WP0192
Dodge® QD bushings: machining details
Dodge Customer/Order Engineering
09-01-2016

The machining details below can be used to machine a hub to accept Dodge QD bushings. Each drawing is specific to
the size of bushing being installed. Hub drawings below are only for use with QD bushings and cannot be used with
any other bushing types. The minimum hub OD for each size bushing is shown in each drawing. Failure to meet or
exceed this minimum hub OD may result in failure of the part.

For additional information or questions related to Dodge QD hubs or bushings, Dodge bearings and PT Components
Customer Order (C.O.) Engineering should be contacted at (864)-284-5700 or DodgeEngineering@abb.com.
**NOTES:**

1. **BORE TAPER = 3/4 IN/FT ±0.12 IN/FT ON DIA.**
   INSPECT TAPER PER S241.
2. **TOLERANCE FOR DRILLED AND C'BORE HOLES PER ST28.**
3. **PATT. SHOP REF: ø1” CENTER CORE REQ'D.**

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER S054</td>
<td>3.93</td>
<td>#25(.1495)</td>
<td>#10-24 NC</td>
<td>4.2MM</td>
<td>M5 X 8</td>
</tr>
<tr>
<td>DUCTILE IRON PER S065</td>
<td>2.25</td>
<td>#23(.154)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEEL</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**DIMENSION TOLERANCE**

UNLESS OTHERWISE SPECIFIED
- MACHINE TOL. S022
- FABRICATING TOL. S356
- CASTING TOL. S249

BRK ALL SHARP CORNERS .010

**REVISIONS TO THIS DRAWING MUST BE EVALUATED REGARDING THE EFFECT THEY MAY HAVE UPON THE AUTO UTO PROGRAM.**

**MACHINING DETAIL FOR "JA" OD BUSHING CONV. OR REV. MOUNT**

SH 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ±0.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C’BORE HOLES PER S128.
3. PATT. SHOP REF: Ø1-1/2 CENTER CORE REQ'D.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB CD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER 5084</td>
<td>4.75</td>
<td>#7(.201)</td>
<td>1/4-20 NC</td>
<td>5.0MM</td>
<td>M6 x 1</td>
</tr>
<tr>
<td>DUCTILE IRON PER 5085</td>
<td>3.00</td>
<td>#6 (.2055)</td>
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<td></td>
</tr>
</tbody>
</table>

REVISIONS TO THIS DRAWING MUST BE EVALUATED REGARDING THE EFFECT THEY MAY HAVE UPON THE AUTO MTO PROGRAM.

DIMENSION TOLERANCE UNLESS OTHERWISE SPECIFIED
MACHINE TDL. SD02
FABRICATING TDL. S356
CASTING TDL. S249
BKR ALL SHRP CORNERS .010

MACHINING DETAIL FOR "SH" OD BUSHING CONV. OR REV. MOUNT
SH 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ± 0.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: φ1-7/8 CENTER CORE REQ'D.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER S084</td>
<td>4.75</td>
<td>#7(.201)</td>
<td>1/4-20 NC</td>
<td>5.0MM</td>
<td>M6 X 1</td>
</tr>
<tr>
<td>DUCTILE IRON PER S085</td>
<td>3.50</td>
<td>#5(2055)</td>
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<td></td>
<td></td>
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REV. LTR: B Version: 00 TDR: 00000755236
FILE: \DBG\00000G695 REVISED: 03.00.08 08/06/2012
MTL: - BY: MGHNK.T

MACHINING DETAIL FOR "SDS" QD BUSHING CONV. OR REV. MOUNT
SH 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ± 0.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C3 BORE HOLES PER S128.
3. PATT. SHOP REF: ø1-3/4 CENTER CORE REQ'D.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER S084</td>
<td>3.81</td>
<td>#7(.201)</td>
<td>1/4-20 NC</td>
<td>5.0MM</td>
<td>M6 X 1</td>
</tr>
<tr>
<td>DUCTILE IRON PER S085</td>
<td>3.50</td>
<td>#8(.2055)</td>
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<td></td>
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</tr>
</tbody>
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REV. DESC: LOADED TO BUS
REV. LTR: B
VERSION: 60
TDR: 000000795236
FILE: \DEG\00009\686
REVISED: 03:40:54 08/08/2012
MACHINING DETAIL FOR "SD" QD BUSHING CONV. OR REV. MOUNT
MACHINING DETAIL FOR "SD" QD BUSHING CONV. OR REV. MOUNT
MACHINING DETAIL FOR "SD" QD BUSHING CONV. OR REV. MOUNT
DIMENSION TOLERANCE
UNLESS OTHERWISE SPECIFIED
MACHINE TOL. S022
FABRICATING TOL. S336
CASTING TOL. S249
BRK ALL SHARP CORNERS .010
NOTES:
1. BORE TAPER = 3/4 IN/FT ±0.12 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: Ø3-3/8 CENTER CORE REQ'D.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER S084</td>
<td>7.50</td>
<td>27/64</td>
<td>1/2-13 NC</td>
<td>10.2MM</td>
<td>M12 X 1.75</td>
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<tr>
<td>DUCTILE IRON PER S085</td>
<td>6.50</td>
<td>7/16</td>
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REV. LTR: B  VERSION: 00  TDR: 0000000759236
FILE: \DB0\06009\SB9  REVISED: 04.05.17  08/06/2012
MTL:  ---  BY: MGHNKT

MACHINING DETAIL FOR "E" QD BUSHING CONV. OR REV. MOUNT

DIMENSION TOLERANCE UNLESS OTHERWISE SPECIFIED
MACHINE TOL. S022
FABRICATING TOL. S056
CASTING TOL. S249
IRK ALL SHARP CORNERS .010

SH 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ±.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: #4" CENTER CORE REQ'D.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
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<tr>
<td>CAST IRON PER S084</td>
<td>7.75</td>
<td>31/64</td>
<td>9/16-12NC</td>
<td>12MM</td>
<td>M14 X 2</td>
</tr>
<tr>
<td>DUCTILE IRON PER S085</td>
<td>7.25</td>
<td>1/2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REVISIONS TO THIS DRAWING MUST BE EVALUATED REGARDING THE EFFECT THEY MAY HAVE UPON THE AUTO MTO PROGRAM.

DIMENSION TOLERANCE UNLESS OTHERWISE SPECIFIED
MACHINE TOL. S022
FABRICATING TOL. S356
CASTING TOL. S249
BRK ALL SHRP CORNERS .010

MACHINING DETAIL FOR "F" OD BUSHING CONV. OR REV. MOUNT
SH 1 of 1

REV. LTR: B
FILE: \DBG\CG009\690
REvised: 04-05-45 08/05/2012
MIL: -

BY: MGHNKT
J QD Hub

1. BORE TAPER = 3/4 IN/FT ± .012 N/Ft ON DIA.
2. INSPECT TAPER PER STD.
3. PART SHOP REF: 04-5/8 CENTER CORE REQD.

NOTES:

- MACHINING DETAIL FOR "J" QD BUSHING CONV. OR REV. MOUNT
- REF: 04-6-15/16
- TAP: 3/8"-16 NC
- DRILL: 5/8/11 NC
- MILL: X 2
- MATERIAL: CAST IRON PER S084
- STEEL: DUCTILE IRON PER S085
- VER: 00
- REV: 0/05/027/06/2012
- TDR: 000027/06/2012
- REV: LTR: B
- FILE: J5375

ABB Motors and Mechanical Inc.
6040 Ponders Court
Greenville, SC 29615
Phone: +1 864 284 5700
Email: DodgeEngineering@abb.com
NOTES:
1. BORE TAPER = 3/4 IN/FT ±.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: #5-7/8 CENTER CORE REQ'D.
4. FOR "CONVENTIONAL MOUNT ONLY", HOLES DESIGNATED BY ARROWS
   ARE NOT REQUIRED.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER SC84</td>
<td>11.38</td>
<td>21/32</td>
<td>3/4-10 NC</td>
<td>17.5MM</td>
<td>M20 x 2.5</td>
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<tr>
<td>DUCTILE IRON PER SC85</td>
<td>10.00</td>
<td>43/64</td>
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<tr>
<td>STEEL</td>
<td></td>
<td></td>
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REV. DESC: ADD "OR 30 DEGREES" TO HOLE SPACING

DIMENSION TOLERANCE
UNLESS OTHERWISE SPECIFIED
MACHINE TOL. 5022
FABRICATING TOL. 5356
CASTING TOL. 5249

Baldor
MACHINING DETAIL FOR "M" QD BUSHING CONV. OR REV. MOUNT
SH 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ± 0.012 IN/FT ON DIA.
2. INSPECT TAPER PER 3241.
3. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
4. PATT. SHOP REF: #6" CENTER CORE REQ'D.
5. FOR "CONVENTIONAL MOUNT ONLY", HOLES DESIGNATED BY ARROWS ARE NOT REQUIRED.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
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</thead>
<tbody>
<tr>
<td>CAST IRON PER 5084</td>
<td>12.00</td>
<td>49/64</td>
<td>7/8-9 NC</td>
<td>19.05MM</td>
<td>M22 X 2.5</td>
</tr>
<tr>
<td>DUCTILE IRON PER S065</td>
<td>12.00</td>
<td>25/32</td>
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</tbody>
</table>

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NOTES:
1. BORE TAPER = 3/4 IN/FT ±0.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND O'BORE HOLES PER S128.
3. PAT. SHOP REF: Ø7-1/2 CENTER CORE REQ'D.
4. FOR "CONVENTIONAL MOUNT ONLY", HOLES DESIGNATED BY ARROWS ARE NOT REQUIRED.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB OD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER 5084</td>
<td>14.00</td>
<td>7/8</td>
<td>1-8 NC</td>
<td>21 MM</td>
<td>M24 X 3</td>
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<tr>
<td>DUCTILE IRON PER 5035</td>
<td>14.00</td>
<td>57/64</td>
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</table>

REVISIONS TO THIS DRAWING MUST BE EVALUATED REGARDING THE EFFECT THEY MAY HAVE UPON THE AUTO MTO PROGRAM.

MACHINING DETAIL FOR "P" GD BUSHING CONV. OR REV. MOUNT

BY: MGHNKIC

SH 1 of 1

ABB
NOTES:
1. BORE TAPER = 3/4 IN/FT ±0.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: ø9-1/4 CENTER CORE REF D.
4. FOR "CONVENTIONAL MOUNT ONLY", HOLES DESIGNATED BY ARROWS ARE NOT REQUIRED.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB DD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER S084</td>
<td>17.00</td>
<td>63/64</td>
<td>1 7/8-7NC</td>
<td>24 MM</td>
<td>M27 X 3</td>
</tr>
<tr>
<td>DUCTILE IRON PER S085</td>
<td>17.00</td>
<td>1</td>
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</table>

REV. LTR: D          VERSION: 01          TDR: 000000797150
FILE: \DBG\00009\695  REVISED: 01:39:47 04/29/2013
MTL: –                 BY: MGHNKT

W QD Hub

4 X 1/2 250 DRILL THRU

REV. DESCRIPTION:
DRILL THRU HOLES WERE 33.5 DEGREES

MACHINING DETAIL FOR "W" QD BUSHING CONV. OR REV. MOUNT

SM 1 of 1
NOTES:
1. BORE TAPER = 3/4 IN/FT ±.012 IN/FT ON DIA.
   INSPECT TAPER PER S241.
2. TOLERANCE FOR DRILLED AND C'BORE HOLES PER S128.
3. PATT. SHOP REF: #10-7/8 CENTER CORE REGD.
4. FOR "CONVENTIONAL MOUNT ONLY", HOLE DESIGNATED BY ARROW IS NOT REQUIRED.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>HUB QD (REF)</th>
<th>STD. DRILL</th>
<th>STD. TAP</th>
<th>METRIC DRILL</th>
<th>METRIC TAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON PER 5084</td>
<td>19.00</td>
<td>1 - 7/94</td>
<td>1 1/4 - 7NC</td>
<td>26.5MM</td>
<td>M30 x 3.5</td>
</tr>
<tr>
<td>DUCTILE IRON PER 5085</td>
<td>19.00</td>
<td>1 - 1/8</td>
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REV. DESC: LOADED TO BUS
FILE: \DEC\00000\698
REV 1.00.00
VERSION: 00
TDR: 0000000759236
REvised: 04: 01: 09 08/08/2012
MTL: 

MACHINING DETAIL FOR "S" QD BUSHING CONV. OR REV. MOUNT
SH 1 of 1