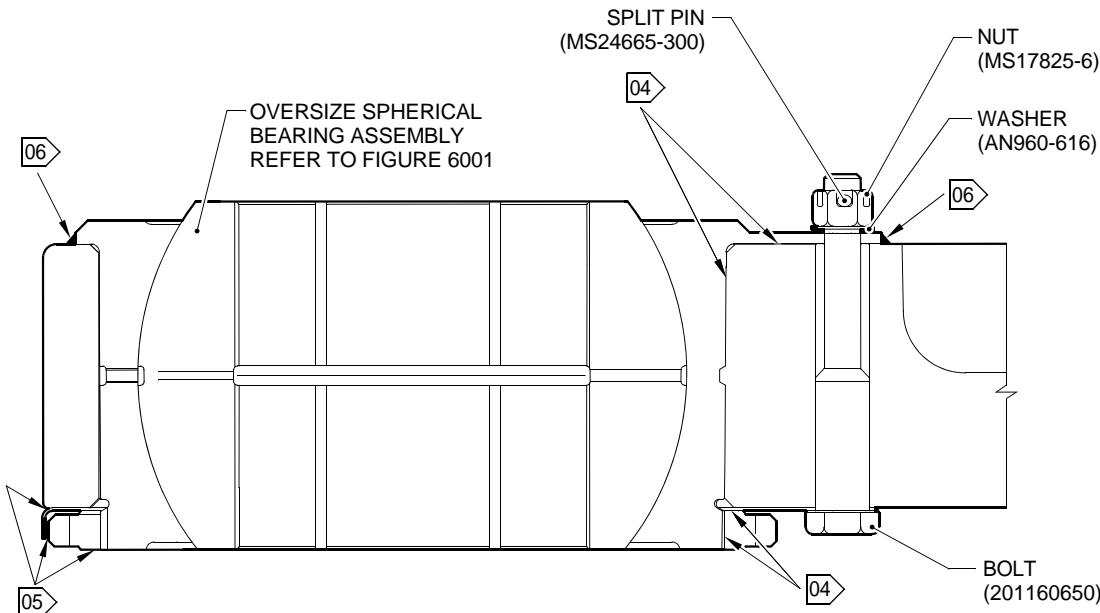
03 PRIMER PAINT ONLY: REFER TO PCS-2500. NO WITNESS OF TOP COAT PAINT PERMITTED ON THESE SURFACES.

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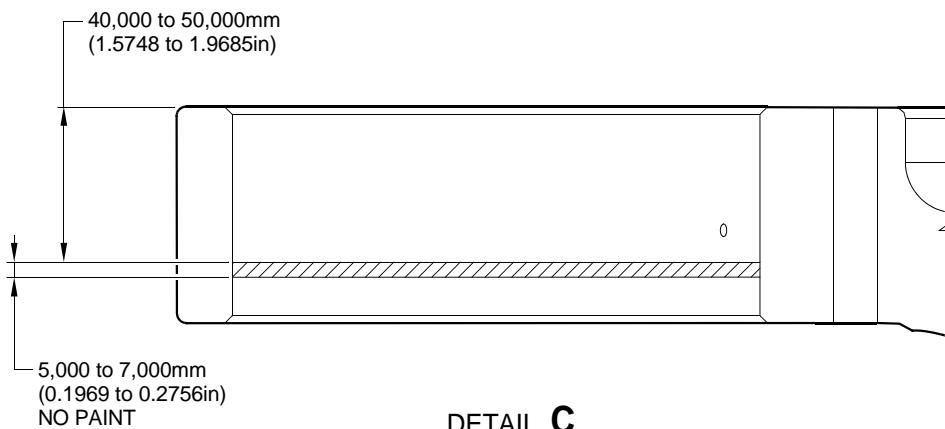
**Repair to Main Fitting
Figure 601- Sheet 2**

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MAIN LANDING GEAR LEG



SECTION Z-Z
(WITH OVERSIZE REAR SPHERICAL BEARING)
90 DEGREES ROTATED



DETAIL C

NOTE:

- [04] APPLY MOLYKOTE 111 TO THE BOLT SHANKS, THREADS, UNDERCUTS AND ALL INTERFACES BETWEEN MATING PARTS MUST BE COATED BEFORE ASSEMBLY: REFER TO PCS-7303.
ALL CAVITIES AND VOIDS MUST BE FILLED TO PREVENT MOISTURE INGRESS.
- [05] APPLY A FULL BEAD OF SEALANT, PR340-2 WITH A MAXIMUM HEIGHT OF 1,000mm (0.0394in) ABOVE ADJOINING SURFACES: REFER TO PCS-7200.
- [06] APPLY SEALANT: REFER TO PCS-7200 TYPE 2.

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Repair to Main Fitting
Figure 601 - Sheet 3

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

1. Repair No. 11-34 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
- (a) Wear or damage or corrosion to diameter(s) A and/or B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc loaded Molykote 111
TBA	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
61-4533019-00	Repair blank bush	Aluminium Bronze to AMS-4640 Ftu ≥ 758 MPa (109.9 ksi)

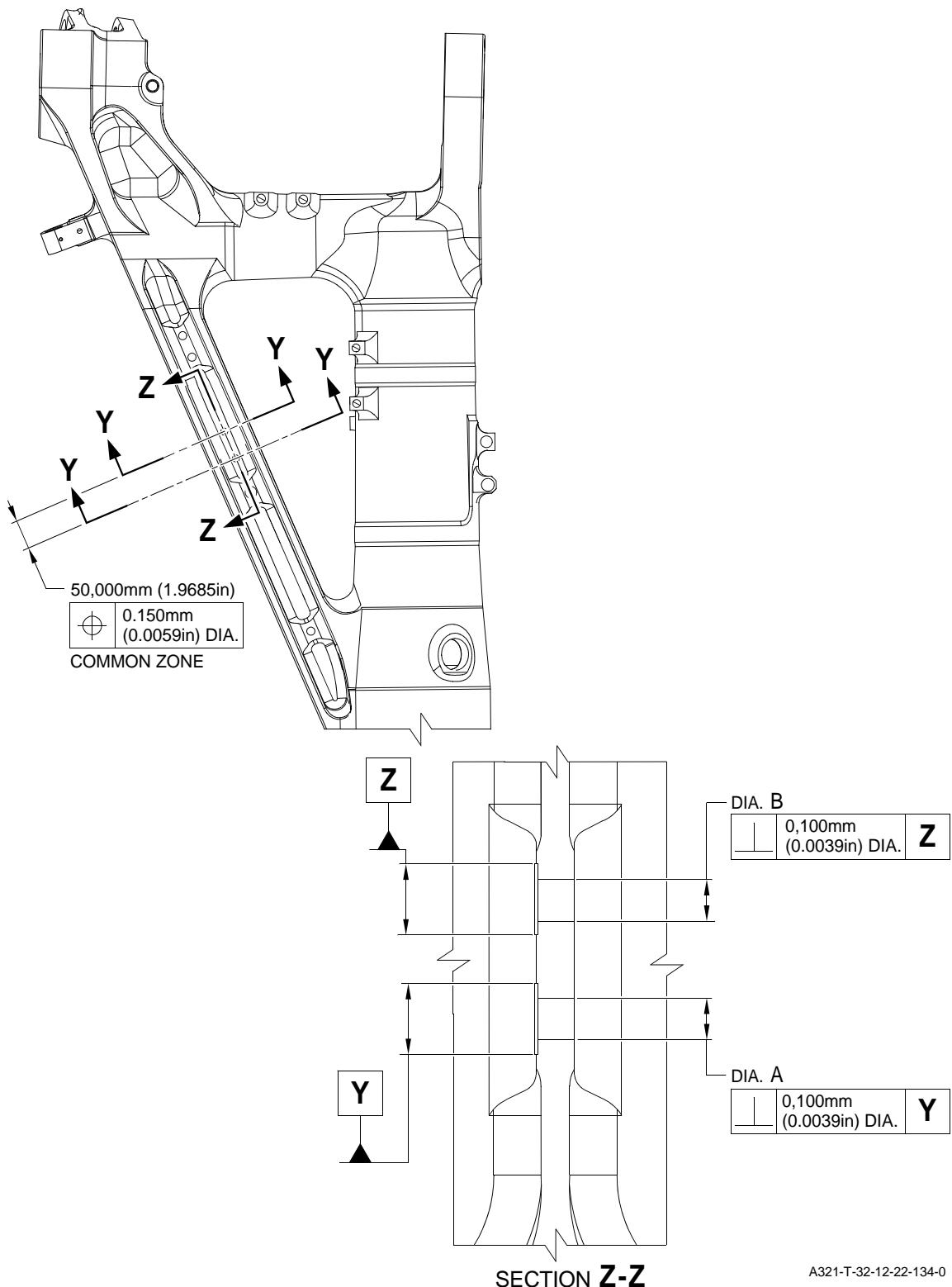
PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEGE. Procedure (Refer to [Figure 601](#) and [Figure 602](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

CAUTION: APPLY TEMPORARY CORROSION AND DAMAGE PROTECTION: REFER TO PCS-2800

- (1) Do this procedure if there is wear or damage or corrosion to diameter(s) A and/or B: refer to [Figure 601](#) and [Figure 602](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.
 - (c) Machine diameter(s) A and/or B to remove the minimum amount of material to remove the wear or damage or corrosion. Do not increase diameter(s) A and/or B to more than 13,727 mm (0.5404 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better: refer to PCS-4100 and [Figure 601](#).
 - (d) Measure and record the diameter(s) A and/or B.
 - (e) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
 - (f) Examine the machined areas for flaws: refer to PCS-3100, inclusion Class 4 and PCS-3600.
 - (g) Shot peen the machined areas only: refer to PCS-2300.
 - (h) Apply cadmium plate all over but not to the areas shown. The cadmium plate thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100. No bare metal is permitted.
 - (i) Apply primer paint to the main fitting where shown: refer to PCS-2500.
 - (j) Prepare the repair bush from the blank bush 61-4533019-00 with these dimensions for installation (qty 1 to 2 as necessary): refer to [Figure 601](#) and [Figure 602](#).
 - 1 Machine diameter Z, use the formula:
$$\text{Dia. Z} = \text{Diameter A and/or B (as measured)} + 0,018 \text{ to } + 0,029 \text{ mm}$$
$$(+ 0,0007 \text{ to } + 0,0011 \text{ in}).$$
 - 2 Apply cadmium plate all over. The cadmium plate thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in): refer to PCS-2101 and [Figure 602](#).
 - (k) Use Zinc loaded Molykote 111, Material Ref. Item TBA, to install the repair bush. Apply heat to the housing to 100°C and then cool the repair bushes: refer to PCS-5105-2, PCS-7304 and [Figure 601](#) and [Figure 602](#).
 - (l) Apply fillet of Sealant, Material Ref. Item TBA, to the bush flange and bush tail end: refer to PCS-7200 and [Figure 601](#).
 - (m) Apply top coat paint all over but not to the areas where shown: refer to PCS-2500.
 - (n) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505112-00 adjacent to the existing part number: refer to PCS-6000-07.
 - (o) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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MAIN LANDING GEAR LEG



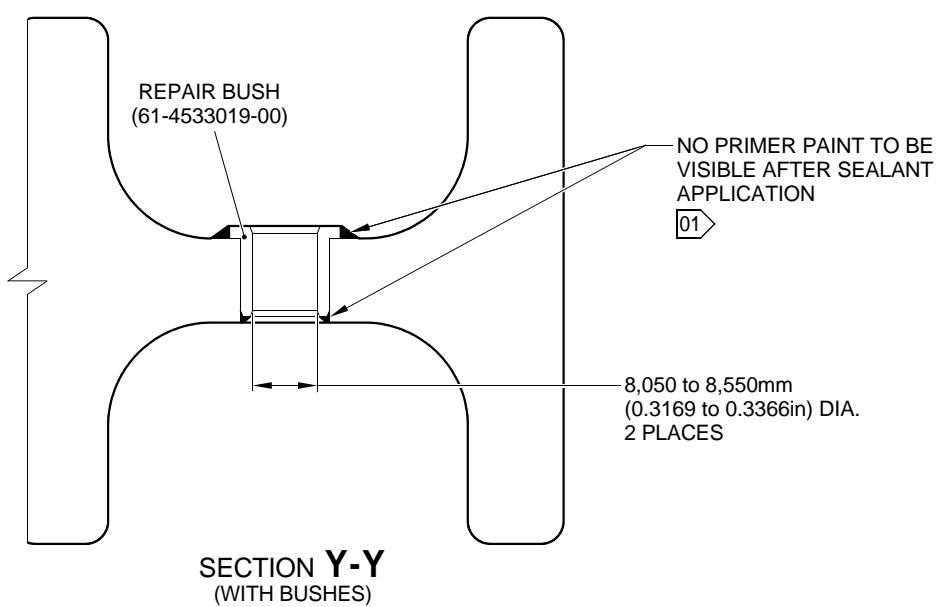
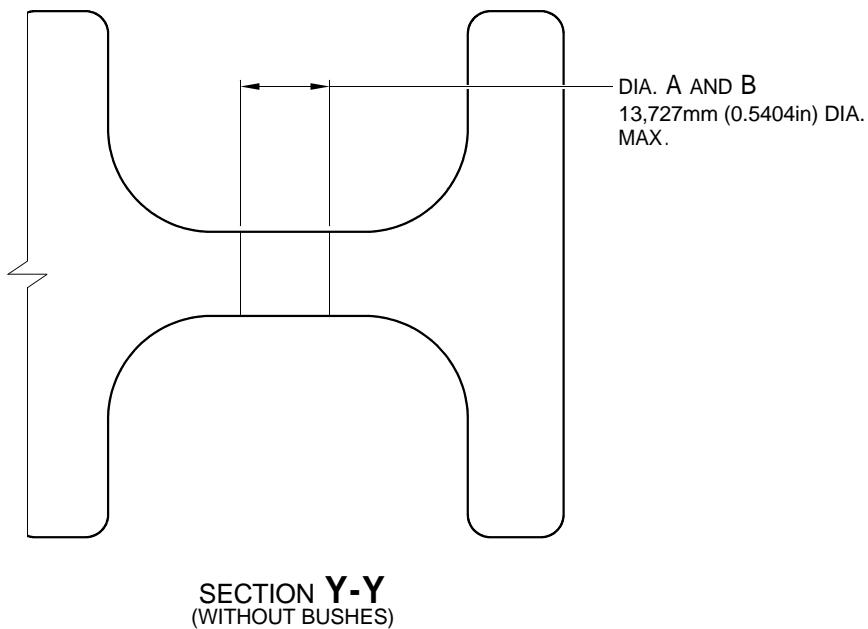
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Repair to Main Fitting
Figure 601 - Sheet 1

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Repair No. 11-34
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MAIN LANDING GEAR LEG

**NOTE:**

THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.
DIAMETERS A AND B MUST FOLLOW THE AXIS OF EXISTING BORE.
DEBURR THE SHARP EDGES WITH 0,500 to 1,000mm (0.0197 to 0.0394in) RAD.
UNLESS GIVEN DIFFERENTLY.

 APPLY FILLET SEALANT: REFER TO PCS-7200. MAKE SURE THAT THE SEALANT COMPLETELY COVERS EXPOSED PRIMER PAINT.

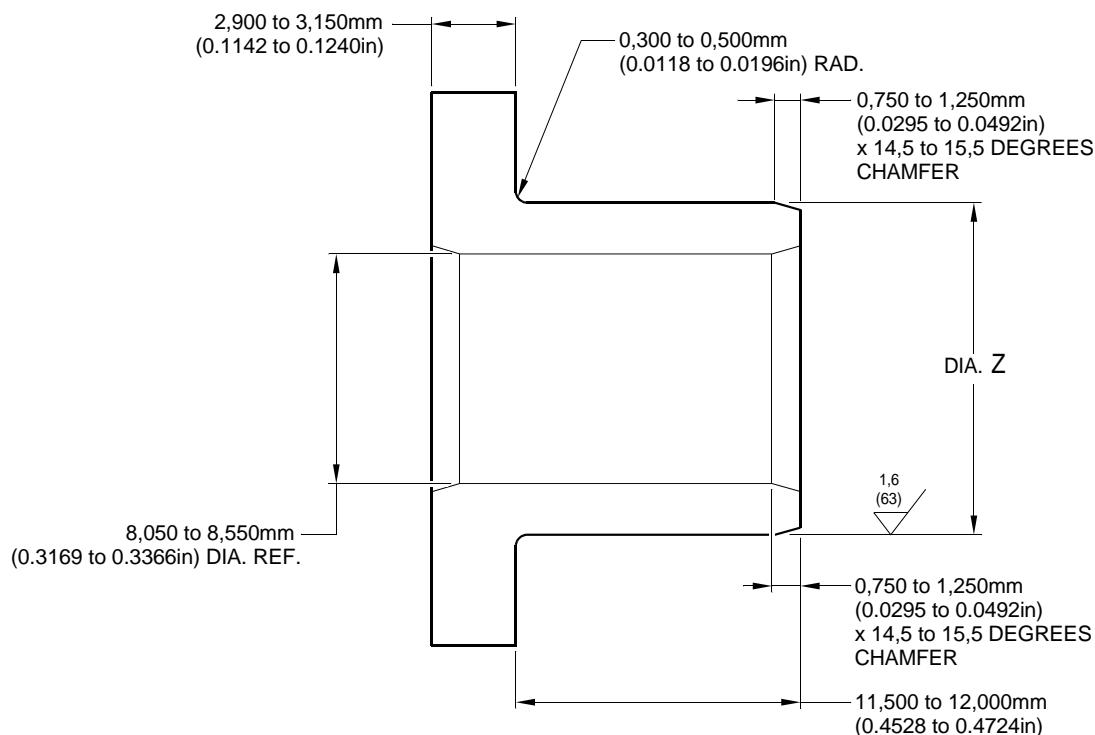
A321-T-32-12-22-135-0

Repair to Main Fitting
Figure 601 - Sheet 2

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

**NOTE:**

THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.
DEBURR THE SHARP EDGES WITH 0,130 to 0,380mm (0.0051 to 0.0150in) RAD.
UNLESS GIVEN DIFFERENTLY.

APPLY CADMIUM PLATE ALL OVER: REFER TO PCS-2101. THE CADMIUM PLATE THICKNESS MUST BE BETWEEN 0,010 to 0,015mm (0.0004 to 0.0006in).

A321-T-32-12-22-136-0

**Repair to Main Fitting - Bush
Figure 602**

Repair No. 11-34
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MAIN LANDING GEAR LEG

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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

1. Repair No. 11-35 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
- (a) Wear or damage or corrosion to diameter(s) A and B.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Zinc loaded Molykote 111
TBA	Sealant

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
61-4533018-00	Repair blank bush	Aluminium Bronze to AMS-4640 Ftu ≥ 758 MPa (109.9 ksi)

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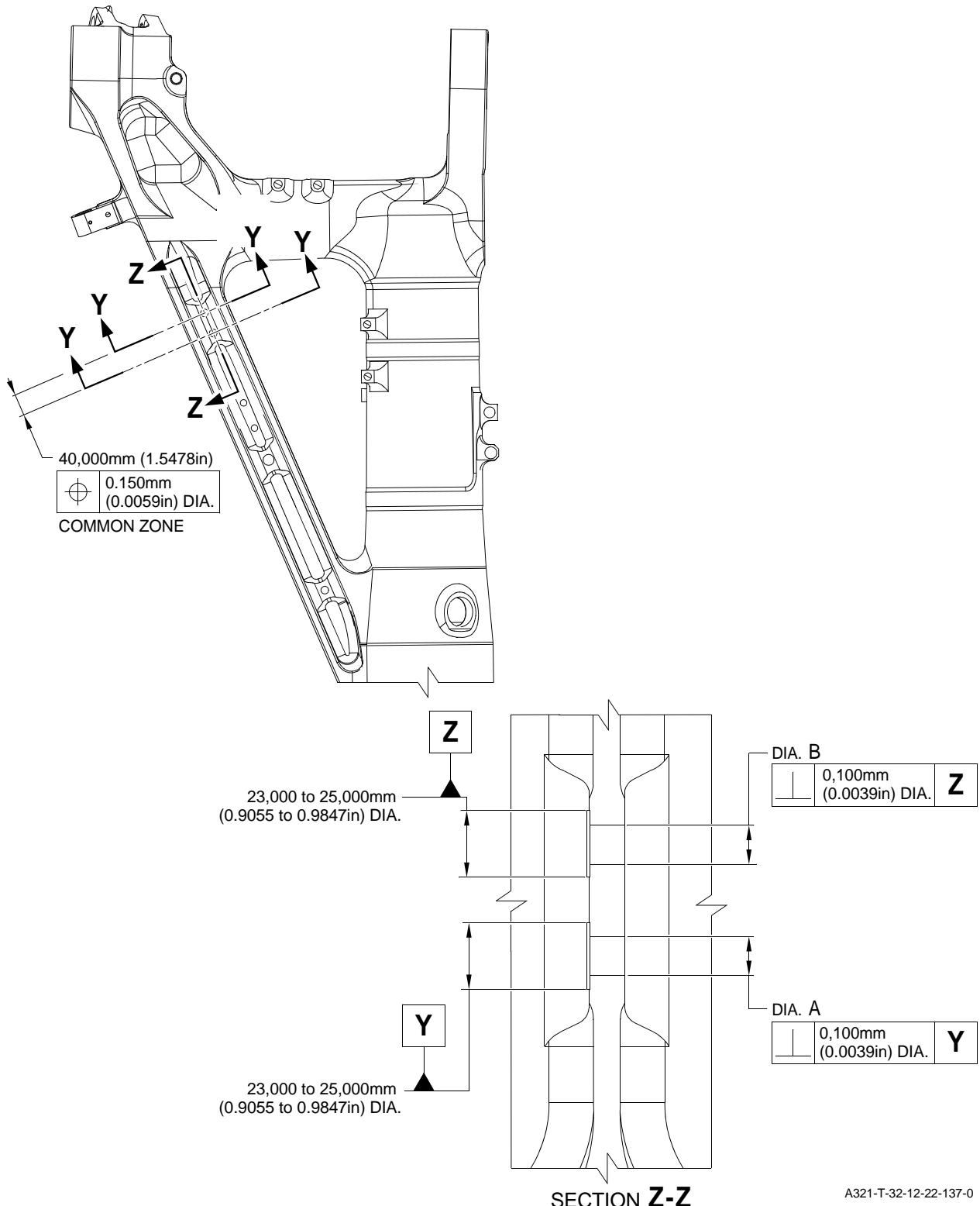
- E. Procedure (Refer to [Figure 601](#) and [Figure 602](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

CAUTION: APPLY TEMPORARY CORROSION AND DAMAGE PROTECTION: REFER TO PCS-2800

- (1) Do this procedure if there is wear or damage or corrosion to diameter(s) A and B: refer to [Figure 601](#) and [Figure 602](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.
 - (c) Machine diameter(s) A and B to remove the minimum amount of material to remove the wear or damage or corrosion. Do not increase diameter(s) A and B to more than 15,727 mm (0.6192 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better: refer to PCS-4100 and [Figure 601](#).
 - (d) Measure and record the diameter(s) A and B.
 - (e) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
 - (f) Examine the machined areas for flaws: refer to PCS-3100 inclusion, Class 4 and PCS-3600.
 - (g) Shot peen the machined areas only: refer to PCS-2300.
 - (h) Apply cadmium plate all over but not to the areas shown. The plating thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100. No bare metal is permitted.
 - (i) Apply primer paint to the main fitting where shown: refer to PCS-2500.
 - (j) Prepare the repair bushes from the blank bush 61-4533018-00 with these dimensions for installation (qty 1 to 2 as necessary): refer to [Figure 602](#).
 - 1 Machine diameter Z, use the formula:
$$\text{Dia. Z} = \text{Dia. A} (\text{as measured}) + 0,018 \text{ to } + 0,029 \text{ mm}$$
$$(+ 0,0007 \text{ to } + 0,0011 \text{ in}).$$
 - 2 Apply cadmium plate all over. The plating thickness must be between 0,010 and 0,015 mm (0.0004 and 0.0006 in): refer to PCS-2101 and [Figure 602](#).
 - (k) Use Zinc loaded Molykote 111, Material Ref. Item TBA, and install the repair bushes. Apply heat to the housing to 100°C and then cool the repair bushes: refer to PCS-5105-2, PCS-7304 and [Figure 601](#) and [Figure 602](#).
 - (l) Apply fillet of Sealant, Material Ref. Item TBA, to the bush flange and bush tail end: refer to PCS-7200 and [Figure 601](#).
 - (m) Apply top coat paint all over but not to the areas shown: refer to PCS-2500.
 - (n) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505111-00 adjacent to the existing part number: refer to PCS-6000-07.
 - (o) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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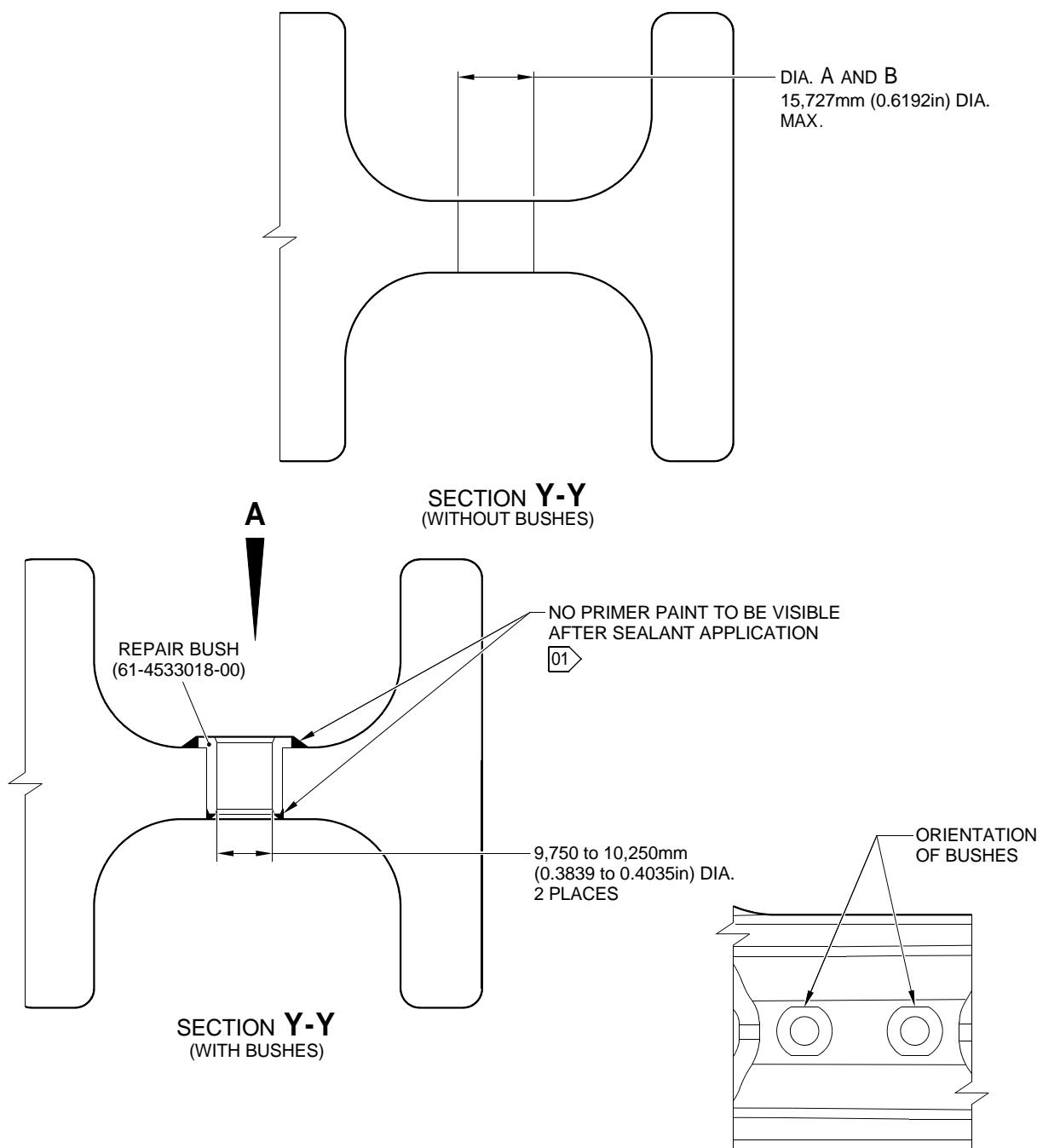


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Repair to Main Fitting
Figure 601 - Sheet 1

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NOTE:
THE SURFACE FINISH MUST BE $\nabla^{1,6}$ OR BETTER UNLESS GIVEN DIFFERENTLY.
DIAMETERS A AND B MUST FOLLOW THE AXIS OF EXISTING BORE.
DEBURR THE SHARP EDGES WITH 0,500 to 1,000mm (0.0197 to 0.0394in) RAD.
UNLESS GIVEN DIFFERENTLY.

01 ➤ APPLY FILLET SEALANT: REFER TO PCS-7200. MAKE SURE THAT THE SEALANT COMPLETELY COVERS EXPOSED PRIMER PAINT.

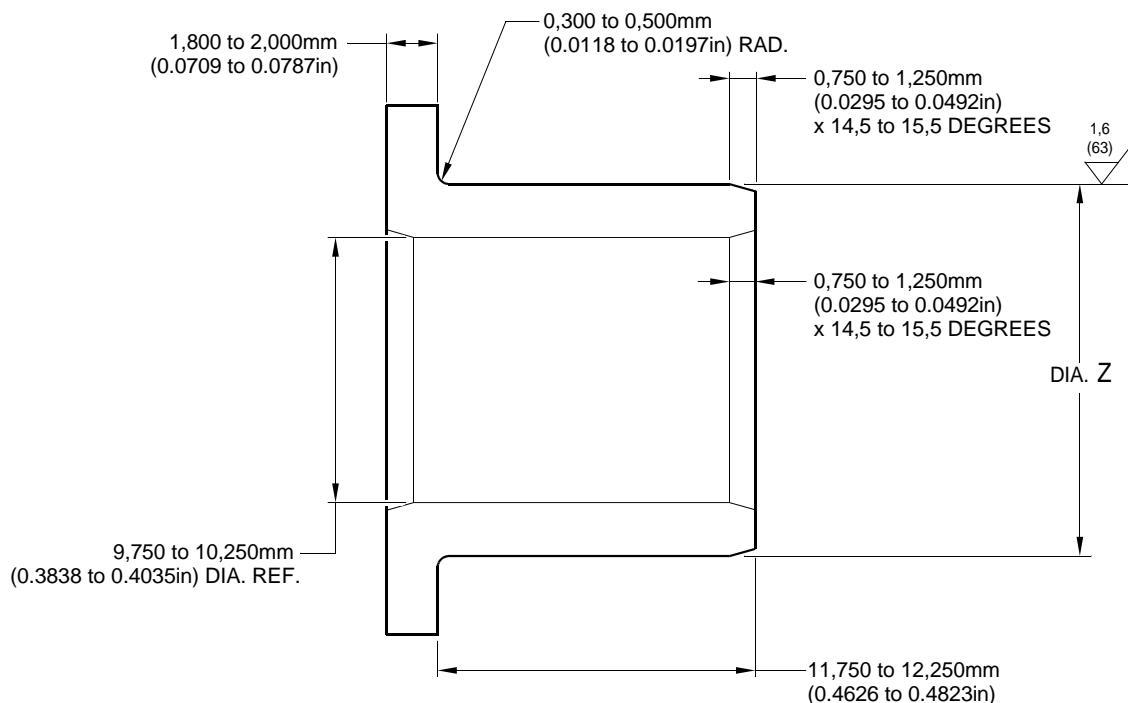
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Repair to Main Fitting
Figure 601 - Sheet 2

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**NOTE:**

THE SURFACE FINISH MUST BE  OR BETTER UNLESS GIVEN DIFFERENTLY.
 APPLY CADMIUM PLATE ALL OVER: REFER TO PCS-2101. THE PLATING THICKNESS
 MUST BE BETWEEN 0,010 to 0,015mm (0.0004 to 0.0006in).
 DEBURR THE SHARP EDGES WITH 0,130 to 0,380mm (0.0051 to 0.0150in) RAD.
 UNLESS GIVEN DIFFERENTLY.

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**Repair to Main Fitting - Bush
Figure 602**

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MAIN LANDING GEAR LEG**

1. Repair No. 11-36 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Wear or damage or corrosion to diameter(s) A and/or B and/or C and/or D.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) Materials are not necessary.

D. Repair Parts

- (1) Repair parts are not necessary.

E. Procedure (Refer to [Figure 601](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

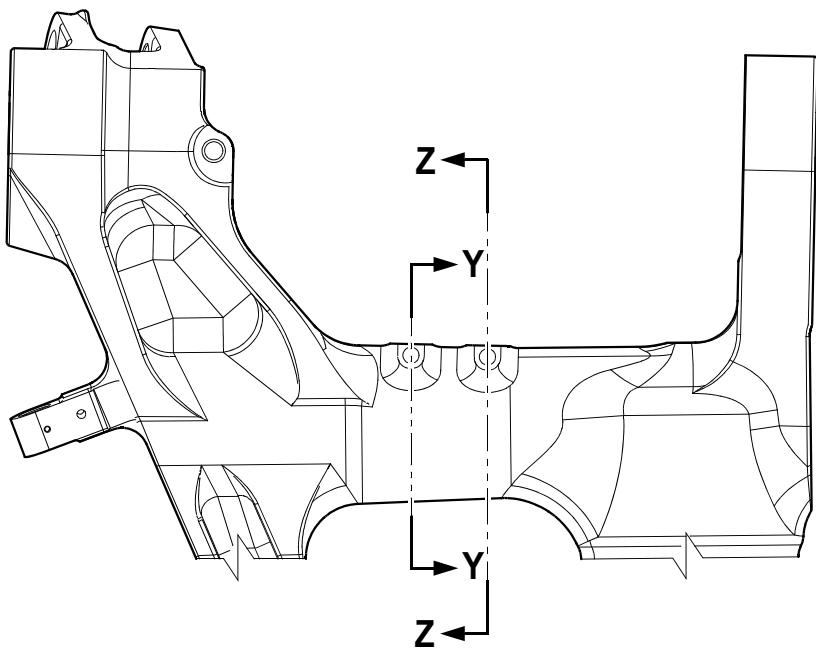
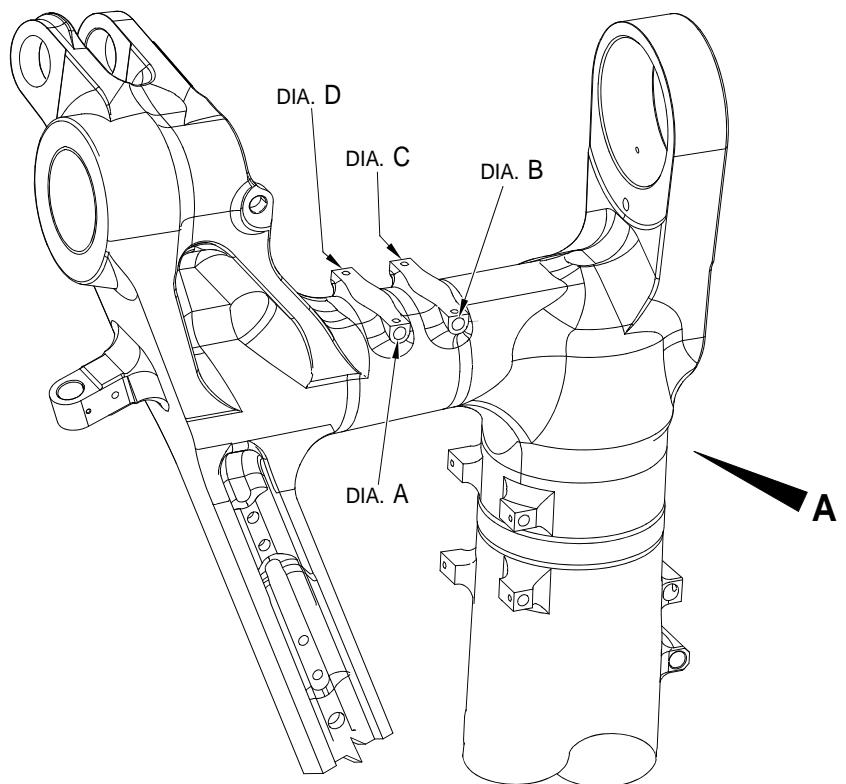
CAUTION: APPLY TEMPORARY CORROSION AND DAMAGE PROTECTION: REFER TO PCS-2800

- (1) Do this procedure if there is wear or damage or corrosion to diameter(s) A and/or B and/or C and/or D: refer to [Figure 601](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.
 - (c) Machine diameter(s) A and/or B and/or C and/or D to remove the minimum amount of material to remove wear or damage. Do not increase diameter(s) A and/or B and/or C and/or D to more than 16,170 mm (0.6366 in). The surface finish must be 1,6 micrometers (63 micro-inches) or better: refer to PCS-4100 and [Figure 601](#). The minimum wall thickness must not be less than 1,915 mm (0.0754 in): refer to [Figure 601](#).
 - (d) Machine the chamfer(s) and/or radii as shown: refer to PCS-4100 and [Figure 601](#).
 - (e) Examine the machined areas for flaws: refer to PCS-3100, inclusion Class 4 and refer to PCS-3600.

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- (f) Shot peen the machined areas only: refer to PCS-2300.
- (g) Apply cadmium plate all over. The plating thickness must be between 0,010 and 0,020 mm (0.0004 and 0.0008 in): refer to PCS-2100 or PCS-2141. No bare metal is permitted.
- (h) Apply primer and paint finish all over but not to the areas shown. No bare cadmium is permitted but not to the areas where there is no paint: refer to PCS-2500 and [Figure 601](#).
- (i) Record the repair number onto the documentation which is attached to the part. Optionally, identify the part with the Safran Landing Systems repair number 64-4505234-00 adjacent to the existing part number: refer to PCS-6000-07.
- (j) Examine the part to make sure that you have obeyed all the repair instructions correctly.

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VIEW A

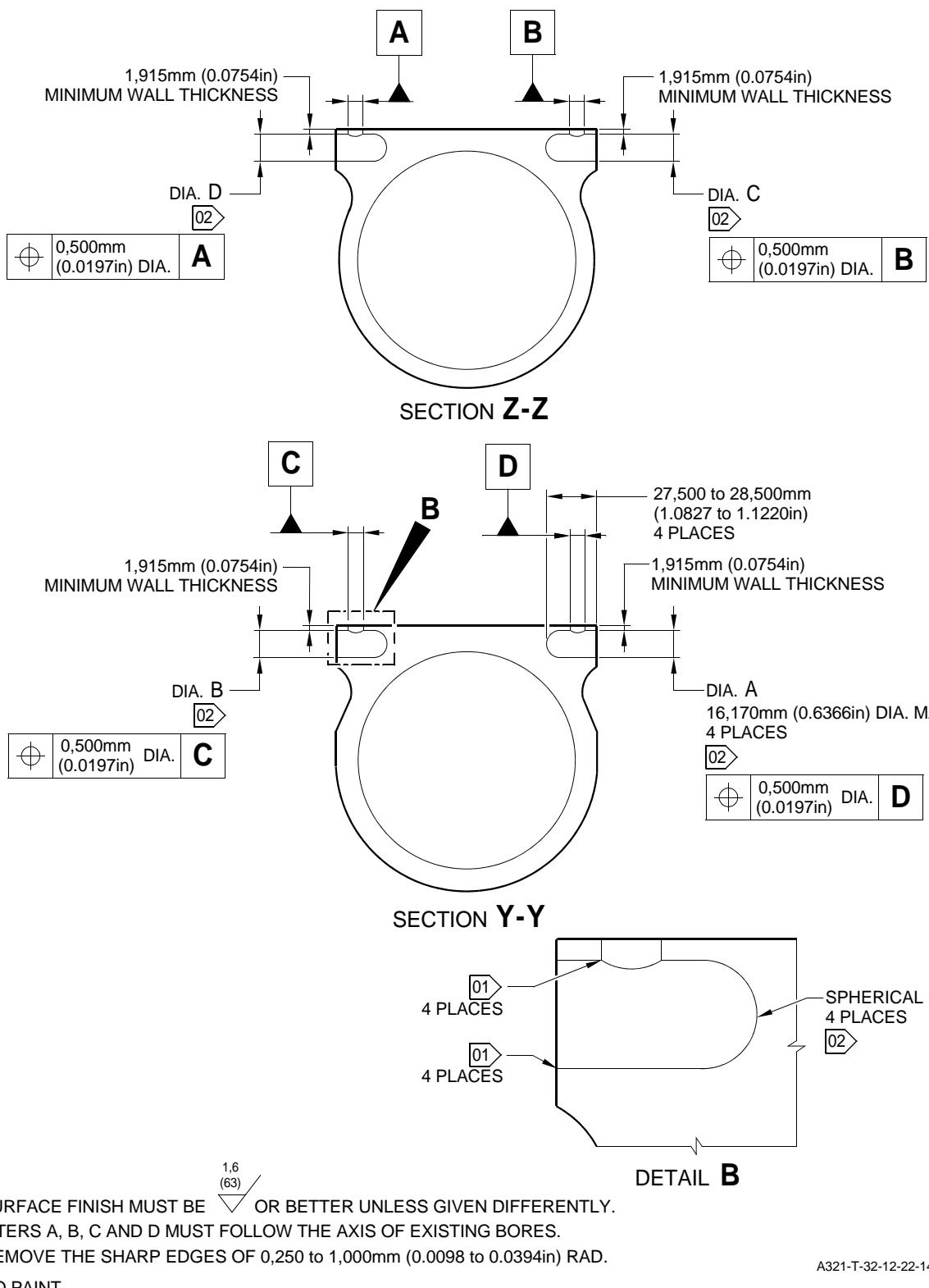
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Repair to Main Fitting
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MAIN LANDING GEAR LEG



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**PART No. 201587001 AND 201587002 COMPONENT MAINTENANCE MANUAL
MAIN LANDING GEAR LEG**

1. Repair No. 11-37 Main Fitting (20-410B, 20-410C, 20-410D, 20-420B, 20-420C and 20-420D)

A. Specified Damage and Material Specification

- (1) Specified Damage
 - (a) Wear or damage or corrosion to diameter(s) A.
- (2) Material Specification

IPL Figure and Item No.	Name	Material Specification
20-410B and 20-420B	Main fitting	UHT Steel E35NCD16THQ to MTL-1203 with UTS 1800 MPa (261.0 ksi)
20-410C, 20-410D, 20-420C and 20-420D	Main fitting	UHT Steel 300M to MTL-1201 with UTS 1930 MPa (279.9 ksi)

B. Special Tools

- (1) Special tools are not necessary.

C. Materials

- (1) These materials are necessary:

NOTE: Alternative equivalents are permitted.

Ref. Item	Material
TBA	Loctite Grade 601
TBA	Molykote 111

D. Repair Parts

- (1) These repair parts are necessary:

Part No.	Repair Part	Material Specification
62-4505252-00	Repair sleeve	Stainless Steel -17-4PH to AMS5643 H1025

E. Procedure (Refer to [Figure 601](#) and [Figure 602](#))

CAUTION: FOR DAMAGE MORE THAN THE LIMITS OF THIS REPAIR SCHEME, WRITE TO SAFRAN LANDING SYSTEMS: REFER TO GUIDE-CS-001.

- (1) Do this procedure if there is wear or damage or corrosion to one or more holes diameter A: refer to [Figure 601](#) and [Figure 602](#).
 - (a) Remove the paint from the main fitting: refer to PCS-2700.
 - (b) Remove the cadmium plate from the main fitting: refer to PCS-2100.