FBA
Flywheel Couplings
The FBA (Flywheel−Blind Assembly) coupling is a torsionally soft engine drive that has dampening characteristics.

Flywheel flanges are available in SAE sizes 6−1/2 thru 14 from stock, with many metric options available.

The FBA coupling is used worldwide in gas/diesel engine applications including; aerial lifts, skid steer loaders, excavators, and low mass compressors.

Withstands temperatures up to 212°F.

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### TECHNICAL DATA

The FBA (flywheel-blind assembly) was designed in response to the demand for a torsionally soft drive system with “plug-in” capability. This flywheel coupling consists of a steel flywheel flange, splined steel hub, rubber vibration damper, and specially designed fasteners.

### Coupling Assembly

<table>
<thead>
<tr>
<th>Coupling Assembly</th>
<th>Nominal Torque Rating*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE 6.5</td>
<td>1,950 in-lbs</td>
</tr>
<tr>
<td>SAE 7.5</td>
<td>1,950 in-lbs</td>
</tr>
<tr>
<td>SAE 8</td>
<td>3,655 in-lbs</td>
</tr>
<tr>
<td>SAE 10</td>
<td>4,640 in-lbs</td>
</tr>
<tr>
<td>SAE 11.5</td>
<td>7,500 in-lbs</td>
</tr>
<tr>
<td>SAE 14</td>
<td>12,190 in-lbs</td>
</tr>
</tbody>
</table>

* All values are based on Guardian standard product offering. Please consult Guardian Industries for non-standard configurations.

### Misalignment Capability

Angular = 1°
Parallel = .015”

### Note

The end user is required to use a lithium-based grease on the pump spline and coupling at installation such as Shell Alvania CG or equivalent.
SAE FLYWHEEL & HOUSING DATA

SAE Flywheel Standard Dimensions

<table>
<thead>
<tr>
<th>Flywheel SAE No.</th>
<th>A inch</th>
<th>B inch</th>
<th>C inch</th>
<th>D inch</th>
<th>E inch</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 1/2</td>
<td>8.500</td>
<td>7.875</td>
<td>1.190</td>
<td>0.500</td>
<td>2.047</td>
<td>6</td>
</tr>
<tr>
<td>7 1/2</td>
<td>9.500</td>
<td>8.750</td>
<td>1.190</td>
<td>0.500</td>
<td>2.047</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>10.375</td>
<td>9.625</td>
<td>2.440</td>
<td>0.500</td>
<td>2.441</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>12.375</td>
<td>11.625</td>
<td>2.120</td>
<td>0.620</td>
<td>2.834</td>
<td>8</td>
</tr>
<tr>
<td>11 1/2</td>
<td>13.875</td>
<td>13.125</td>
<td>1.560</td>
<td>1.120</td>
<td>2.834</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>18.375</td>
<td>17.250</td>
<td>1.000</td>
<td>1.120</td>
<td>3.149</td>
<td>8</td>
</tr>
</tbody>
</table>

SAE Housing Standard Dimensions

<table>
<thead>
<tr>
<th>Flywheel SAE No.</th>
<th>X inch</th>
<th>Y inch</th>
<th>Z inch</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10.500</td>
<td>11.250</td>
<td>12.120</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>12.375</td>
<td>13.125</td>
<td>14.000</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>14.250</td>
<td>15.000</td>
<td>15.880</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>16.125</td>
<td>16.875</td>
<td>17.750</td>
<td>12</td>
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<td>2</td>
<td>17.625</td>
<td>18.375</td>
<td>19.250</td>
<td>12</td>
</tr>
<tr>
<td>1</td>
<td>20.125</td>
<td>20.875</td>
<td>21.750</td>
<td>12</td>
</tr>
</tbody>
</table>
# SAE PUMP DATA

## SAE 2-Bolt Mounting Flange

<table>
<thead>
<tr>
<th>Mounting Flange SAE</th>
<th>Pilot Dimensions P</th>
<th>Flange Dimensions</th>
<th>Pilot Length PL</th>
<th>Bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PCD</td>
<td>0.250</td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>2.000</td>
<td>3.250</td>
<td>0.406</td>
<td>5/16-18</td>
</tr>
<tr>
<td>A</td>
<td>3.250</td>
<td>4.187</td>
<td>0.438</td>
<td>3/8-16</td>
</tr>
<tr>
<td>B</td>
<td>4.000</td>
<td>5.750</td>
<td>0.562</td>
<td>1/2-3</td>
</tr>
<tr>
<td>C</td>
<td>5.000</td>
<td>7.125</td>
<td>0.687</td>
<td>5/8-11</td>
</tr>
<tr>
<td>D</td>
<td>6.000</td>
<td>9.000</td>
<td>0.812</td>
<td>3/4-10</td>
</tr>
<tr>
<td>E</td>
<td>6.500</td>
<td>12.500</td>
<td>1.062</td>
<td>1-8</td>
</tr>
<tr>
<td>F</td>
<td>7.000</td>
<td>13.781</td>
<td>1.062</td>
<td>1-8</td>
</tr>
</tbody>
</table>

## SAE 4-Bolt Mounting Flange

<table>
<thead>
<tr>
<th>Mounting Flange SAE</th>
<th>Pilot Dimensions P</th>
<th>Flange Dimensions</th>
<th>Pilot Length PL</th>
<th>Bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PCD</td>
<td>0.250</td>
<td></td>
</tr>
<tr>
<td>AA (4F17)</td>
<td>1.781</td>
<td>2.838</td>
<td>0.325</td>
<td>5/16-18</td>
</tr>
<tr>
<td>A</td>
<td>3.250</td>
<td>4.125</td>
<td>0.438</td>
<td>3/8-16</td>
</tr>
<tr>
<td>B</td>
<td>4.000</td>
<td>5.000</td>
<td>0.562</td>
<td>1/2-13</td>
</tr>
<tr>
<td>C</td>
<td>5.000</td>
<td>6.375</td>
<td>0.562</td>
<td>1/2-13</td>
</tr>
<tr>
<td>D</td>
<td>6.000</td>
<td>9.000</td>
<td>0.812</td>
<td>3/4-10</td>
</tr>
<tr>
<td>E</td>
<td>6.500</td>
<td>12.500</td>
<td>0.812</td>
<td>3/4-10</td>
</tr>
<tr>
<td>F</td>
<td>7.000</td>
<td>13.781</td>
<td>1.062</td>
<td>1-8</td>
</tr>
</tbody>
</table>
SAE PUMP DATA

SAE Involute Splined Pump Shafts

<table>
<thead>
<tr>
<th>SAE</th>
<th># of Teeth</th>
<th>Pitch Dia.</th>
<th>Pressure Angle</th>
<th>Major Dia. ND</th>
<th>Minor Dia.</th>
<th>Nominal Dia.</th>
<th>TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>9</td>
<td>20/40</td>
<td>30°</td>
<td>0.625</td>
<td>0.509</td>
<td>1/2</td>
<td>1.062</td>
</tr>
<tr>
<td>A</td>
<td>9</td>
<td>16/32</td>
<td>30°</td>
<td>0.625</td>
<td>0.509</td>
<td>5/8</td>
<td>1.250</td>
</tr>
<tr>
<td>AH</td>
<td>11</td>
<td>16/32</td>
<td>30°</td>
<td>0.750</td>
<td>0.631</td>
<td>3/4</td>
<td>1.250</td>
</tr>
<tr>
<td>B</td>
<td>13</td>
<td>16/32</td>
<td>30°</td>
<td>0.875</td>
<td>0.754</td>
<td>7/8</td>
<td>1.625</td>
</tr>
<tr>
<td>BB</td>
<td>15</td>
<td>16/32</td>
<td>30°</td>
<td>1.000</td>
<td>0.877</td>
<td>1</td>
<td>1.812</td>
</tr>
<tr>
<td>C</td>
<td>14</td>
<td>12/24</td>
<td>30°</td>
<td>1.250</td>
<td>1.087</td>
<td>1 1/4</td>
<td>2.187</td>
</tr>
<tr>
<td>CS</td>
<td>21</td>
<td>16/32</td>
<td>30°</td>
<td>1.380</td>
<td>1.250</td>
<td>1 3/8</td>
<td>2.187</td>
</tr>
<tr>
<td>CC</td>
<td>17</td>
<td>12/24</td>
<td>30°</td>
<td>1.500</td>
<td>1.334</td>
<td>1 1/2</td>
<td>2.437</td>
</tr>
<tr>
<td>D &amp; E</td>
<td>13</td>
<td>8/16</td>
<td>30°</td>
<td>1.750</td>
<td>1.506</td>
<td>1 3/4</td>
<td>2.937</td>
</tr>
<tr>
<td>F</td>
<td>15</td>
<td>8/16</td>
<td>30°</td>
<td>2.000</td>
<td>1.753</td>
<td>2</td>
<td>3.437</td>
</tr>
</tbody>
</table>
COMPLIMENTARY GUARDIAN PRODUCTS:
FOR MOUNTING DRIVEN COMPONENTS

Pump Plates
- Manufactured from steel
- SAE Sizes 1 thru 6 from stock
- Plain and zinc finish from stock
- E-Coat, black oxide & powder coat available upon request

Engine Housings
- Manufactured from aluminum & cast iron
- Fits a variety of non-standard SAE option engines
- E-Coat & powder coat available for cast iron designs

See Engine Housing and Pump Mounting Plate literature for complete listings.
OTHER GUARDIAN PRODUCTS:

**FL Flywheel Couplings**
- Torsionally stiff
- Reinforced nylon flange
- Steel Hub
- No lubrication
- Accepts splines & straight bores/keyways shafts

**FH Flywheel Couplings**
- Fail-safe couplings
- Torsionally soft for vibration dampening
- Cast iron hubs/flanges
- Variable durometer elements
- Accepts splines & straight bores/keyways shafts

**Delta Flywheel Couplings**
- Torsionally soft for vibration dampening
- Reinforced nylon flange
- Accepts splines & straight bores/keyways shafts
- No clamping required
- Lubrication required

**NV Flywheel Couplings**
- Torsionally soft for vibration dampening
- Rubber “fuse” link
- Accepts spline shafts
- No lubrication required
- No clamping required
The Brands of Altra Motion

Couplings
Ameridrives
www.ameridrives.com
Bibby Turboflex
www.bibbyturboflex.com
Guardian Couplings
www.guardiancouplings.com
Huco
www.huco.com
Lami-flex Couplings
www.lamiflexcouplings.com
Stromag
www.stromag.com
TB Wood’s
www.tbwoods.com

Linear Systems
Thomson
www.thomsonlinear.com
Warner Linear
www.warnerlinear.com

Geared Cam Limit Switches
Stromag
www.stromag.com

Engineered Bearing Assemblies
Kilian
www.kilianbearings.com

Electric Clutches & Brakes
Matrix
www.matrix-international.com
Stromag
www.stromag.com
Warner Electric
www.warnerelectric.com
Deltran
www.thomsonlinear.com

Belted Drives
TB Wood’s
www.tbwoods.com

Heavy Duty Clutches & Brakes
Twiflex
www.twiflex.com
Stromag
www.stromag.com
Svendborg Brakes
www.svendborg-brakes.com
Wichita Clutch
www.wichitACLutch.com

Gearing & Specialty Components
Bauer Gear Motor
www.bauergears.com
Boston Gear
www.bostongear.com
Delavan
www.delavan.com
Delroyd Worm Gear
www.delroyd.com
Nuttall Gear
www.nuttallgear.com

Engine Braking Systems
Jacobs Vehicle Systems
www.jacobsvehiclesystems.com

Precision Motors, Drives & Controls
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Miniature Motors
Portescap
www.portescap.com

Overrunning Clutches
Formsprag Clutch
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Marland Clutch
www.marland.com
Stieber
www.stieberclutch.com

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