



# Fabricated Parts Marking Specifications

Douglas uses thousands of fabricated parts on each machine. The ability to identify parts quickly and accurately at point of use is essential for keeping assembly on schedule. Accurate and legible part marking reduces the occurrence of scrapping and refabrication of otherwise acceptable parts.

This standard applies to ALL manufacturers that produce fabricated parts for Douglas. This includes, but is not limited to, all stock, modified components, and fabricated components produced by a contract vendor and parts made within Douglas.

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### I. Intent

- The intent of this document is to provide fabricators the information to correctly number our parts to the current Douglas specifications.
- Due to volume of parts used and Douglas’ desire for continuous improvement in the areas of better print clarification, standards, and designs, this document will should be considered a “living document.” Updates/improvements to parts may be identified and passed on to vendors without the expectation of updating all prints.

### II. Responsibility

- It is the responsibility of the document and process owner of this Standard to inform Purchasing and Production Control of any changes to this standard.
- It is the responsibility of Purchasing and Production Control to inform all vendors / suppliers of fabricated parts of any changes to this standard and ensure current version of this document is available.
- It is the responsibility of all manufacturers of Douglas fabricated parts to ensure they fully understand this standard and conform to these requirements.

### III. Conflicting Information

- All Douglas parts shall be made to the following specification, unless otherwise indicated on the print. Please contact a Douglas representative with any part requirements questions.
- If information within this document is to supersede any print requirement, it will be stated as so.

### IV. Drawing and parts standards statement

Douglas’ current requirement is to state where to put the part number on all drawings. Standards and expectations have changed through the years, and we continue to service all Douglas machines. Situations may arise in which the print is not controlled to our latest level of engineering. However, parts can still be manufactured to the print, and this document.

### V. Part marking

- All fabricated parts are required to have a part number. **Parts must always be marked directly, if possible.**

- All part numbers will consist of the item part number, item revision, and if part is made by a third party, the vendor identification mark.
- Parts are to be marked same as the "Item and Revision" that is located on the Manufacturing Order Routing or other Douglas documentation. See example below.

DOUGLAS MACHINE SHOP PACKET WORKSHEET DATE 4/27/22 PAGE 1  
 TIME 13:14:16 PAGE IN ORDER 1

ORDER: M223900 ITEM NUMBER: 9235835-001 DESCRIPTION: PLTE-CRS -PC-N- - -  
 LT 0.50X02.00X026.88 N B 10H 00S 0E PLTE

ROUTING ID: B1R02 EN CONTACT: \* \* NONE \* \* BASE ITEM NO: 9235835 ITEM & REVISION: 9235835-001 E TURNAROUND NUMBER: 140256694

METAL FINISHING SPEC: 001 PWD COAT\_616 GRAY METALLIC REV: E REFERENCE: WHS9  
 ORDER QTY: 3,000 WH: 9  
 STOCK LOC: MH206C UM:  
 START DATE: 4/27/22 DUE DATE: 5/09/22 PR CODE: 0  
 NC PROGRAM: Y-STRD IMP STATUS: (ALL) BATCH/LOT: B3-0427  
 JOB NO:

DETAILED OPERATIONS LIST:

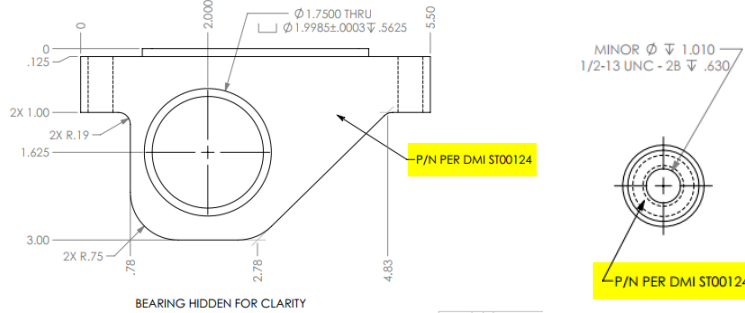
OPNO	M	FACID	PROC	TOOL	ST	MOVE	SETUP	START	TURNAROUND
DEPT	S	DESC	SHEET			QUEUE	RUN	COMPLT	NUMBER
0012	S1	SAWING BAR STOCK			10	.00	.00	4/29/22	
MS					1	00	00	4/29/22	0012

○ Example: this part would be marked 9235835-001 E.

▪ If outsourced, vendor id would be added to the end. 9235835-001 E M

- For parts that have a powder coat, the part number should be ¼ inch in height whenever possible. Reduce by 1/16 to keep maximum readability for smaller parts.
- Powder coat applies a coating thickness of up to .005. Digits that are close together to narrow, or too small may be filled in complete, which may make it difficult to read after powder coat.
- Power coat parts should not be air engraved.
- Parts that are too small to physically mark, follow the following requirements. Definition of "too small" is subjective and the determination of that definition will be based on the part, features on the part, finish requirement of the part, and marking method.
- Mark the item number and revision on a washer and wire it to the parts. The washer shall be affixed to the part with a wire. Tags and washer must be able to survive metal finish process.
  - Steel parts - use steel wire and steel washer.
  - Aluminum parts – use Aluminum wire and Aluminum washer.
  - Stainless / plastic (No finish) Parts that are too small to be marked may be put into a container (bag or box) that is clearly labeled with the item number, Rev, and vendor id, and Any type of wire / tie can be used.
- No part marking can be done on a close tolerance surface such as shaft journals or part surfaces with any surface finish condition called out. Example would be a 32 ra surface requirement or a shaft diameter such as .747/.478 (.001 tolerance.)
- Shafts can be marked on the ends. If ends are too small, they can be tagged with the appropriate washer and wire.
- Prints that call out "temporary part marking", can be marked with tape or marker. The intent of this is to keep all parts identified. Typically, these parts are weldments, or parts of a larger assembly, and once part is complete, the final part number will be required to be part.
- Lexan / Polycarbonate parts should be marked on outside surface of the protective paper.

- Parts should be marked in the area as indicated on the print if not indicated, or impossible, any area deemed non-critical is
  - Exception, if print calls out "opposite side", this requirement enforced.



possible. If acceptable. will be

CNC engraved HPNI

## VI. Methods of part marking

- Douglas does not enforce specific ways to mark our parts. Final legibility and Aesthetics of the part number after the metal finish is what is expected. The following are a few examples of what Douglas uses for internal parts. Visual examples of parts with part numbers are below.

- Air Engraver

- It has been Douglas Machines observation that electric engraving instruments do not engrave deep and legible for successful use.
- Power coat parts should not be air engraved.



- Pin or Dot Peen Marking

- Dot peen marking machines use a pneumatically driven marking pin to stamp (or peen) a series of very small, closely spaced dots to form straight or curved lines.



- Hand Stamping



- Laser Etch

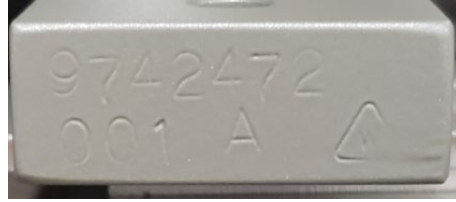
- Etching by the use of laser, often on No finish Sheet metal parts.
- Power coat parts should not be Laser etched.

- Direct CNC Part marking

- The ability to use the CNC capability to engrave the part number in the milling machine while being manufactured.



No Finish – wire and tag



Hand Stamp- Power coat, on end



Air Engrave -  
½ diameter with  
¼-20 nc



Pin / Dot peen Marking – powder coat part



Laser Etch- stainless No finish



Air Engrave – Clear Anodize



CNC engraved - QPQ