



An ESCO Technologies Company

ISO 9001  
& AS 9100  
Certified

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March 14, 2014  
Revised on 8/6/15

Dear Supplier-

In an effort to reduce the risk of rejections for burrs on our hardware and improve our supplier's performance, we are requesting your help. If you are manufacturing any of the below listed hardware we ask that you perform 100% inspection for burrs. The general note on these drawings states to remove all burrs.

The following parts have been identified as sensitive/susceptible to the formation or presence of burrs and are subject to the new burr inspection guidelines:

3257155	F2D10516-7HA	F2D10786-1	V2D11930-1	V2D12424-1
3606016	F2D10517-7HA	F2D10788-1	V2D11948-1	V2D12438-1
09085019-1	F2D10518-7HA	F2D10789-1	V2D11949-1	V2D12451-1
10060011-1	F2D10519-7HA	F2D10794-1	V2D11951-1	V2D12645-1
10160011-1	F2D10523-3FA	F2D10795-1	V2D11952-1	V2D12702-1
11013011-1	F2D10525-3FA	F2D10799-1	V2D11952-1	V2D12715-1
11013012-1	F2D10570-7HA	F2D10800-1	V2D11952-3	V2E10698-1
11013016-1	F2D10571-7HA	F2D10801-1	V2D11953-1	V2E10699-1
11013017-1	F2D10636-1	F2D10827-1	V2D11954-1	
11013019-1	F2D10637-1	V2C11581-3FA	V2D11955-1	
11027011-1	F2D10642-1	V2C12577-3FA	V2D12023-1	
11027013-1	F2D10668-1	V2C12579-3FA	V2D12158-1	
11028011-1	F2D10671-1	V2C12771-7HA	V2D12179-1	
11131011-1	F2D10672-1	V2C12899-3FA	V2D12240-1	
11131012-1	F2D10685-1	V2C12900-3FA	V2D12256-1	
12130011-1	F2D10692-1	V2C13407-3FA	V2D12286-1	
12130012-1	F2D10692-1	V2C13571-1	V2D12304-1	
12161011-1	F2D10696-1	V2C13908-1	V2D12306-1	
12161012-1	F2D10734-1	V2C14479-1	V2D12346-1	
16-2559	F2D10749-1-1	V2D11334-3FA	V2D12350-1	
16-2902	F2D10751-1	V2D11439-3FA	V2D12385-1	
17-1382	F2D10752-1	V2D11440-3FA	V2D12386-1	
19-2873	F2D10756-1-1	V2D11534-7HA	V2D12387-1	
20-1895	F2D10758-1	V2D11567-7HA	V2D12391-1	
6079060-()	F2D10777-1	V2D11896-1	V2D12399-1	
6079063-()	F2D10778-1	V2D11897-1	V2D12400-1	
F2B10308-3FA	F2D10779-1	V2D11900-1	V2D12405-1	
F2C10569-1	F2D10782-1	V2D11901-1	V2D12406-1	
F2D10337-7HA	F2D10784-1	V2D11926-1	V2D12408-1	
F2D10338-7HA	F2D10785-1	V2D11927-1	V2D12423-1	

Burr's are defined as, extraneous or non-functional material left on, or extending, from a surface after an operation which appears to have the possibility of coming loose or detaching. "Operations" may include tasks such as removing material, cutting or modify a current surface condition. Burrs may also result from installation in fixturing or mishandling. The following inspection techniques are highly recommended and should be used to inspect for burrs:

## 1. Inspection Level I

Applies to burr sensitive parts listed above, Burr inspection method used for these parts:

- Inspection at 10X to 15X using Nikon Camera Microscope, or similar microscope
- Lighting with Nikon integral collar light minimum, or similar microscope with integral lighting (meaning light goes through the lens) – purpose is to get light further down into hard to inspect areas such as two inches inside a tube

## 2. Inspection Level 2

Any VACCO part other than those listed above, features/ characteristics include:

- Any machined feature that intersects another characteristic- such as drilled holes, threads, or a machined edge characteristic
- Surface finishes 32 RMS or better (smaller number)
- Dimensions with total tolerance up to 0.005 inch.
- Angles with total tolerance equal to or greater than 1/2 degree through 4 degrees

Burr inspection method:

- Inspection at 7X to 10X – (Preference is to use Nikon Camera Microscope with collar light- but not a requirement)
- Adequate lighting (~100 ft-candles) or inspection tooling integral lighting minimum.

## 3. Inspection Level 3

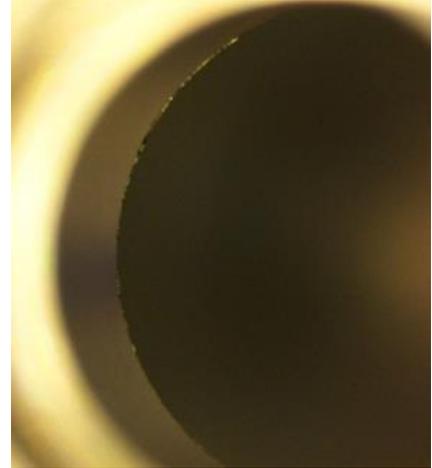
Any part or feature not defined above inspect for burrs using the follow method:

- Inspection with unaided eye (no magnification)
- Adequate lighting (~100 ft-candles) minimum
- May physically “feel” burrs
- NOTE: If a burr is suspected ONLY by using feel and is not visible with the unaided eye, USE up to 7X to visually see evidence of a burr. If no evidence is visually seen under magnification, no rejectable burr exists.

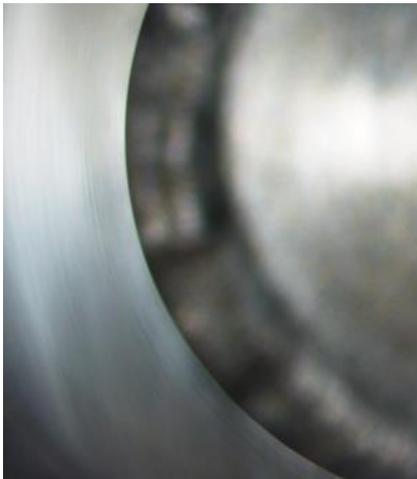
4. For your reference, the following photographs are examples of acceptable parts and rejected parts with burrs:



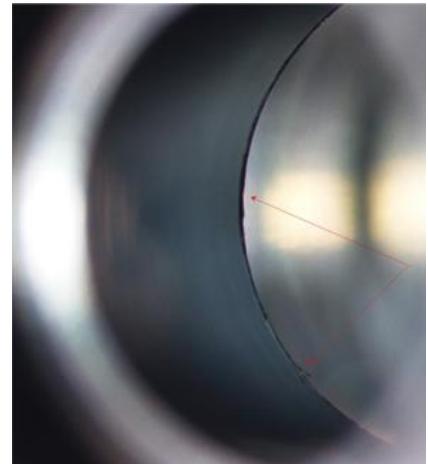
Acceptable Part Example



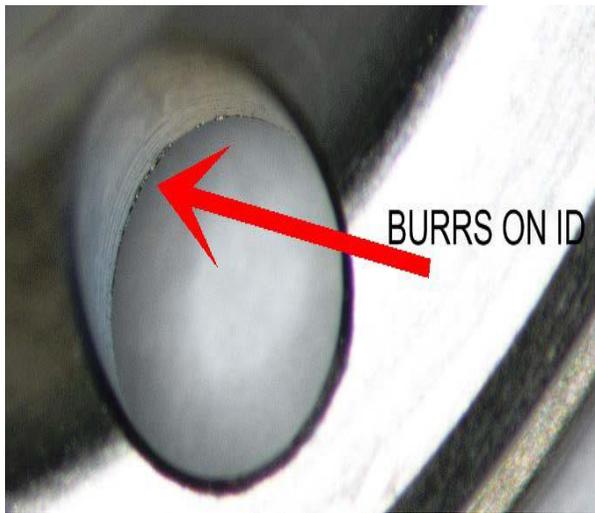
Rejected Part Example



Acceptable Part Example



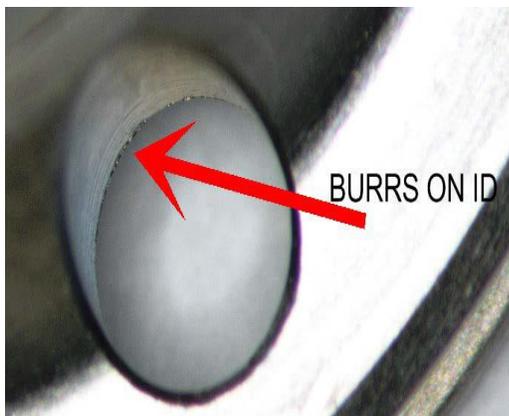
Rejected Part Example



Note: This condition is similar to left over material from weld operations.



Burrs identified on this location of a part can often be the result of the de-burring process and may be an indication of worn tooling or a process breakdown.



As a VACCO supplier, we value your support and assistance. If you have further questions please direct your calls to, Birgitta Stocking, Supplier Quality Manager at 626 258-6835, or email at [bstocking@VACCO.com](mailto:bstocking@VACCO.com).

Sincerely,

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Birgitta Stocking – Supplier Quality Manager  
VACCO Industries