<table>
<thead>
<tr>
<th>Case No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cylindrical Part - length greater than diameter</td>
</tr>
<tr>
<td>2</td>
<td>Cylindrical Part - length less than diameter</td>
</tr>
<tr>
<td>3</td>
<td>Cylindrical Part - length equals diameter</td>
</tr>
<tr>
<td>4</td>
<td>Discs and flat washers</td>
</tr>
<tr>
<td>5</td>
<td>Headed Parts</td>
</tr>
<tr>
<td>6</td>
<td>Rectangular Part</td>
</tr>
<tr>
<td>7</td>
<td>Angle stampings</td>
</tr>
<tr>
<td>8</td>
<td>Formed metal part - Walls not equally thick</td>
</tr>
<tr>
<td>9</td>
<td>Horseshoes</td>
</tr>
<tr>
<td>10</td>
<td>Pointed parts with large heads</td>
</tr>
<tr>
<td>11</td>
<td>Headed part or shell - body weight slightly greater than head weight - part may not hang.</td>
</tr>
<tr>
<td>12</td>
<td>Cup on scallops</td>
</tr>
<tr>
<td>13</td>
<td>Parts having a groove on one face - Method #1</td>
</tr>
<tr>
<td>14</td>
<td>Formed metal cup</td>
</tr>
<tr>
<td>15</td>
<td>Headed parts with short body - Retaining by form</td>
</tr>
<tr>
<td>16</td>
<td>Dish shaped parts</td>
</tr>
<tr>
<td>17</td>
<td>Slotted parts</td>
</tr>
<tr>
<td>18</td>
<td>Strips with projection at one end</td>
</tr>
<tr>
<td>19</td>
<td>Formed metal flanged cups</td>
</tr>
<tr>
<td>20</td>
<td>Pointed parts feeding point leading</td>
</tr>
<tr>
<td>21</td>
<td>Pointed pins feeding point trailing</td>
</tr>
<tr>
<td>22</td>
<td>Headed pins feeding head first</td>
</tr>
<tr>
<td>23</td>
<td>Headed pins feeding body first</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td><strong>Electronic detection of metals</strong></td>
</tr>
<tr>
<td><strong>25</strong></td>
<td><strong>Photo-electric detection of surface finish or color</strong></td>
</tr>
<tr>
<td><strong>26</strong></td>
<td><strong>Very thin discs or washers</strong></td>
</tr>
<tr>
<td><strong>27</strong></td>
<td><strong>Selection by fine dimple on end of part</strong></td>
</tr>
<tr>
<td><strong>28</strong></td>
<td><strong>Shallow dished blanks and stampings</strong></td>
</tr>
<tr>
<td><strong>29</strong></td>
<td><strong>Stacking flat washers and discs</strong></td>
</tr>
<tr>
<td><strong>30</strong></td>
<td><strong>Stacking flat washers and discs to a height</strong></td>
</tr>
<tr>
<td><strong>31</strong></td>
<td><strong>Orienting by center of gravity</strong></td>
</tr>
<tr>
<td><strong>32</strong></td>
<td><strong>Irregular flat parts</strong></td>
</tr>
<tr>
<td><strong>33</strong></td>
<td><strong>Parts with prongs or tabs</strong></td>
</tr>
<tr>
<td><strong>34</strong></td>
<td><strong>Part with projecting pins</strong></td>
</tr>
<tr>
<td><strong>35</strong></td>
<td><strong>Tapered parts</strong></td>
</tr>
<tr>
<td><strong>36</strong></td>
<td><strong>Elbows</strong></td>
</tr>
<tr>
<td><strong>37</strong></td>
<td><strong>Lock washer</strong></td>
</tr>
<tr>
<td><strong>38</strong></td>
<td><strong>Parts having a groove on one face - Method #2</strong></td>
</tr>
<tr>
<td><strong>39</strong></td>
<td><strong>Rectangular parts with offset key</strong></td>
</tr>
<tr>
<td><strong>40</strong></td>
<td><strong>Very thin discs</strong></td>
</tr>
<tr>
<td><strong>41</strong></td>
<td><strong>Rectangular &quot;U&quot; shaped parts</strong></td>
</tr>
<tr>
<td><strong>42</strong></td>
<td><strong>Flat parts with raised center on one side</strong></td>
</tr>
<tr>
<td><strong>43</strong></td>
<td><strong>Irregular shaped flat parts</strong></td>
</tr>
<tr>
<td><strong>44</strong></td>
<td><strong>Transistors in hi-negative bowl</strong></td>
</tr>
<tr>
<td><strong>45</strong></td>
<td><strong>Stacked bowls</strong></td>
</tr>
<tr>
<td><strong>46</strong></td>
<td><strong>Pin length greater than diameter</strong></td>
</tr>
<tr>
<td><strong>47</strong></td>
<td><strong>Pin-minimum length is three times diameter</strong></td>
</tr>
<tr>
<td><strong>48</strong></td>
<td><strong>Headed pins with extra long bodies</strong></td>
</tr>
<tr>
<td><strong>49</strong></td>
<td><strong>Pin with length greater than diameter</strong></td>
</tr>
</tbody>
</table>
WIPER TO RESTRICT PART FLOW TO ONE LEVEL

SPILL-OFF TO MAINTAIN SINGLE LINE OF FEED

RADIUS TO FIT PART

SECTION A-A

SECTION B-B
VIBRATORY FEEDER COMPANY
AUTOMATION PARK, BOX 100
FAIRVIEW, PA 16415
PHONE 814-474-5561

CASE NO. 3

DWN R.L.L. SCALE CYLINDERS
DATE 6/4/56 LENGTH EQUALS DIAMETER
CHK'D W- SK. NO. 2006
DATE 6-7-56
REVISED 9-3-56

WIPER TO
MAINTAIN ONE
LEVEL OF PARTS

PRESSURE
BREAK

EQUAL TO DIA.
OF PART

TO MAINTAIN
ONE ROW
OF PARTS

BLOCK OFF END OF
TRACK TO RETURN
PARTS TO BOWL

GENERATE
TO PARTS

D + $\frac{1}{32}$

SECTION A-A

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A DIVISION OF
AUTOMATION DEVICES, INC.
START OF NEG. TRACK

PRESSURE BREAK

WIPER IF REQ'D - SET CLEARANCE AS NEEDED
**Vibratory Feeder Co.**

**Automation Park, Box 106**

**Fairview, PA 16415**

**Phone 614-274-5561**

**Case No. 5**

<table>
<thead>
<tr>
<th>Down R.L. Date</th>
<th>Scale</th>
<th>Headed Part</th>
<th>Part Fed</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/4/56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ck'd Date</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6-7-56</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SK No 2008</td>
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</tr>
</tbody>
</table>

**Description:**

- Pressure break
- Equal to head dia. of part
- Wiper to allow only parts lying on side to pass under

**Notes:**

- Head thickness + clearance
- Body length (min)
- Body dia. + clearance

**View A~A**

Alt. View A~A

Use if part causes great amount of wear

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WIPER CLEARANCE SET SLIGHTLY GREATER THAN THICKNESS OF PART

EQUAL TO WIDTH OF PART

PRESSURE BREAK

DISHOUT

W + CLEARANCE

T + CLEARANCE

VIEW A~A

SECTION B~B
ALLOW SUFFICIENT SPACE FOR PARTS TO RETURN TO BOWL

WIPER IF REQUIRED TO MAINTAIN ONE LEVEL OF PARTS

PRESSURE BREAK

EQUAL TO ONE LINE OF PARTS

VIEW A-A

SECTION B-B

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ALLOW ENOUGH SPACE FOR PARTS TO RETURN TO BOWL

HOLD DOWN IF REQD
- HEAD LENGTH * CLEARANCE
- BODY LENGTH * CLEARANCE

WIPER, IF REQ'D, TO MAINTAIN ONE LEVEL OF PARTS

DISH-OUT TO MAINTAIN ONE ROW OF PARTS

VIEW A-A

SECTION B-B
PRESSURE BREAK TO
MAINTAIN ONE ROW OF
PARTS

RADIUS FORM

1.2 HEAD DIA.
1.2 HEAD LENGTH

BODY LENGTH
MIN.
1.2 BODY DIA.

SECTION B-B
APPROX TWICE
HEAD DIA. OF PART

CLEARANCE SHOULD BE SUCH
THAT PARTS NOT HANGING
WILL DROP OUT

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VIBRATORY FEEDER CO.
AUTOMATION PARK, BOX AD
FAIRVIEW, PA. 16415
PHONE 814/474-5561

CASE NO
12

DWN R.L.L.
DATE 6/4/56
CHK'D W
DATE 6-7-56
REVISED 4-21-56

SCALE
CUP ON
SCALLOPS
SK. NO. 2015
PART FED

PRESSURE BREAK

WIPER TO ALLOW
ONLY PARTS ON
END TO PASS

EQUAL TO DIA
OF PARTS

LESS THAN INSIDE
DIA OF CUP.

O.D. + CLEARANCE

H + CLEARANCE

LESS THAN 1/2 O.D.

I.D. + 1/2 (O.D. - I.D.) LESS SUFFICIENT
AMOUNT TO ALLOW PART
TRAVELING OPEN SIDE DOWN
TO DROP

VIEW A~A
SECTION B~B

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AUTOMATION DEVICES, INC.
PRESSURE BREAK

EQUAL TO WIDTH OF PART

DISH-OUT .4 L WIDE

DISH-OUT "W" WIDTH (MAY NOT BE NECESSARY)

WIPER SET FOR HEIGHT OF PART

VIEW A~A

SECTION B~B

SECTION C~C

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WIPER TO ALLOW ONLY ONE LEVEL OF PARTS TO PASS

EQUAL TO DIA OF PART

PRESSURE BREAK

1.2 x HEAD LENGTH

HEAD DIA + 0.2
- WIPER TO ALLOW ONLY ONE LEVEL OF PARTS TO PASS
- WARP STARTS HERE

H MIN CLEARANCE
HIGH ENOUGH TO RETAIN PARTS LYING FLAT BUT NOT WHEN CONVEX SURFACE IS DOWN

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PRESSURE BREAK

WIPER TO MAINTAIN ONE LEVEL OF PARTS

EQUAL TO LARGE DIA. OF PART

AIR JET FOR EJECTION OF ALL PARTS NOT IN TRACK

LARGE DIA. PART SHOULD BE FLUSH WITH TRACK

1.1 x SMALL DIA

SECTION A~A

VIEW B~B
VIBRATORY FEEDER CO.
AUTOMATION PARK, BOX AD
FAIRVIEW, PA. 16415
PHONE 814/474-5561

CASE NO
20

DWN R.L.
DATE 6/5/56
CHK'D 6-7-56
DATE 6-7-56
SK NO 2023

SCALE
POINTED PARTS FEEDING POINT LEADING

PART FED

PRESSURE BREAK

WIPER TO ALLOW ONLY ONE LEVEL OF PARTS TO PASS WITH Z AXIS HORIZONTAL

DIMENSION SHOULD BE SUCH THAT PART WILL DROP POINT FIRST ONLY

VIEW A~A  SECTION C~C  SECTION B~B

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MAINTAIN ONE ROW OF PARTS

- HEAD DIA MIN.
- 1-2 BODY DIA.

VIEW A~A
SECTION B~B
SECTION C~C

ORIENTATION SECTION
SHOULD NEVER BECOME FILLED. CONTROL BY EXTERNAL SWITCHING

©1966 BY VIBRATORY FEEDER CO.
A DIVISION OF AUTOMATION DEVICES, INC.
USED IN ORIENTING BIMETALIC PARTS, OR NONMETALLIC PARTS WITH METAL IMBEDDED ON ONE SURFACE. SHOWN HERE AS COULD BE USED IN CASE NO. 6, BUT MAY BE USED WITH VARIOUS OTHER TECHNIQUES.

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>SCALE</strong></td>
<td><strong>ELECTRONIC DETECTION OF METALS</strong></td>
</tr>
</tbody>
</table>

TRANSDUCER MOUNTED SO THAT WHEN METAL IS DETECTED IT WILL OPERATE A SOLENOID AIR VALVE AND CAUSE A PART REJECTION BY AIR.

© 1966 BY VIBRATORY FEEDER CO.
A DIVISION OF AUTOMATION DEVICES, INC.
Detector is extremely sensitive to light. Changes in amount of light initiates an electrical response which will operate a solenoid air valve and cause part rejection by air. May be used with any design of feeder.
WIPER TO LESSEN STACK OF PARTS

USED TO PREVENT WEDGING BY FORCING PART OUT AROUND AND ALLOWING PART TO DRIFT BACK UNDER RAIL
VIBRATORY FEEDER CO.
AUTOMATION PARK, BOX AD
FAIRVIEW, PA. 16415
PHONE 814/474-5561

CASE NO. 27

DRAWN R.L.
DATE 6-8-56

chkd
DATE 6-2-56

REVISED 4-21-56

SCALE ~
SECTION OF PART
BY FINE Dimple
NEAR ONE END

PART FED

PRESSURE BREAK

WIPER TO MAINTAIN ONE LEVEL OF PARTS

EQUAL TO WIDTH OF PART

ANGLE ON INSIDE BLOCK SO THAT PARTS WITH PROJECTION TOWARD INSIDE OF BOWL WILL TRAVEL AT DIFFERENT LEVEL THAN THOSE WITH PROJECTION TOWARD OUTSIDE OF BOWL

VIEW A~A

VIEW B~B  SECTION C~C  SECTION D~D  SECTION E~E

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LAST 60° IS 15° NEGATIVE WITH RAIL

PART POSITION WHEN STACKING

BLOCK TRACK TO ALLOW PARTS TO STACK UP BEHIND

VIEW A-A

PARTS STACKING BEHIND BLOCK

VIEW B-B
ANGLE / PROJECTION SHOULD BE SUCH THAT PARTS NOT PROPERLY ORIENTED WILL FALL OFF BEFORE REACHING HOLDOWN
WIPER TO WIPE OFF PARTS NOT ORIENTED IN SLOT

VIEW C\~C

VIEW A\~A

SECTION B\~B

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A DIVISION OF AUTOMATION DEVICES, INC.
**VIBRATORY FEEDER CO.**

**CASE NO. 35**

**DATE** 6-12-56  **SCALE**  **DATE** 6-3-56  **SK NO** 2038

---

**PRESSURE BREAK**

AIR JETS SET TO BLOW ABOVE HANGING PARTS TO REMOVE PARTS NOT ORIENTED

WIDTH AT TOP OF TAPER DETERMINED BY DIA OF PART-DIA TAKEN BETWEEN LARGE DIA & CENTER OF GRAVITY.

DEPTH TO BE SUCH THAT PART WILL RIDE ON BOTTOM OF SLOT WHEN HANGING PREVENTS LOCKING TAPER.

RADIIUS IN BOTTOM OF SLOT TO ALLOW PARTS TO SWING TO A VERTICAL HANGING POSITION.

---

SECTION C-C

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A Division of Automation Devices, Inc.
NOTE: BLOCK 'A' TO CHANGE DIRECTION OF FLOW / DIVERT PARTS ONTO RAIL

MACHINE FORM TO MATCH PART

VIEW A-A

SECTION B-B

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60° TRACK

WIPER

1.2 TIMES DIA OF PART

VIEW A-A

DIMENSION X or Y MUST BE SUCH THAT THE PART WILL BE FREE TO ROTATE A SLIGHT AMOUNT DUE TO ITS RIDING ON THE BOTTOM. THIS WILL PREVENT JAMMING

2 15° NEG SPILLOFFS

VIEW D-D

SUITABLE CLEARANCE BETWEEN PART IN RAILS & WIPER

SECTION B-B

SECTION C-C

SLOPING WIPER TO RISE UP ONE SIDE OF PART THAT IS LYING FLAT SO IT WILL DROP OFF

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A DIVISION OF AUTOMATION DEVICES, INC.
DIA OF PART
PRESSURE BREAK

WIPER TO ALLOW ONLY
PARTS ON END TO PASS UNDER

LESS THAN INSIDE
DIA. OF OUTER
RING

"H" + CLEARANCE
VIEW A~A

LESS THAN 1/2 OD.

ID. + 1/2 (OD-1D) LESS
SUFFICIENT AMOUNT TO ALLOW PARTS TRAVELING OPEN SIDE DOWN TO DROP OFF

SECTION B~B
PRESSURE BREAK

WIPER SET AT "H" + CLEARANCE

EQUAL TO WIDTH OF PART

WARP TO NEG BEGINS HERE

VIEW A-A

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VIBRATORY FEEDER COMPANY

CASE NO. 44

SCALE: ~

TRANSISTORS IN HI-NEG BOWL

PART FED

NOTE

TAB ORIENTATION IS DEPENDENT UPON BOWL ROTATION:
CLK-TAB TRAILS C'CLK-TAB LEADS

TWIST AS REG'D TO OBTAIN DESIRED LEAD ORIENTATION

HOLD-DOWN

WARP TO HI-NEG BEGINS APPROX HERE

RAIL TO HANG PARTS

AS BOWL PERMITS

D1 + .020

D2 + .090

2XT+.010

L+.025

AMPLE CLEARANCE FOR LEADS

SOCKET HEAD CAP SCREW

HOLD-DOWN TO RETAIN PARTS IN DISCHARGE POSITION

2XT+.010+L

SECTION B-B

POCKET FOR OUT OF PHASE PARTS

RAIL

SECTION-C-C

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NOTE
BOWLS ARE SHOWN USED IN CONJUNCTION WITH PIN FEEDERS (CASE 46)—THIS APPLICATION ALSO IDEAL FOR OTHER CASES

STACKING PEDESTAL

MIN. SUFFICIENT DISTANCE TO PERMIT EASY ACCESS TO LOWER BOWL

RETAINER USED TO CONFINE UPPER TUBE TRACKS AND PREVENT LOWER BOWL PARTS FROM SPILLING OUT, TOP MUST BE ABOVE THE LEVEL OF PARTS

SCREW TO SECURE PEDESTAL IN PLACE

SECTION A-A
ADDITIONAL CUPS USED TO INCREASE NUMBER OF LINES OF FEED

END PLATE FOR RECIRCULATION OF PART OVERFLOW

B X D APPROX (NOT TO EXCEED L)

L + .030

L5 X D

CBBORE AS REQ'D FOR TUBE TRACK

SECTION A-A
NORMAL DISCHARGE POINT

NEG. SPILL-OFF

ZIG-ZAG ORIENTATION SEGMENT TO RETAIN PINS IN RADIUS TO RADIUS, \$X \$ AXIS HORIZONTAL ORIENTATION.

MOUNTING BLOCK

SECTION A-A
(ENLARGED VIEW)
VIBRATORY FEEDER COMPANY

CASE NO. 48

SCALE ~

HEADED PINS WITH EXTRA LONG BODIES

PART FED

WIPER TO ALLOW ONLY ONE LEVEL OF PARTS TO PASS

OPEN TO ALLOW PART TO ROTATE TO A RADIUS TO RADIUS CENTERLINE AXIS HORIZONTAL ORIENTATION

SUPPORT TO GUIDE PART AS IT ROTATES FROM HORIZONTAL TO VERTICAL ORIENTATION

SECTION C-C

SECTION A-A

SECTION B-B

©1964 BY VIBRATORY FEEDER CO.
A DIVISION OF AUTOMATION DEVICES, INC.
45° SPILL-OFF TO ALLOW PARTS TRAVELING IN END TO END C-AXIS HORIZONTAL ORIENTATION TO SPILL TO LOWER TRACK.

OPTIONAL TWIST TO ROTATE PARTS TO DESIRED ORIENTATION

OPENING MUST BE LARGE ENOUGH TO ALLOW PART SHOWN TO SPILL OFF, YET SMALL ENOUGH TO ALLOW PART IN PROPER ORIENTATION TO PASS.

POCKET TO RECIRCULATE PARTS