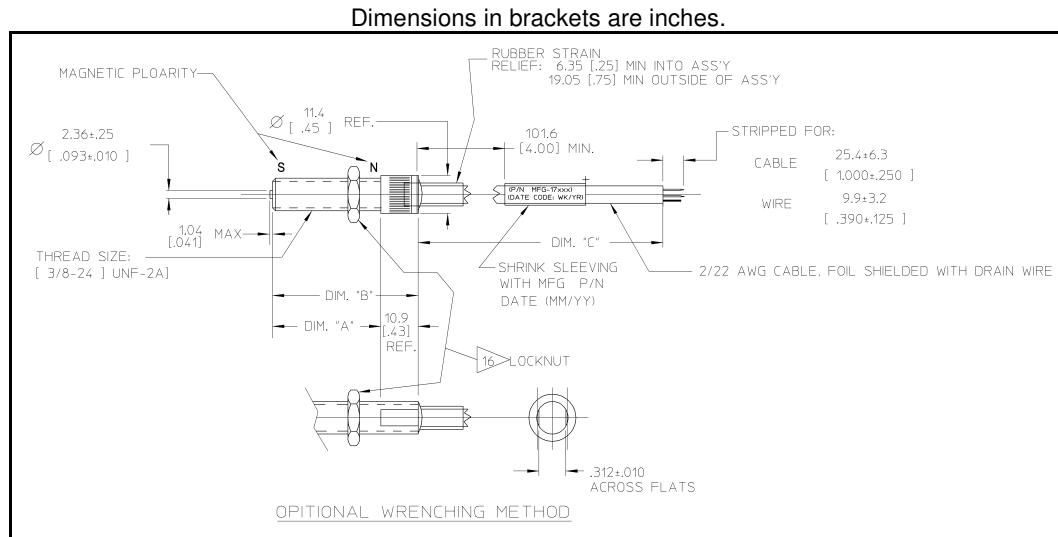


# Magnetic Pickups

## SAE THREADS

### 3/8-24 Pickup DYNT 17000 Series



**Figure 1. DYNT 17000 Series Dimensions**

#### FIGURE 1 NOTES

##### Note 16 Hex jam-nut

Size: 14.27mm (0.562") across flats; thickness 4.5 / 5.1mm (0.180" / 0.200")

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

### Specifications & Dimensions

| PART NUMBER | OUTPUT VOLTAGE * | RESISTANCE (MAXIMUM) | DIMENSIONS      |                  |                   |
|-------------|------------------|----------------------|-----------------|------------------|-------------------|
|             |                  |                      | Dim. A          | Dim. B           | Dim. C            |
| DYNT-17100  | 3.6 V            | 100,000 Ohms         | 25.40mm (1.00") | 36.32mm (1.43")  | 1828.8mm (72.00") |
| DYNT-17150  | 3.6 V            | 100,000 Ohms         | 42.54mm (1.68") | 53.34mm (2.10")  | 1828.8mm (72.00") |
| DYNT-17200  | 3.6 V            | 100,000 Ohms         | 57.66mm (2.27") | 68.58mm (2.70")  | 1828.8mm (72.00") |
| DYNT-17400  | 3.6 V            | 100,000 Ohms         | 101.60mm (4.0") | 112.52mm (4.43") | 1828.8mm (72.00") |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

#### Temperature Range:

-100°F to +225°F (-73.3°C to +107.2°C)

#### Polarity:

Red or white lead to go positive when magnetic flux linkage is increased

#### Case:

Non-magnetic stainless steel

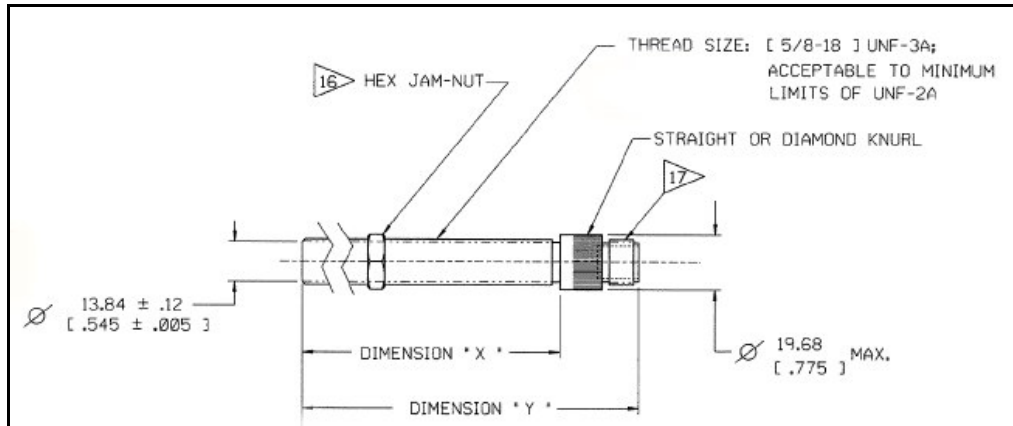
#### Sealing:

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.

**5/8-18 Pickup** DYNT 10000 Series & 15000 Series

Dimensions in brackets are inches.



**Figure 2. DYNT Series 10000 and Series 15000 Dimensions**

**FIGURE 2 NOTES**

**Note 16 Hex jam-nut**

Size: 19.05 mm (0.75”) across flats;  
thickness 5.1 / 6.6 mm (0.200” / 0.260”)

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Note 17 Output connector**

Connector to mate with MS3106A 10SL-4S connector or equivalent (see Figure 8)

**Note:** Material for the straight or diamond knurl barrel is non-magnetic stainless steel or aluminum

**Specifications & Dimensions**

| PART NUMBER | OUTPUT VOLTAGE * |     | RESISTANCE (MAXIMUM) |           | DIMENSIONS      |                 |
|-------------|------------------|-----|----------------------|-----------|-----------------|-----------------|
|             | 3.6V             | 10V | 250 Ohms             | 1200 Ohms | Dim. X          | Dim. Y          |
| DYNT-10100  | ●                |     | ●                    |           | 63.5 mm (2.5")  | 91.4 mm (3.6")  |
| DYNT-10200  | ●                |     | ●                    |           | 101.6 mm (4.0") | 129.5 mm (5.1") |
| DYNT-15200  |                  | ●   |                      | ●         |                 |                 |
| DYNT-10300  | ●                |     | ●                    |           | 25.4 mm (1.0")  | 53.3 mm (2.1")  |
| DYNT-10400  | ●                |     | ●                    |           | 76.2 mm (3.0")  | 104.1 mm (4.1") |
| DYNT-15400  |                  | ●   |                      | ●         |                 |                 |
| DYNT-10500  | ●                |     | ●                    |           | 152.4 mm (6.0") | 180.3 mm (7.1") |
| DYNT-10600  | ●                |     | ●                    |           | 127.0 mm (5.0") | 154.9 mm (6.1") |
| DYNT-15600  |                  | ●   |                      | ●         |                 |                 |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

**Temperature Range:**

-100 °F to +225 °F (-73.3 °C to +107.2 °C)

**Polarity:**

Pin "B" to go positive when magnetic flux linkage is increased

**Case:**

Non-magnetic stainless steel

**Sealing:**

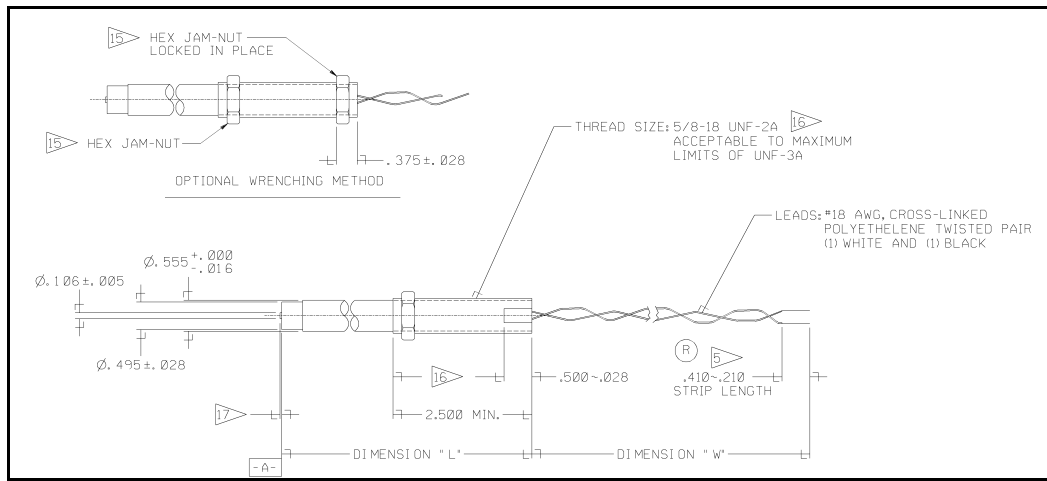
Sealed to withstand 3 psi (20.68 Kpa) applied at tip end with no leakage out connector or lead end.

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.

**5/8-18 Pickup with Leads** DYNT 12000 Series

Dimensions in brackets are inches.



**Figure 3. DYNT 12000 Series Dimensions**

**FIGURE 3 NOTES**

**Note 15 Hex jam-nut**

Size: 19.05mm (0.750”) across flats;  
thickness 5.1 / 6.6mm (0.200” / 0.260”)

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Note 16**

Thread size should be up to wrenching flats as shown

**Note 17**

The tip to be flush to ± 0.12mm (± 0.005”) from surface

**Specifications & Dimensions**

| PART NUMBER | OUTPUT VOLTAGE * | RESISTANCE (MAXIMUM) | INDUCTANCE (MAXIMUM) † | DIMENSIONS       |                  |     |
|-------------|------------------|----------------------|------------------------|------------------|------------------|-----|
|             |                  |                      |                        | Dim. L           | Dimension W      |     |
|             |                  |                      |                        |                  | Min              | Max |
| DYNT-12100  | 3.6V             | 385 Ohms             | 150 mH                 | 72.70mm (3.00")  | 127.00mm (5.0")  | —   |
| DYNT-12200  | 3.6V             | 385 Ohms             | 150 mH                 | 114.30mm (4.50") | 127.00mm (5.0")  | —   |
| DYNT-12700  | 3.6V             | 385 Ohms             | 150 mH                 | 114.30mm (4.50") | 127.00mm (5.00") | —   |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

(†) @ 1000 Hz test frequency

**Temperature Range:**

-100°F to +225°F (-73.3°C to +107.2°C)

**Case:**

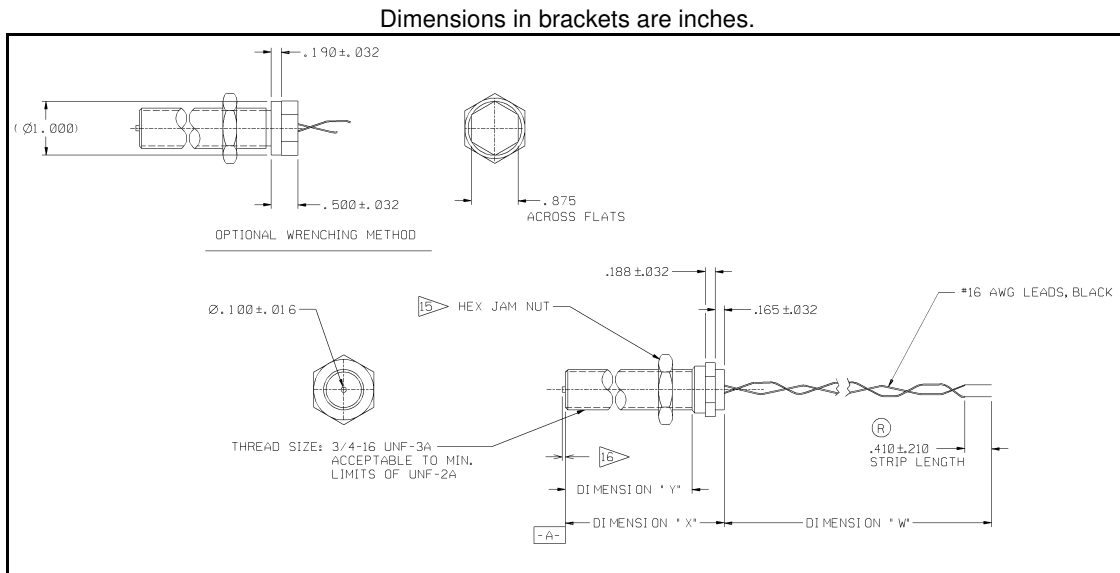
Non-magnetic stainless steel

**Sealing:**

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.

### 3/4-16 Pickup with Leads DYNT 13000 Series



**Figure 4. DYNT 13000 Series Dimensions**

**FIGURE 4 NOTES**

**Note 15 Hex jam-nut**

Size: 28.5mm (1.125”) across flats;  
thickness 5.1 / 6.6mm (0.200” / 0.260”)

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Note 16**

The tip to be flush to ± 0.12mm (± 0.005”) from surface

### Specifications & Dimensions

| PART NUMBER | OUTPUT VOLTAGE * | RESISTANCE (MAXIMUM) | DIMENSIONS      |                 |                   |                    |
|-------------|------------------|----------------------|-----------------|-----------------|-------------------|--------------------|
|             |                  |                      | Dim. X          | Dim. Y          | Dimension W       |                    |
|             |                  |                      |                 |                 | Min               | Max                |
| DYNT-13200  | 3.6 V            | 3575 Ohms            | 75.43mm (2.97") | 60.20mm (2.37") | 889.00mm (35.00") | 939.80 mm (37.00") |
| DYNT-13300  | 3.6 V            | 3575 Ohms            | 99.06mm (3.90") | 83.82mm (3.30") | 889.00mm (35.00") | 939.80 mm (37.00") |
| DYNT-13400  | 3.6 V            | 3575 Ohms            | 75.43mm (2.97") | 60.20mm (2.37") | 127.00mm (5.00")  | —                  |
| DYNT-13500  | 3.6 V            | 3575 Ohms            | 99.06mm (3.90") | 83.82mm (3.30") | 127.00mm (5.00")  | —                  |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

**Temperature Range:**

-100°F to +225°F (-73.3°C to +107.2°C)

**Polarity:**

Pin "B" to go positive when magnetic flux linkage is increased

**Case:**

Non-magnetic with corrosion protective finish

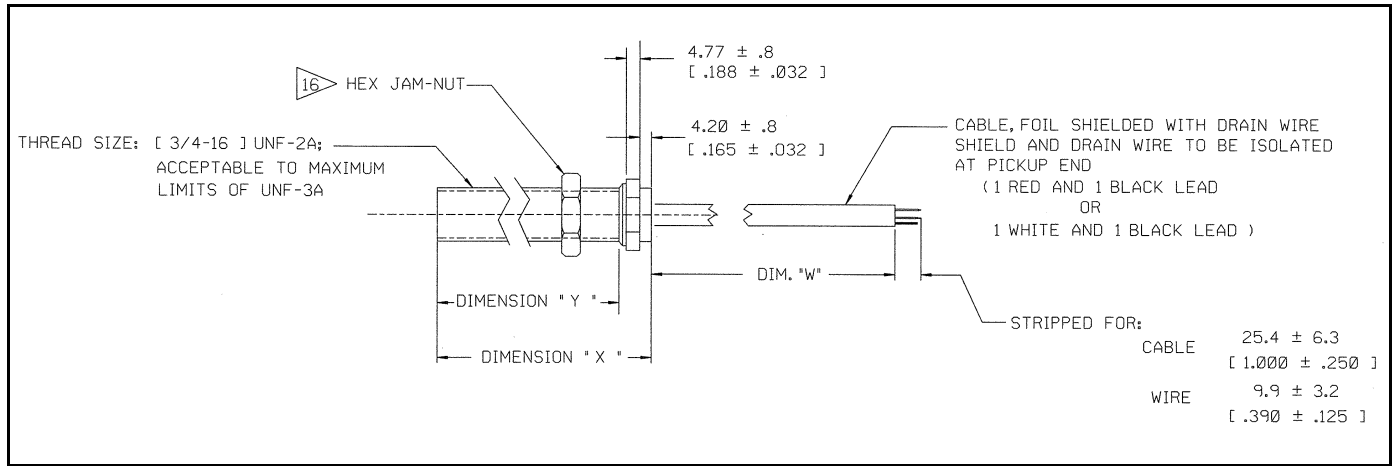
**Sealing:**

Capable of functioning immersed in motor oil or diesel fuel.

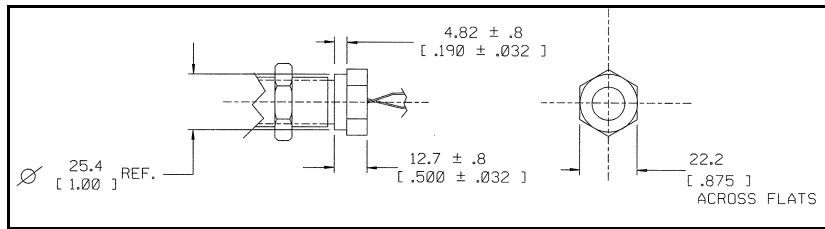
Capable of functioning in 95% humidity.

**3/4-16 Pickup w/Shielded Leads** DYNT-19200

Dimensions in brackets are inches.



**Figure 5. DYNT-19200 Dimensions**



**Optional Wrenching Method**

**FIGURE 5 NOTES**

**Note 16 Hex jam-nut**

Size: 19.05mm (0.750") across flats; thickness 5.1 / 6.6mm (0.200" / 0.260")

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Specifications & Dimensions**

| PART NUMBER | OUTPUT VOLTAGE * | RESISTANCE (MAXIMUM) | DIMENSIONS      |                 |                   |
|-------------|------------------|----------------------|-----------------|-----------------|-------------------|
|             |                  |                      | Dim. X          | Dim. Y          | Dim. W            |
| DYNT-19200  | 3.6 V            | 3575 Ohms            | 75.43mm (2.97") | 60.20mm (2.37") | 1828.8mm (72.00") |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

**Temperature Range:**

-100°F to +225°F (-73.3°C to +107.2°C)

**Polarity:**

Red or white lead to go positive when magnetic flux linkage is increased

**Case:**

Non-magnetic, with corrosion protective finish

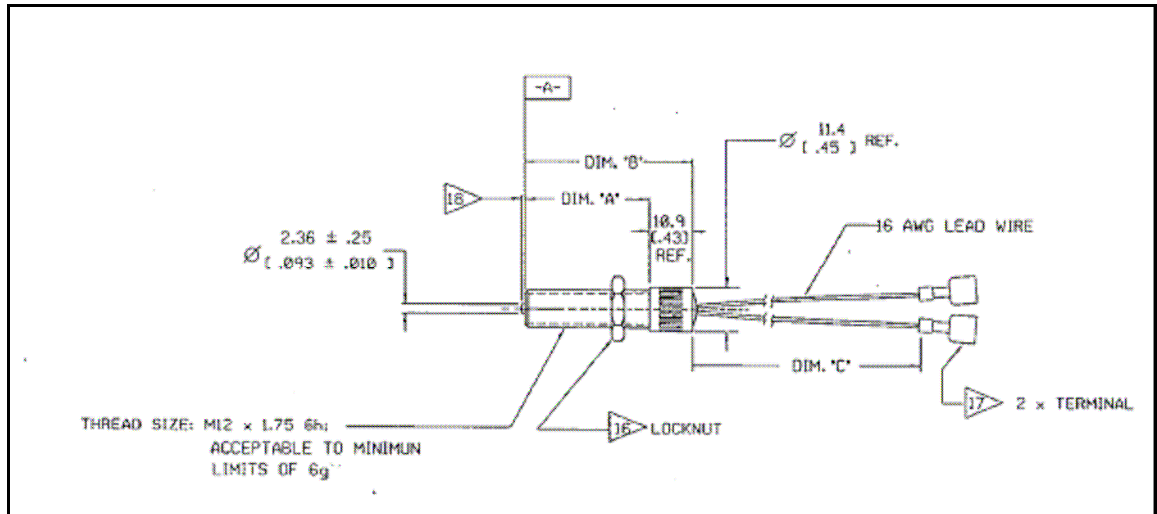
**Sealing:**

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.

**M12 Pickup w/Leads** DYNT 18100

Dimensions in brackets are inches.



**Figure 6. DYNT-18100 Dimensions**

**FIGURE 6 NOTES**

**Note 16 Hex jam-nut**

Size: 19.05mm (0.75") across flats;  
thickness 5.1 / 6.6mm (0.200" / 0.260")

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Note 17 Terminals**

6.35mm (0.25") insulated tab terminal AMP p/n:  
3-520107-2 or 3-520106-2  
OR equivalent that will mate with AMP 6.35  
(0.25) insulated receptacle terminal.

**Note 18**

The tip to be flush to ± 0.12mm (± 0.005") from surface

**Specifications & Dimensions**

| PART NUMBER | OUTPUT VOLTAGE * | RESISTANCE (MAXIMUM) | DIMENSIONS       |                     |                  |
|-------------|------------------|----------------------|------------------|---------------------|------------------|
|             | 3.6V             | 1000 Ohms            | Dim. A           | Dim. B              | Dim. C           |
| DYNT-18100  | ●                | ●                    | 70 mm<br>(2.76") | 88.39 mm<br>(3.48") | 40 mm<br>(1.57") |

(\*) Tested at surface speed of 280 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

**Temperature Range:**

-100 °F to +225 °F (-73.3 °C to +107.2 °C)

**Polarity:**

Pin "B" to go positive when magnetic flux linkage is increased

**Case:**

Non-magnetic stainless steel

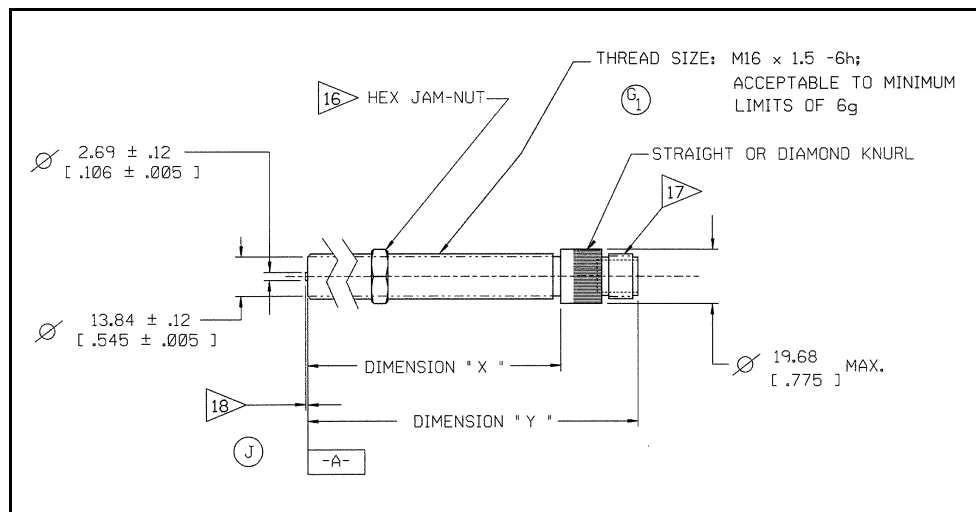
**Sealing:**

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.

**M16 Pickup** DYNT 11000 Series & 16000 Series

Dimensions in brackets are inches.

**Figure 7. DYNT Series 11000 and Series 16000 Dimensions****FIGURE 7 NOTES****Note 16 Hex jam-nut**

DYNT-11000 Series: Size: 24.00-23.67 mm (0.944-0.931") across flats;  
thickness 8.00 / 7.42 mm (0.314" / 0.292")

DYNT-16000 Series: Size: 23.85 mm (0. 0.938") across flats;  
thickness 5.1 / 6.6 mm (0.200" / 0.260")

Material to be:

- 1) Corrosion resistant steel
- 2) Zinc plated steel with supplemental clear chromate dip
- 3) Zinc plated brass with supplemental clear chromate dip

**Note 17 Output connector**

Connector to mate with MS3106A 10SL-4S connector  
or equivalent (see Figure 8)

**Note 18 Output connector**

The tip to be flush to  $\pm 0.12$ mm ( $\pm 0.005$ ") from surface

**Note:** Material for the straight or diamond knurl barrel is  
non-magnetic stainless steel or aluminum

**M16 Pickup****Specifications & Dimensions**

| PART NUMBER | OUTPUT VOLTAGE * |     | RESISTANCE (MAXIMUM) |           | DIMENSIONS         |                    |
|-------------|------------------|-----|----------------------|-----------|--------------------|--------------------|
|             | 3.6V             | 10V | 250 Ohms             | 1200 Ohms | Dim. X             | Dim. Y             |
| DYNT-11100  | ●                |     | ●                    |           | 63.5 mm<br>(2.5")  | 91.4 mm (3.6")     |
| DYNT-16100  |                  | ●   |                      | ●         |                    |                    |
| DYNT-11200  | ●                |     | ●                    |           | 101.6 mm<br>(4.0") | 129.5 mm<br>(5.1") |
| DYNT-11300  | ●                |     | ●                    |           | 25.4 mm<br>(1.0")  | 53.3 mm (2.1")     |
| DYNT-11400  | ●                |     | ●                    |           | 76.2 mm<br>(3.0")  | 104.1 mm<br>(4.1") |
| DYNT-11500  | ●                |     | ●                    |           | 152.4 mm<br>(6.0") | 180.3 mm<br>(7.1") |
| DYNT-11600  | ●                |     | ●                    |           | 127.0 mm<br>(5.0") | 154.9 mm<br>(6.1") |

(\*) Tested at surface speed of 200 inches/second with a 20-pitch, 60-tooth gear at 0.025 (0.635) air gap and a resistive load of 100,000 Ohms

**Temperature Range:**

DYNT 11000 Series: -100°F to +248°F (-73.3°C to +120°C)

DYNT 16000 Series: -100°F to +225°F (-73.3°C to +107.2°C)

**Polarity:**

Pin "B" to go positive when magnetic flux linkage is increased

**Case:**

Non-magnetic stainless steel

**Sealing:**

Sealed to withstand 3 psi (20.68 Kpa) applied at tip end with no leakage out connector or lead end.

Capable of functioning immersed in motor oil or diesel fuel.

Capable of functioning in 95% humidity.



For DYNT Series magnetic pickup wire connections using MS-3106A-10SL-4S mating connector

Dimensions in brackets are inches.

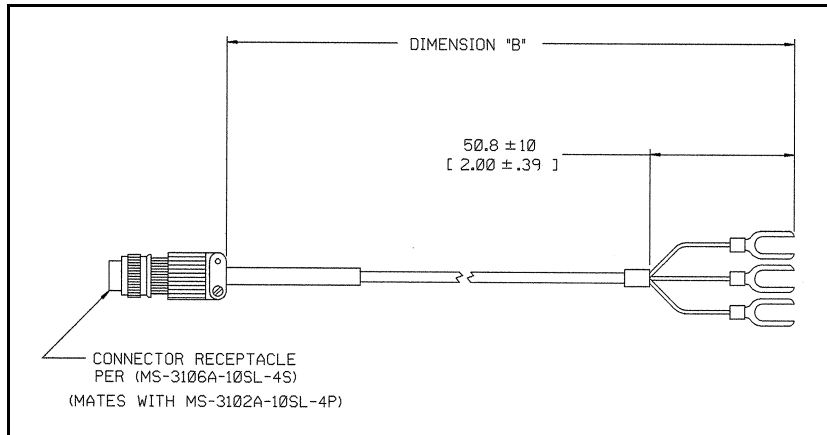
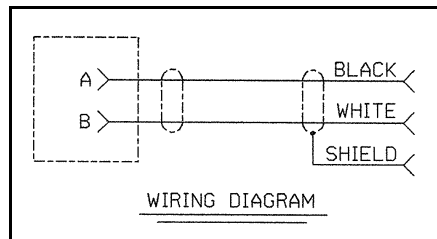


Figure 8. DK81-00X-0-00 Cable Harness Dimensions

| PART NUMBER   | DIMENSION B                        |
|---------------|------------------------------------|
| DK81-001-0-00 | 3000.0 ± 51.0 mm<br>(118.1 ± 2.0") |
| DK81-002-0-00 | 914.4 ± 51.0 mm<br>(36.0 ± 2.0")   |
| DK81-003-0-00 | 1524.0 ± 51.0 mm<br>(60.0 ± 2.0")  |
| DK81-007-0-00 | 4267.2 ± 51.0 mm<br>(168.0 ± 2.0") |
| DK81-009-0-00 | 1066.8 ± 51.0 mm<br>(42.0 ± 2.0")  |
| DK81-010-0-00 | 1778.0 ± 51.0 mm<br>(70.0 ± 2.0")  |



**WARNING—OVERSPEED PROTECTION**

The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage.

The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate.

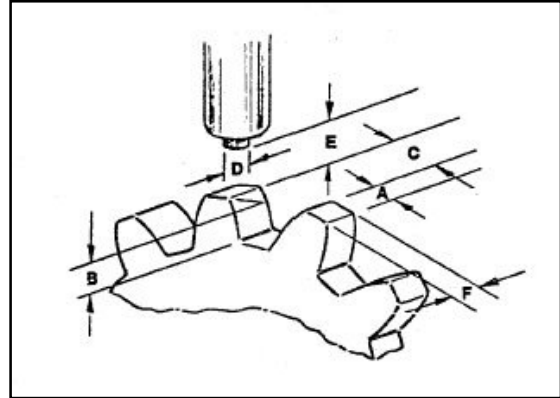
# INTERFACE SURFACE SELECTION

An optimum interface surface for either gears or flat disks with holes is essential for maximum voltage. **Figure 9** illustrates the ideal surface for gears; **Figures 10-12** illustrate surfaces for flat disks.

## GEARS

In **Figure 9**, the optimum dimensions of A, B, C, and F are given as they relate to D—the diameter of pole piece of the magnetic pickup being used. The optimum relationship for maximum output is as follows:

- A. (dimension of top of tooth) equal to or greater than D
- B. (height of tooth) equal to or greater than C
- C. (space between teeth) equal to or greater than  $3 \times D$
- D. diameter of pole piece
- E. (clearance) as close as possible; typically  $0.38 \pm 0.13$  mm ( $0.015 \pm 0.005$ " )
- F. (gear thickness) equal to or greater than D



At times when maximum output is not required, a conventional stock gear can provide an output very close to the maximum if the tooth width (A) is equal to or greater than the pickup pole piece diameter (D). Gear thickness is not critical as long as it is equal to or greater than the pole piece diameter. For ease of alignment, the thickness should be two or three times the pole piece diameter. The spacing between the pole piece and any magnetic material between “dwell” periods should be equal to or greater than the pole piece diameter. These conditions are approximated when using a standard gear tooth having a diametral pitch of 8 or less. Such large tooth gears are necessary only when maximum output is desired.

## FLAT DISKS

**Figures 10-12** illustrate the various dimensional considerations when a flat disk is used with blind holes or through-holes drilled parallel to the shaft or with blind holes drilled perpendicular to the shaft. It is absolutely essential when using a disk with drilled holes that the holes be accurately spaced along the hole circle on the disk. Irregularly spaced holes will cause a phase shift in the magnetic pickup voltage with a resulting unwanted change in engine speed. The controller interprets the phase shift as a change in engine speed when actually it is not.)

In the figures below, the optimum dimensions of A, B, C, and E are given as they relate to D, the diameter of the pole piece of the magnetic pickup. (Dimension B does not apply in Figure 10.) The optimum relationship for maximum output is as follows:

- A. (space between holes) equal to or greater than D
- B. (depth of holes) equal to or greater than D
- C. (diameter of holes) equal to or greater than  $3 \times D$
- D. (diameter of pole piece)
- E. (clearance)  $0.38 \pm 0.13$  mm ( $0.015 \pm 0.005$ " )

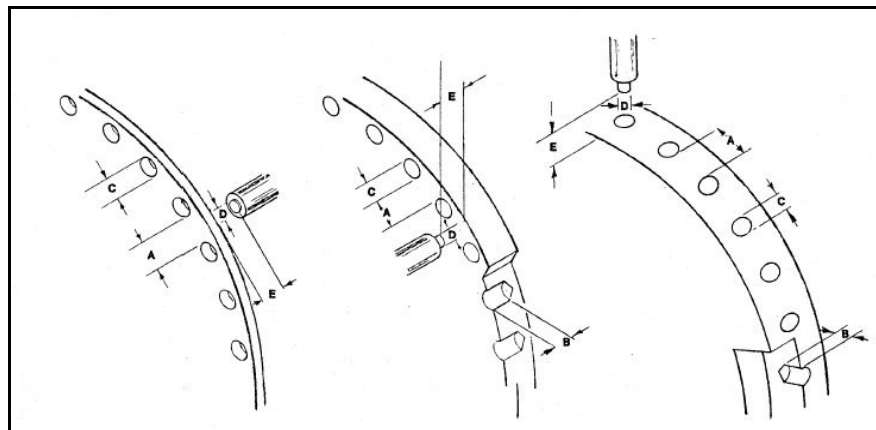


Figure 10

Figure 11

Figure 12

# RELATED DOCUMENTATION

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**Product Specificaton 36533**  
5/8 and 3/4 Magnetic Pickups



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