



MAS

TITLE:

ENGINEERING PROCESS CONTROL

DOCUMENT NUMBER
& REVISION:

GAZ-000-0016

CHANGE NUMBER:

REV. F

DATE:

22 October, 2015

PREPARED UNDER:

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CONFIGURATION
MANAGEMENT:



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Revision Record Approval Sheet

| REVISION AND ISSUE DATE | CHANGE # | CHANGE REQUEST # | TOTAL # OF PAGES | REVISED PAGE(S) | ADDED PAGE(S) | DELETED PAGE(S) | DESCRIPTION |
|------------------------------|----------|------------------|------------------|-----------------|------------------|-----------------|---|
| BASIC 07 January, 2005 | --- | --- | 10 | --- | i to iii; 1 to 7 | --- | Initial Issue |
| Rev. A 25 May 2007 | BASIC | 50000002644 | 10 | 6 | --- | --- | Up date document |
| Rev. B 09 July 2010 | A | 500000012027 | 10 | 5, 7 | --- | --- | MPI 157-027 removed, MPI 180-041 added |
| Rev. C 28 September, 2011 | B | 500000016639 | 10 | 5 | --- | --- | MPI 157-030 removed, MPI 138-029 & MPI 138-030 added |
| Rev. D 17 December, 2013 | C | 500000026349 | 7 | | --- | --- | ALL document has been modified |
| Rev. E 22 October, 2014 | D | 500000029874 | 7 | 3 | --- | --- | MPI 172-009 added |
| Rev. F 22 October, 2015 | E | 500000033060 | 7 | 3 | --- | --- | MPI 174-009 and MPI 174-017 added |

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1 INTRODUCTION

The Engineering Process Control (EPC) defines the special processes MPI (Materials and Processes Instructions) that requires approval.

The following are definitions of some key terms used throughout this document:

a) Critical Processes

Non destructive Testing and processes that change the metallurgical properties of the part.

Note: Some special process may be considered critical (on table 1) even if the definition is not applicable

b) Non Critical Process

All other process not covered in a)

2 REFERENCES

INS QUAL 061 Selection, Evaluation, Creation ND Control of Suppliers.

3 APPROVAL

The approval (and re-approval) of the special process listed in Table 1 are specified in the INS QUAL 061.

4 DEVIATIONS

Processors wishing to deviate from specification requirements must submit a written request for deviation to L-3 MAS MPE. Any useful data or evidence to support the request for deviation shall be included. L-3 MAS MPE (the process owner) shall disposition the request.

No change to the requirements of the applicable specification(s) shall be implemented by the processor before receiving written approval of the request for deviation.

Table 1 PROCESSES REQUIRING SPECIAL CONTROLS

| SPEC. | TITLE | CRITICAL | NON CRITICAL |
|--------------|--|-----------------|-------------------------|
| MPI 132-003 | SWAGING OF TUBES | | X |
| MPI 138-029 | APPLICATION OF EPOXY PRIMER, EPOXY TOPCOAT AND POLYURETHANE TOPCOAT | | X |
| MPI 138-030 | SPRAY APPLICATION OF INTEGRAL FUEL TANK COATING | | X |
| MPI 150-003 | INSTALLATION OF SAFETYING DEVICES | | X |
| MPI 151-001 | INSTALLATION OF CONVENTIONAL RIVETS | | X |
| MPI 151-040 | INSTALLATION OF HIGH INTERFERENCE RIVETS (SLUG RIVETS) | | X |
| MPI 157-028 | PRESSURE AND ENVIRONMENTAL SEALING | | X |
| MPI 160-006 | PHOSPHATE TREATMENT | | X |
| MPI 160-008 | CADMIUM PLATING OF STEELS HEAT TREATED TO LESS THAN 220 KSI AND COPPER ALLOYS | X | |
| MPI 160-009 | CHROMIUM PLATING OF STEELS HEAT TREATED TO LESS THAN 220 KSI AND COPPER ALLOYS | X | |
| MPI 160-010 | CHROMIC ACID ANODIZING | X | |
| MPI 160-016 | HARD NICKEL PLATING | X | |
| MPI 160-020 | CHEMICAL CONVERSION TREATMENT FOR ALUMINUM ALLOYS | X | |
| MPI 160-023 | HARD ANODIZING OF ALUMINUM ALLOYS | X | |
| MPI 160-026 | ELECTROLESS NICKEL PLATING | X | |
| MPI 160-027 | CADMIUM PLATING OF CARBON AND LOW ALLOY STEELS HEAT TREATED TO 220 KSI AND ABOVE | X | |
| MPI 160-028 | CHROMIUM PLATING OF STEEL PARTS HEAT TREATED TO 220 KSI AND ABOVE | X | |
| MPI 160-031 | LOCALIZED BRUSH PLATING | X | |
| MPI 160-032 | SULPHURIC ACID ANODIZING | X | |
| MPI 160-036 | ELECTROLYTIC POLISHING | | X |
| MPI 160-039 | TIN PLATING-ELECTRODEPOSITED | | X |
| MPI 160-040 | CONDUCTIVE CHEMICAL CONVERSION TREATMENT FOR ALUMINUM ALLOYS | X | |
| MPI 160-042 | ION VAPOR DEPOSITION OF ALUMINUM COATINGS ON ALUMINUM ALLOY SUBSTRATES | X | |
| MPI 160-043 | ION VAPOR DEPOSITION OF ALUMINUM ON STEELS, CORROSION RESISTANT STEELS AND TITANIUM ALLOYS | X | |
| MPI 161-007 | APPLICATION OF MIL-L-46010 SOLID FILM LUBRICANT | | X |

Table 1 PROCESSES REQUIRING SPECIAL CONTROLS (CONT'D)

| SPEC. | TITLE | CRITICAL | NON CRITICAL |
|-------------|--|----------|--------------|
| MPI 161-008 | APPLICATION OF MIL-L-81329 SOLID FILM LUBRICANT | | X |
| MPI 164-003 | SWAGING OF CABLE ASSEMBLIES | X | |
| MPI 168-005 | GAS NITRIDING OF STEEL | X | |
| MPI 168-006 | BAKING OF STEEL FOR RELIEF OF HYDROGEN EMBRITTLEMENT | X | |
| MPI 168-007 | HEAT TREATMENT OF ALUMINUM AND ALUMINUM ALLOYS | X | |
| MPI 168-013 | HARDNESS AND ELECTRICAL CONDUCTIVITY TESTING OF METALS | X | |
| MPI 168-014 | HEAT TREATMENT OF STEELS | X | |
| MPI 168-015 | STRESS RELIEF OF METALS | X | |
| MPI 168-030 | HEAT TREATMENT OF CORROSION RESISTANT STEELS | X | |
| MPI 168-034 | HEAT TREATMENT OF 6Al-6V-2Sn TITANIUM ALLOYS | X | |
| MPI 172-006 | SPOT WELDING - CLASS B | X | |
| MPI 172-009 | SILVER TORCH BRAZING | X | |
| MPI 172-010 | SEAM WELDING - CLASS B | X | |
| MPI 172-011 | SPOT WELDING - CLASS A FOR ALUMINUM ALLOYS | X | |
| MPI 172-017 | QUALIFICATION OF SPOT WELDING AND SEAM WELDING MACHINES | X | |
| MPI 172-024 | SPOT WELDING OF 4130 STEEL, HEAT TREATED TO 125-145 KSI | X | |
| MPI 172-034 | FUSION WELDING | X | |
| MPI 174-002 | FABRICATION OF PLUMBING LINES | | X |
| MPI 174-009 | INSTALLATION OF WIGGINS TYPE COUPLINGS ON RIGID PLUMBING LINES | | X |
| MPI 174-017 | ASSEMBLY AND INSTALLATION OF DEUTSCH PERMASWAGE FITTINGS ON PLUMBING LINES | | X |
| MPI 175-004 | RETENTION OF BEARINGS BY PRESS SWAGING | | X |
| MPI 175-005 | INSTALLATION OF INTERFERENCE FIT BUSHING | | X |
| MPI 176-002 | FLUORESCENT PENETRANT INSPECTION | X | |
| MPI 176-004 | MAGNETIC PARTICLE INSPECTION | X | |
| MPI 176-007 | ULTRASONIC INSPECTION OF WROUGHT METALS | X | |
| MPI 176-017 | RADIOGRAPHIC INSPECTION | X | |
| MPI 180-001 | ALKALINE CLEANING | | X |

Table 1 PROCESSES REQUIRING SPECIAL CONTROLS (CONT'D)

| SPEC. | TITLE | CRITICAL | NON CRITICAL |
|--------------|--|-----------------|-------------------------|
| MPI 180-015 | PASSIVATION OF CORROSION RESISTANT STEEL | | X |
| MPI 180-030 | ALKALINE ETCHING OF ALUMINUM ALLOYS | | X |
| MPI 180-031 | CLEANING AND DEOXIDIZING CORROSION AND HEAT RESISTANT ALLOYS AND TITANIUM ALLOYS | | X |
| MPI 180-032 | ACID CLEANING AND DEOXIDIZING ALUMINUM ALLOYS | | X |
| MPI 180-041 | METAL BOND ETCH | | X |
| MPI 185-002 | SHOT PEENING OF METAL PARTS | X | |
| MPI 186-000 | CHEMICAL MILLING OF ALUMINUM | X | |
| MPI 188-002 | COLD WORKING HOLES | | X |