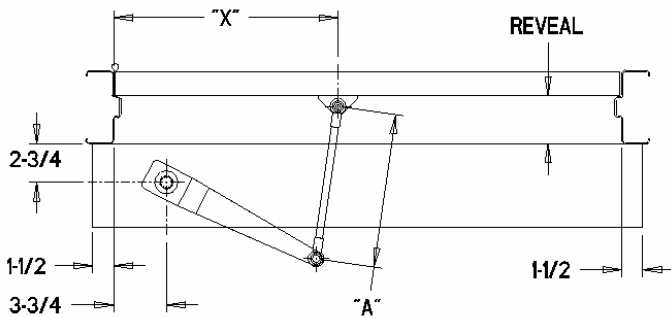


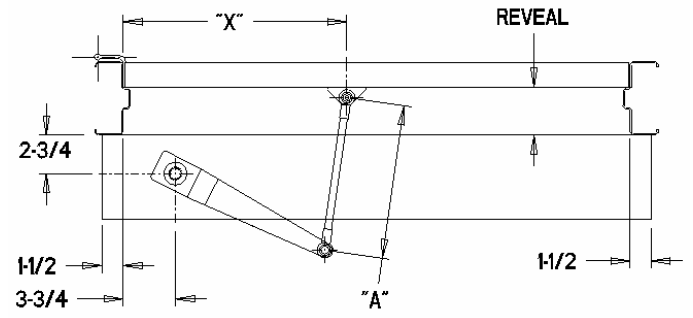
MAGIC FORCE DOOR ARM ATTACHMENT

| OUTSWING BUTT HUNG HINGE | | | | | | |
|--------------------------|----------------------------|------|------|------|------|------|
| REVEAL | MAXIMUM DOOR OPENING ANGLE | | | | | |
| | | 90 | 100 | 110 | 120 | 135 |
| 0 | X | 17.0 | 17.0 | 16.0 | 14.0 | 11.5 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | M | 1.47 | 1.47 | 1.46 | 1.46 | 1.48 |
| 1 | X | 16.0 | 16.0 | 15.0 | 14.0 | 12.5 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | M | 1.46 | 1.46 | 1.45 | 1.43 | 1.42 |
| 2 | X | 15.5 | 14.5 | 13.5 | 14.0 | 12.0 |
| | A | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 |
| | M | 1.44 | 1.41 | 1.38 | 1.47 | 1.44 |
| 3 | X | 14.5 | 13.0 | 14.5 | 12.0 | 11.0 |
| | A | 11.0 | 11.0 | 12.5 | 12.5 | 12.5 |
| | M | 1.37 | 1.35 | 1.44 | 1.39 | 1.38 |
| 4 | X | 13.0 | 13.0 | 12.0 | 11.0 | 11.0 |
| | A | 11.0 | 12.5 | 12.5 | 12.5 | 12.5 |
| | M | 1.30 | 1.35 | 1.33 | 1.31 | 1.31 |
| 5 | X | 13.5 | 12.0 | 11.0 | 11.0 | |
| | A | 12.5 | 12.5 | 12.5 | 12.5 | |
| | M | 1.32 | 1.28 | 1.23 | 1.23 | |
| 6 | X | 12.5 | 12.0 | 11.0 | | |
| | A | 12.5 | 12.5 | 12.5 | | |
| | M | 1.24 | 1.22 | 1.17 | | |
| 7 | X | 11.5 | 11.0 | | | |
| | A | 12.5 | 12.5 | | | |
| | M | 1.14 | 1.11 | | | |
| 8 | X | 11.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.06 | | | | |

| OUTSWING OFFSET HINGE | | | | | | |
|-----------------------|----------------------------|------|------|------|------|------|
| REVEAL | MAXIMUM DOOR OPENING ANGLE | | | | | |
| | | 90 | 100 | 110 | 120 | 135 |
| 0 | X | 14.5 | 14.0 | 12.0 | 10.0 | 8.5 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | M | 1.46 | 1.46 | 1.46 | 1.57 | 1.68 |
| 1 | X | 13.5 | 12.5 | 11.5 | 10.0 | 8.5 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 |
| | M | 1.42 | 1.42 | 1.45 | 1.48 | 1.62 |
| 2 | X | 12.5 | 12.0 | 11.0 | 10.0 | 9.5 |
| | A | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 |
| | M | 1.39 | 1.39 | 1.39 | 1.47 | 1.47 |
| 3 | X | 12.0 | 11.0 | 11.0 | 10.0 | 9.0 |
| | A | 11.0 | 11.0 | 12.5 | 12.5 | 12.5 |
| | M | 1.33 | 1.31 | 1.38 | 1.37 | 1.34 |
| 4 | X | 11.0 | 11.0 | 9.0 | 10.0 | 8.5 |
| | A | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| | M | 1.31 | 1.31 | 1.22 | 1.27 | 1.18 |
| 5 | X | 11.0 | 9.5 | 9.0 | 9.0 | |
| | A | 12.5 | 12.5 | 12.5 | 12.5 | |
| | M | 1.23 | 1.15 | 1.11 | 1.11 | |
| 6 | X | 10.0 | 9.0 | 9.0 | | |
| | A | 12.5 | 12.5 | 12.5 | | |
| | M | 1.10 | 1.02 | 1.02 | | |
| 7 | X | 9.5 | 9.0 | | | |
| | A | 12.5 | 12.5 | | | |
| | M | 1.00 | 0.95 | | | |
| 8 | X | 9.0 | | | | |
| | A | 12.5 | | | | |
| | M | 0.90 | | | | |



Butt Hung Hinge Layout



Offset Hinge Layout

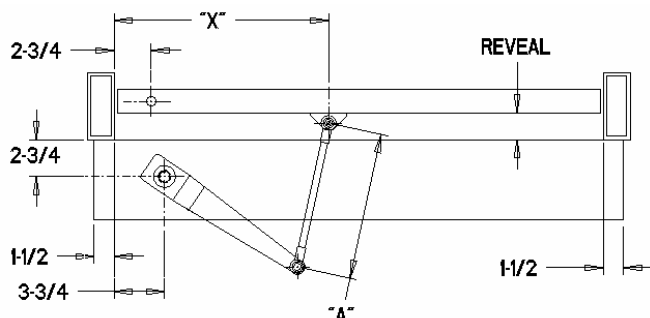
*All Dimensions are in inches
To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations
 Factory Set Force = $(560 * M) / \text{Door Width}$
 Min. Opening Force = $(100 * M) / \text{Door Width}$
 Max. Opening Force = $(745 * M) / \text{Door Width}$

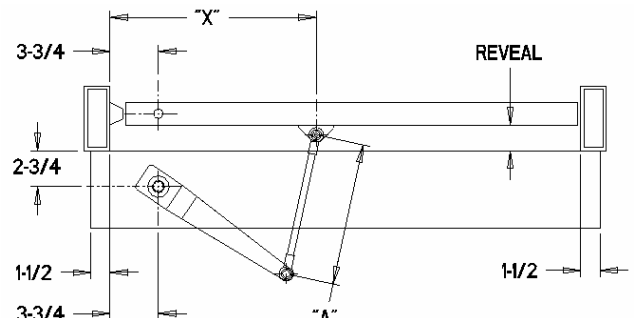
MAGIC FORCE DOOR ARM ATTACHMENT

| 2 3/4 CENTER PIVOT | | | | | | |
|--------------------|----------------------------|------|------|-----|-----|-----|
| REVEAL | MAXIMUM DOOR OPENING ANGLE | | | | | |
| | | 90 | 100 | 110 | 120 | 135 |
| 0 | X | 15.0 | | | | |
| | A | 11.0 | | | | |
| | M | 1.41 | | | | |
| 1 | X | 15.0 | 15.0 | | | |
| | A | 11.0 | 11.0 | | | |
| | M | 1.41 | 1.41 | | | |
| 2 | X | 15.0 | 15.0 | | | |
| | A | 11.0 | 11.0 | | | |
| | M | 1.39 | 1.39 | | | |
| 3 | X | 15.0 | 15.0 | | | |
| | A | 11.0 | 11.0 | | | |
| | M | 1.37 | 1.37 | | | |
| 4 | X | 15.0 | 15.0 | | | |
| | A | 11.0 | 11.0 | | | |
| | M | 1.34 | 1.34 | | | |
| 5 | X | 15.0 | 15.0 | | | |
| | A | 11.0 | 11.0 | | | |
| | M | 1.31 | 1.31 | | | |
| 6 | X | 15.0 | 15.0 | | | |
| | A | 12.5 | 12.5 | | | |
| | M | 1.33 | 1.33 | | | |
| 7 | X | 15.0 | 15.0 | | | |
| | A | 12.5 | 12.5 | | | |
| | M | 1.30 | 1.30 | | | |
| 8 | X | 15.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.28 | | | | |

| 3 3/4 CENTER PIVOT | | | | | | |
|--------------------|----------------------------|------|-----|-----|-----|-----|
| REVEAL | MAXIMUM DOOR OPENING ANGLE | | | | | |
| | | 90 | 100 | 110 | 120 | 135 |
| 0 | X | | | | | |
| | A | | | | | |
| | M | | | | | |
| 1 | X | | | | | |
| | A | | | | | |
| | M | | | | | |
| 2 | X | 17.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.33 | | | | |
| 3 | X | 17.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.40 | | | | |
| 4 | X | 17.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.40 | | | | |
| 5 | X | 17.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.40 | | | | |
| 6 | X | 16.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.34 | | | | |
| 7 | X | 15.5 | | | | |
| | A | 12.5 | | | | |
| | M | 1.32 | | | | |
| 8 | X | 14.5 | | | | |
| | A | 12.5 | | | | |
| | M | 1.22 | | | | |



2-3/4" Offset Center Pivot Layout



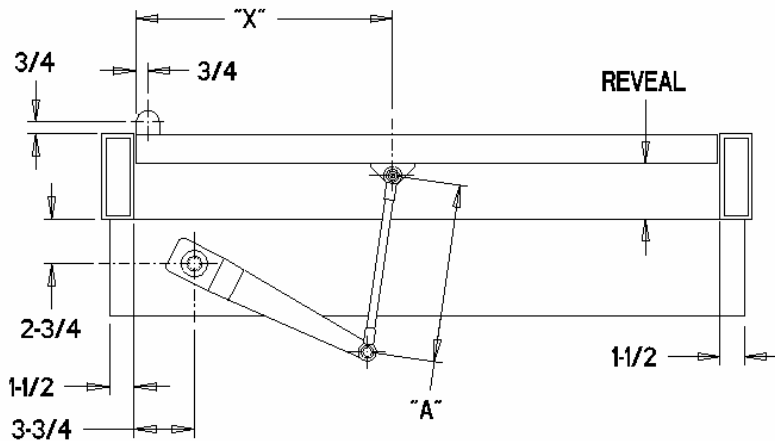
3-3/4" Offset Center Pivot

*All Dimensions are in inches
To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations
 Factory Set Force = $(560 * M) / \text{Door Width}$
 Min. Opening Force = $(100 * M) / \text{Door Width}$
 Max. Opening Force = $(745 * M) / \text{Door Width}$

MAGIC FORCE DOOR ARM ATTACHMENT

| OUTSWING OFFSET PIVOT | | | | | | |
|-----------------------|----------------------------|------|------|------|------|------|
| REVEAL | MAXIMUM DOOR OPENING ANGLE | | | | | |
| | | 90 | 100 | 110 | 120 | 135 |
| 0 | X | 17.0 | 16.0 | 15.0 | 14.0 | 13.0 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | M | 1.48 | 1.48 | 1.48 | 1.47 | 1.47 |
| 1 | X | 16.0 | 15.5 | 14.5 | 13.5 | 11.5 |
| | A | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | M | 1.47 | 1.47 | 1.45 | 1.43 | 1.45 |
| 2 | X | 15.5 | 14.5 | 14.0 | 12.0 | 11.0 |
| | A | 11.0 | 11.0 | 12.5 | 13.0 | 12.5 |
| | M | 1.44 | 1.41 | 1.47 | 1.45 | 1.46 |
| 3 | X | 15.5 | 13.5 | 13.0 | 12.0 | 11.0 |
| | A | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| | M | 1.47 | 1.44 | 1.39 | 1.40 | 1.40 |
| 4 | X | 14.5 | 13.0 | 12.5 | 12.5 | |
| | A | 12.5 | 12.5 | 12.5 | 12.5 | |
| | M | 1.39 | 1.36 | 1.35 | 1.35 | |
| 5 | X | 13.5 | | | | |
| | A | 12.5 | | | | |
| | M | 1.33 | | | | |
| 6 | X | 13.0 | | | | |
| | A | 12.5 | | | | |
| | M | 1.27 | | | | |
| 7 | X | 11.5 | | | | |
| | A | 12.5 | | | | |
| | M | 1.15 | | | | |



Layout, Outswing with Offset Pivot

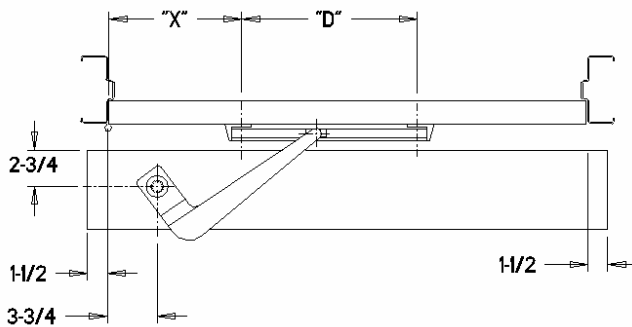
*All Dimensions are in inches
 To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations
 Factory Set Force = (560*M)/Door Width
 Min. Opening Force = (100*M)/Door Width
 Max. Opening Force = (745*M)/Door Width

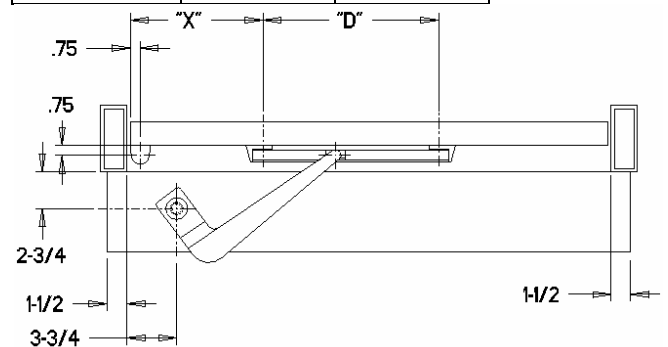
| INSWING, BUTT HINGE | | |
|---------------------|------------|--------|
| REVEAL | | |
| 0 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.249 |
| 1 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | |
| | M | 1.225 |
| 2 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | |
| | M | 1.189 |
| 3 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | |
| | M | 1.142 |
| 4 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | |
| | M | 1.083 |
| 5 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | |
| | M | 1.013 |

Max. Opening Force = (745*M)/Door Width

| INSWING, OFFSET PIVOT | | |
|-----------------------|------------|--------|
| REVEAL | | |
| 0 | X | 11.000 |
| | D | 13.750 |
| | Track Lgth | 15.375 |
| | M | 1.196 |
| 1 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.173 |
| 2 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.189 |
| 3 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.092 |
| 4 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.035 |
| 5 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.967 |
| 6 | X | 15.000 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.887 |



Inswing, Butt Hinge Layout



Inswing, Offset Pivot Layout

*All Dimensions are in inches

To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations

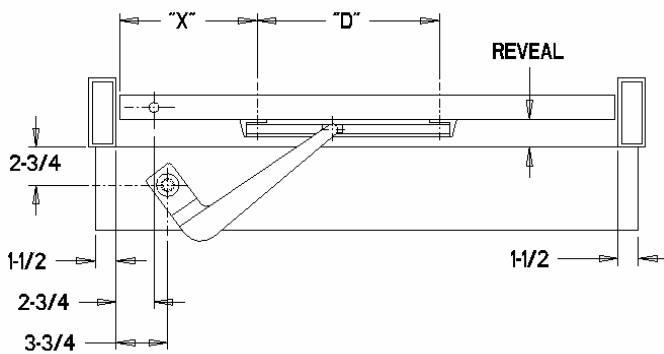
Factory Set Force = (560*M)/Door Width

Min. Opening Force = (100*M)/Door Width

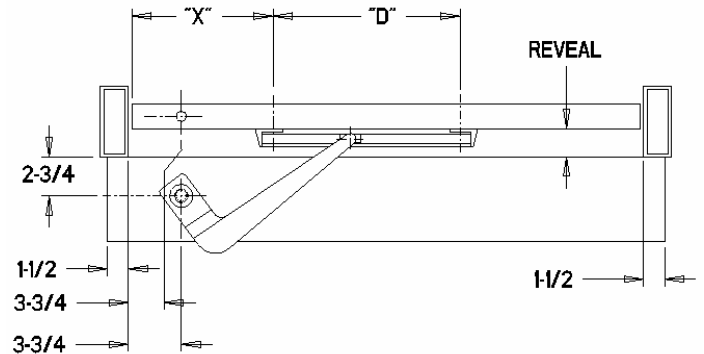
MAGIC FORCE DOOR ARM ATTACHMENT

| INSWING, 2 3/4 OFFSET PIVOT | | |
|-----------------------------|------------|--------|
| REVEAL | | |
| 0 | X | 11.000 |
| | D | 13.750 |
| | Track Lgth | 15.375 |
| | M | 1.056 |
| 1 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.034 |
| 2 | X | 12.750 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 1.002 |
| 3 | X | 14.000 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.959 |
| 4 | X | 14.000 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.906 |
| 5 | X | 14.000 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.842 |
| 6 | X | 14.000 |
| | D | 13.250 |
| | Track Lgth | 15.375 |
| | M | 0.768 |

| INSWING, 3 3/4 OFFSET PIVOT | | |
|-----------------------------|------------|--------|
| REVEAL | | |
| 0 | X | 11.000 |
| | D | 13.750 |
| | Track Lgth | 13.250 |
| | M | 0.986 |
| 1 | X | 11.000 |
| | D | 13.750 |
| | Track Lgth | 13.250 |
| | M | 0.965 |
| 2 | X | 11.000 |
| | D | 13.750 |
| | Track Lgth | 13.250 |
| | M | 0.934 |
| 3 | X | 15.000 |
| | D | 13.250 |
| | Track Lgth | 13.250 |
| | M | 0.892 |
| 4 | X | 15.000 |
| | D | 13.250 |
| | Track Lgth | 45 |
| | M | 0.841 |
| 5 | X | 15.000 |
| | D | 13.250 |
| | Track Lgth | 48 |
| | M | 0.780 |
| 6 | X | 15.000 |
| | D | 13.250 |
| | Track Lgth | 50 |
| | M | 0.709 |



Inswing, 2-3/4 Offset Pivot



Inswing, 3-3/4 Offset Pivot

*All Dimensions are in inches

To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations

Factory Set Force = $(560 * M) / \text{Door Width}$

Min. Opening Force = $(100 * M) / \text{Door Width}$

Max. Opening Force = $(745 * M) / \text{Door Width}$

MAGIC FORCE DOOR ARM ATTACHMENT

Dual Egress Applications:

Butt Hung Hinge Doors

| REVEAL | Inswing Dimensions | | Outswing Dimensions | |
|--------|--------------------|--------|---------------------|--------|
| 0 | X | 12.750 | X | 17.000 |
| | D | 13.250 | A | 11.000 |
| | Track Lgth | 15.375 | | |
| | M | 1.249 | M | 1.465 |
| 1 | X | 12.750 | X | 16.500 |
| | D | 13.250 | A | 11.000 |
| | Track Lgth | 15.375 | | |
| | M | 1.225 | M | 1.468 |
| 2 | X | 12.750 | X | 17.000 |
| | D | 13.250 | A | 12.500 |
| | Track Lgth | 15.375 | | |
| | M | 1.189 | M | 1.508 |
| 3 | X | 12.750 | X | 16.000 |
| | D | 13.250 | A | 12.500 |
| | Track Lgth | 15.375 | | |
| | M | 1.142 | M | 1.477 |
| 4 | X | 12.750 | X | 15.000 |
| | D | 13.250 | A | 12.500 |
| | Track Lgth | 15.375 | | |
| | M | 1.083 | M | 1.413 |

*All Dimensions are in inches

To Convert to Millimeters, Multiply by 25.4

Approximate Opening force calculations

Factory Set Force = $(560 * M) / \text{Door Width}$

Min. Opening Force = $(100 * M) / \text{Door Width}$

Max. Opening Force = $(745 * M) / \text{Door Width}$

Note: Maximum door opening angle is 90 degrees for these applications.