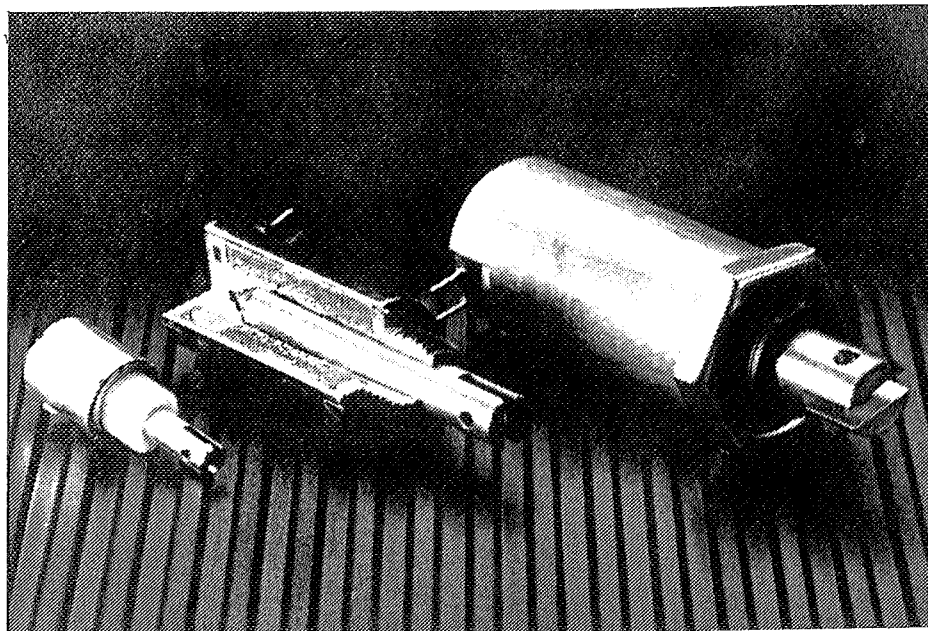
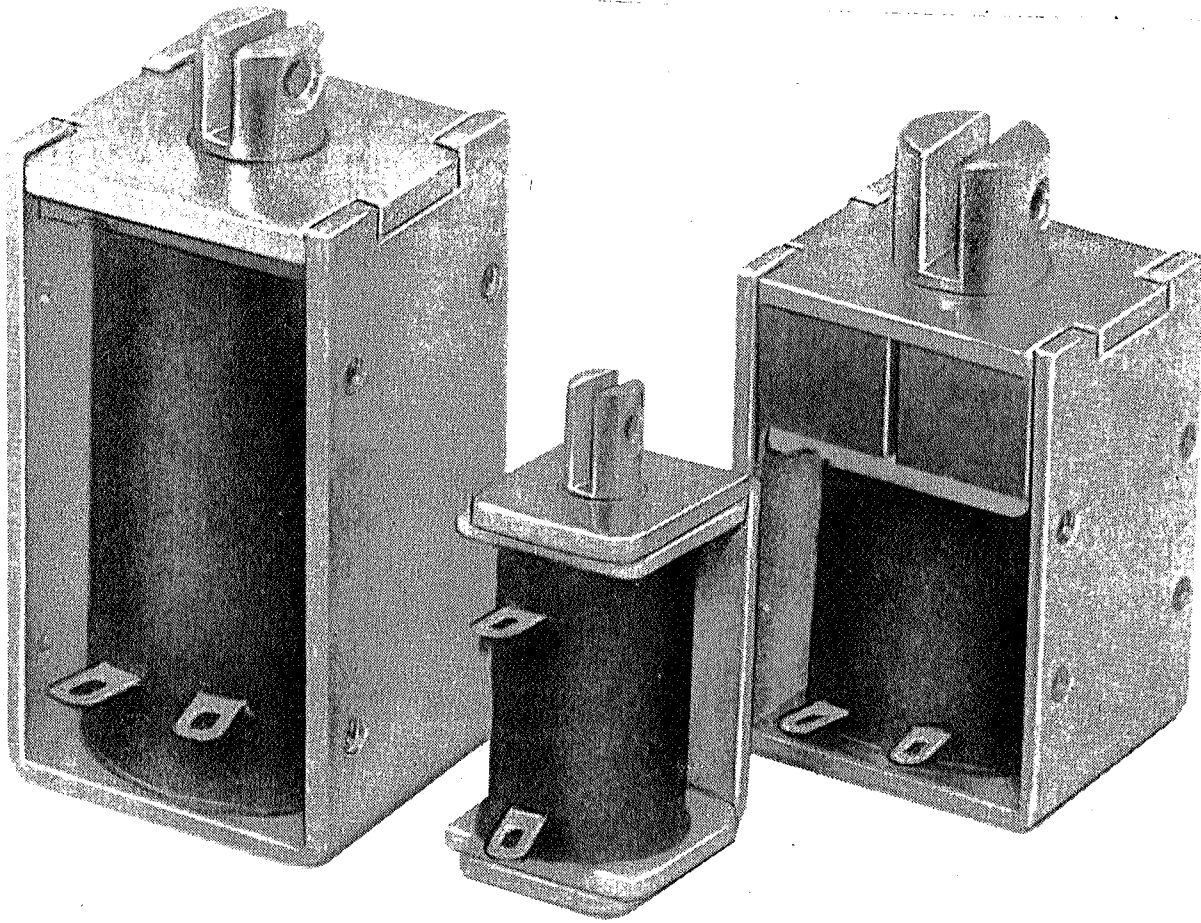
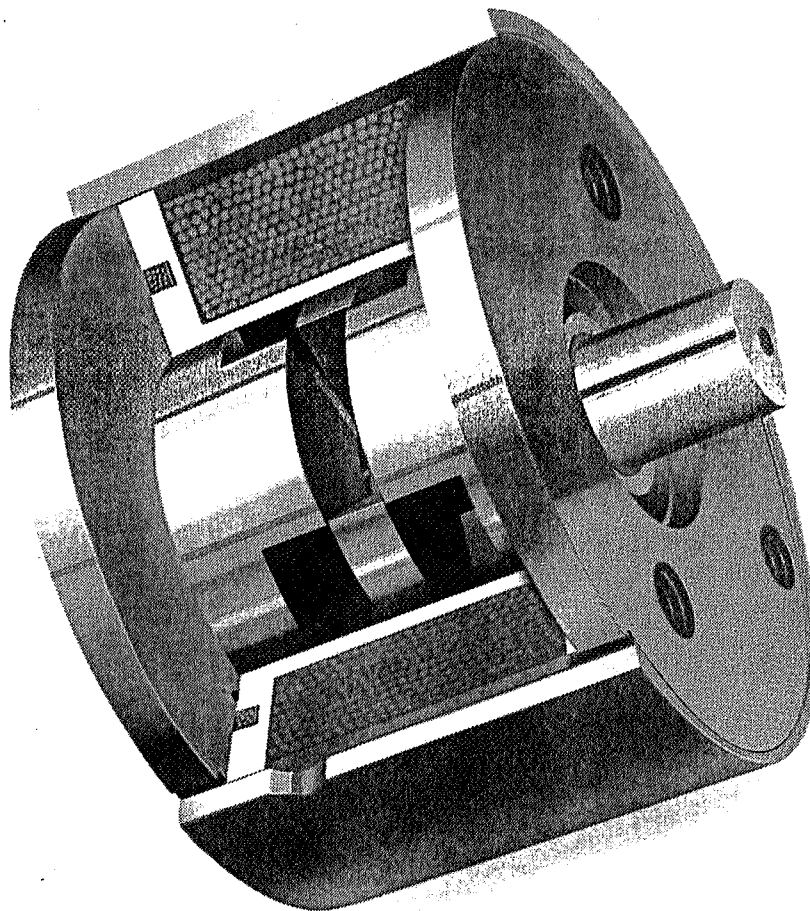
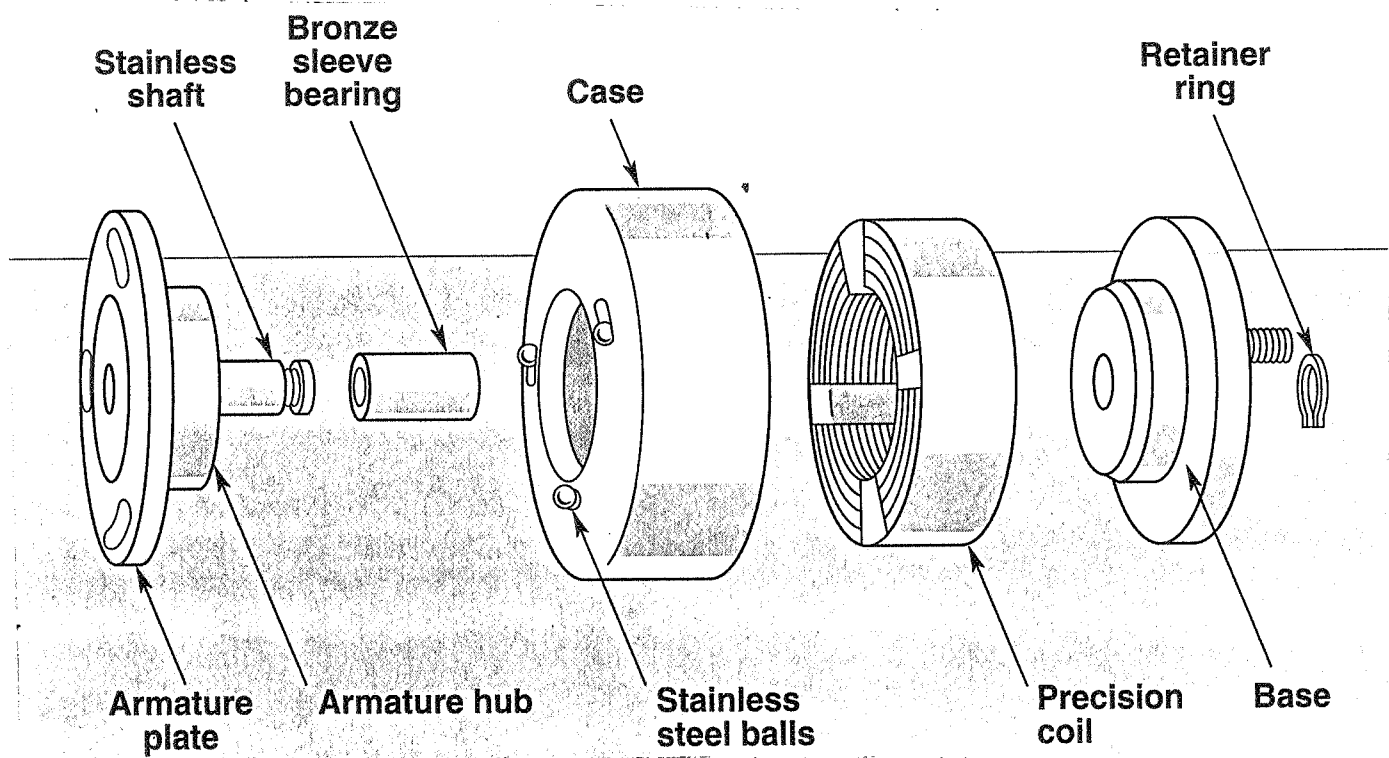


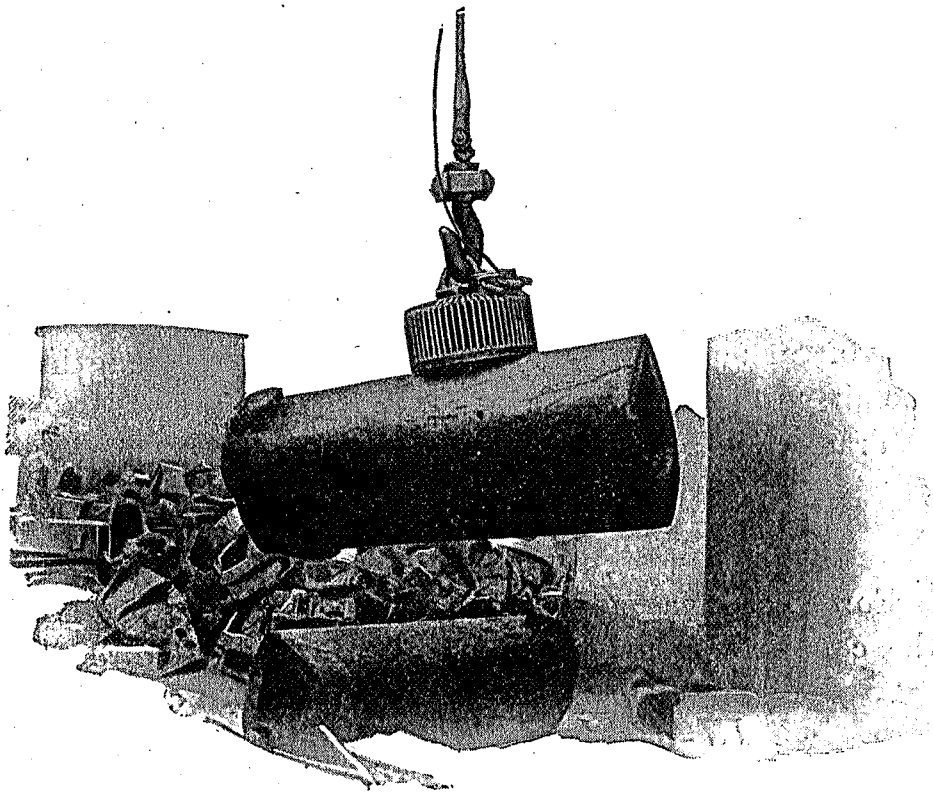
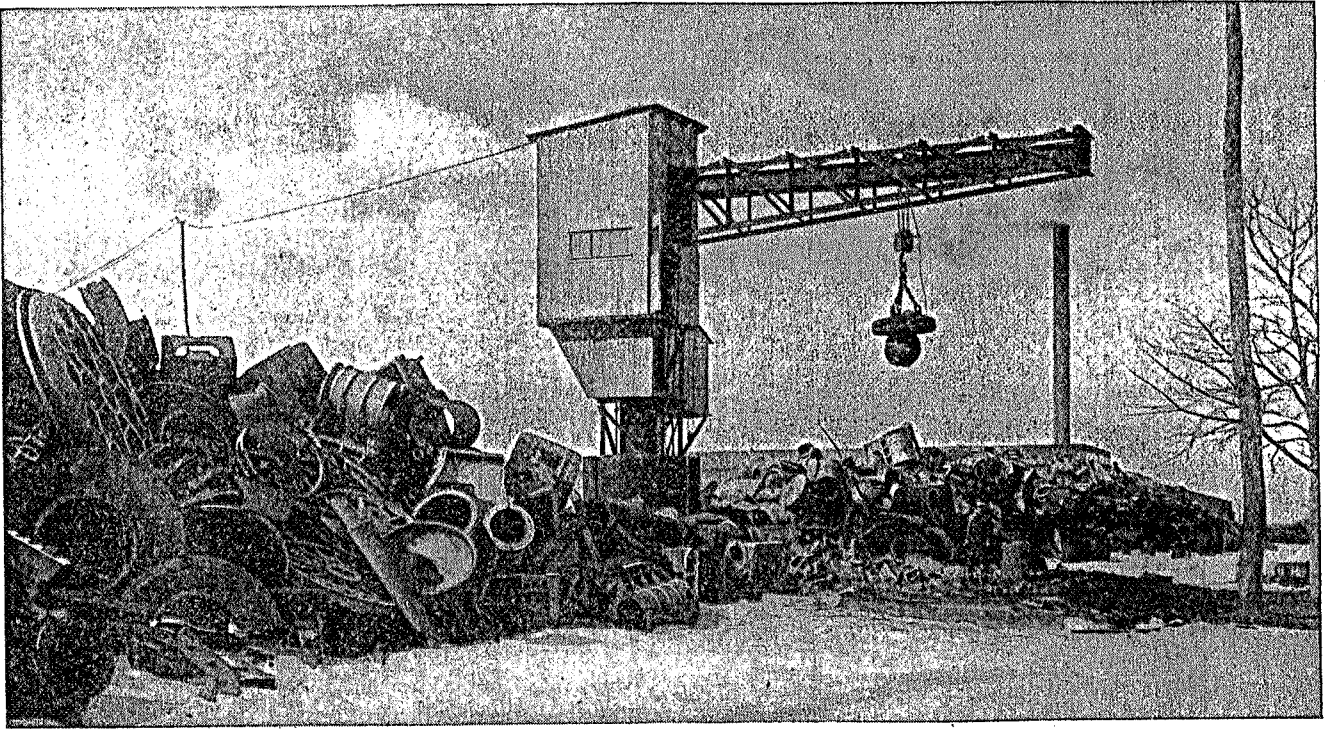
## Linear Solenoids

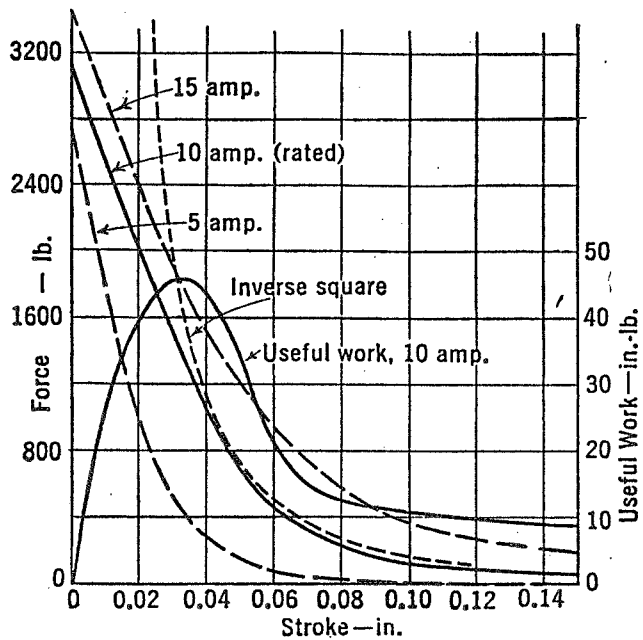
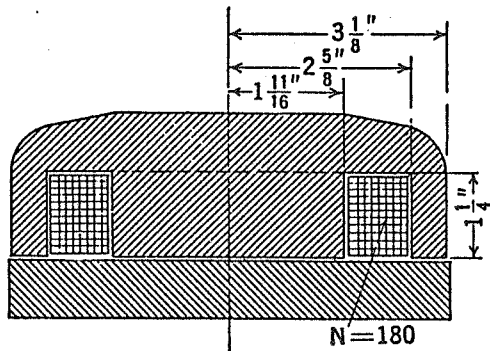


# Rotary Solenoids

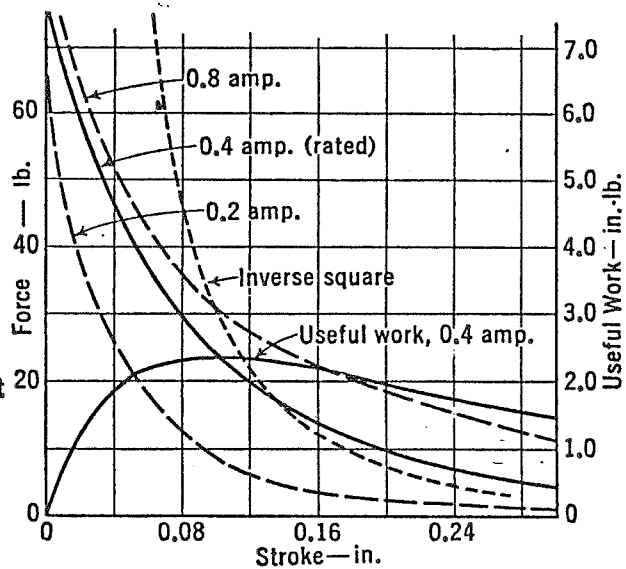
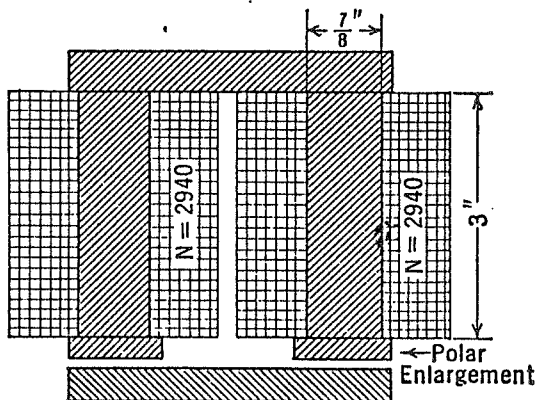


# Lifting Magnets

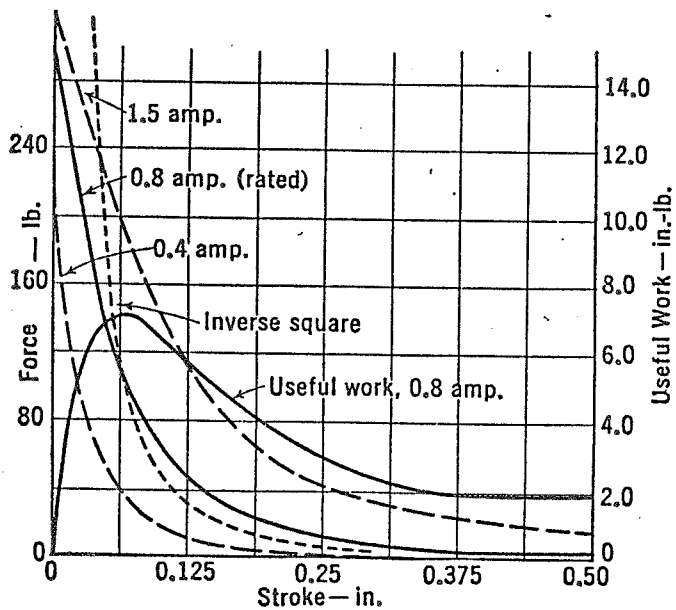
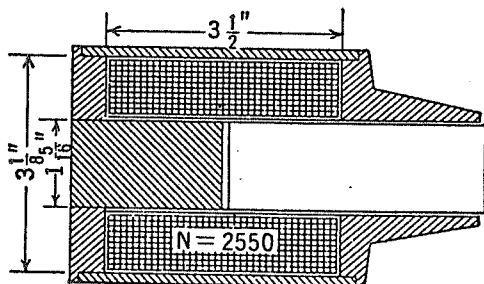




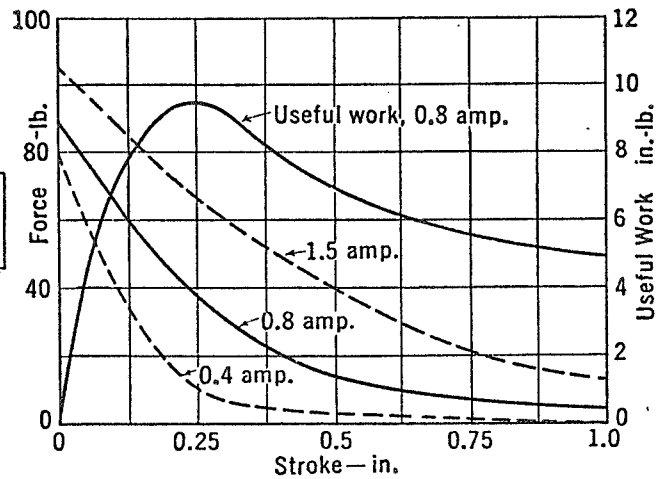
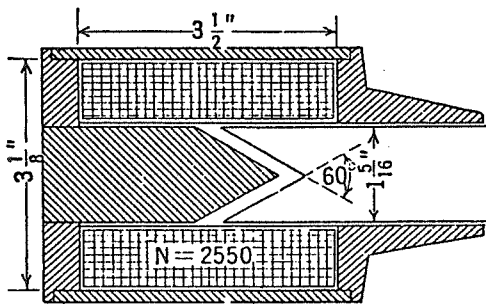
(a)



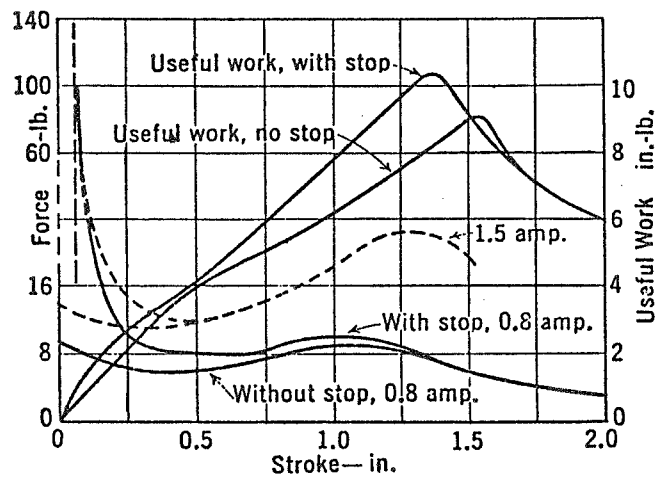
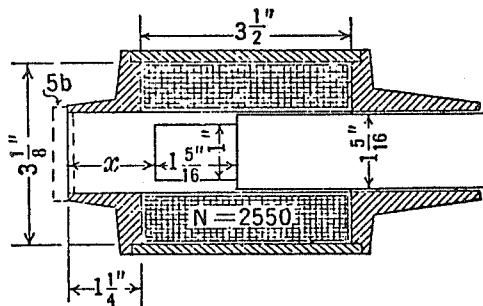
(b)



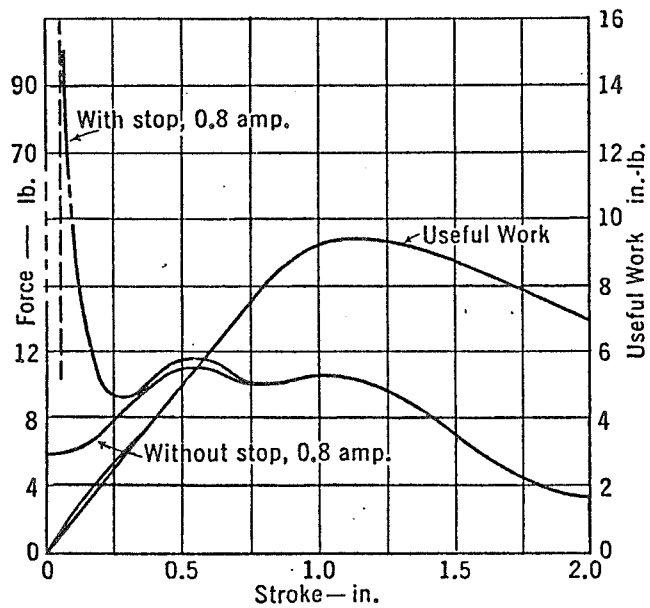
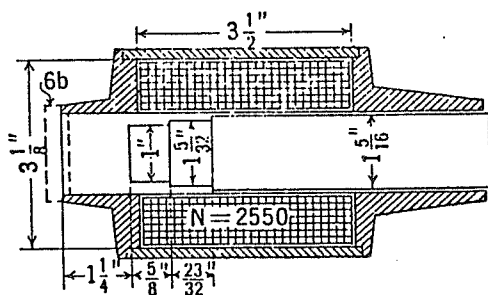
(c)



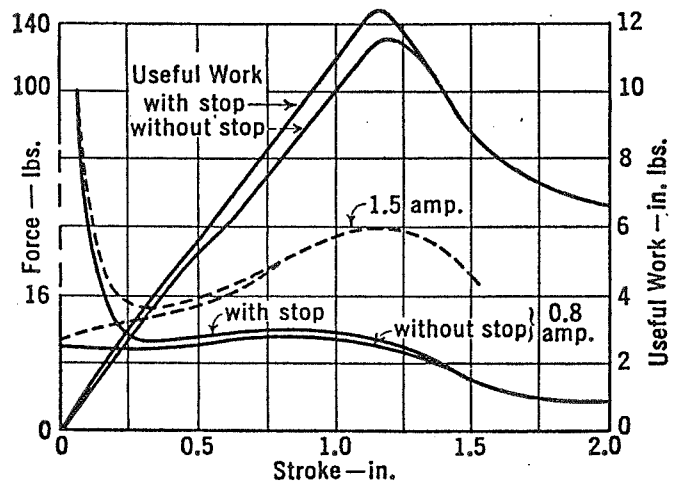
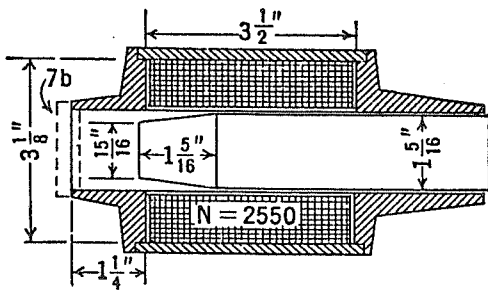
(d)



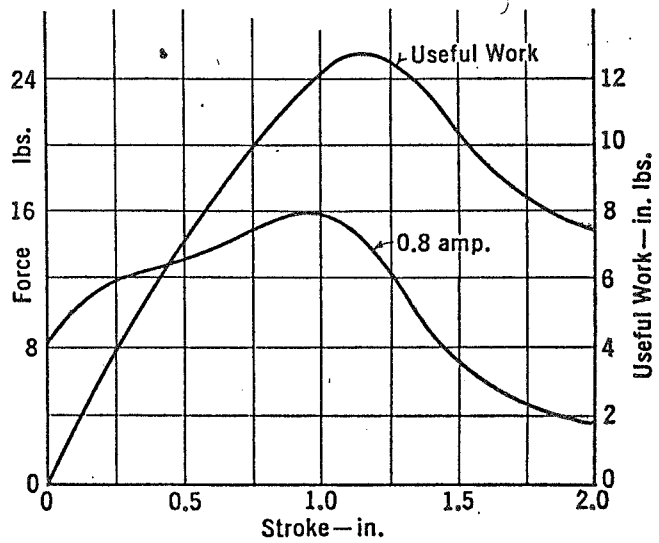
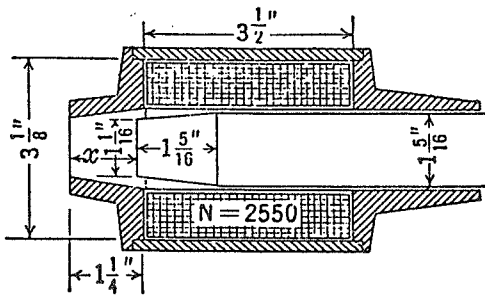
(e)



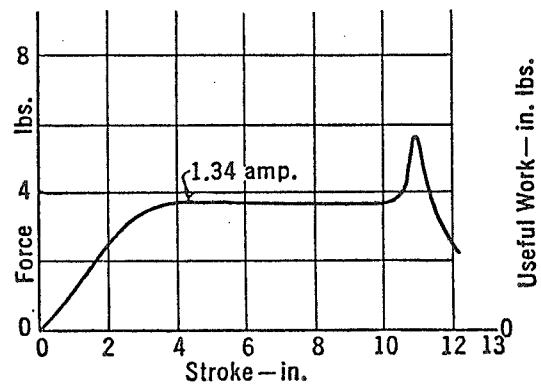
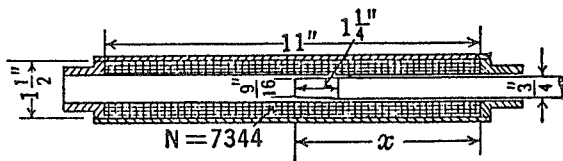
(f)



(g)



(h)

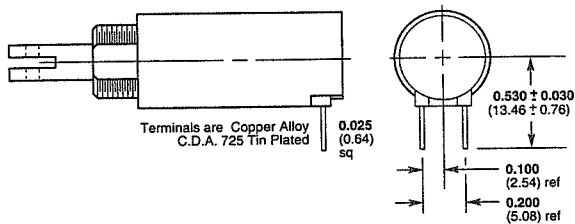


(i)

# Series 20 Pull Solenoid — 1/2" Dia. X 1"

Terminal Models: Part No. 189546-OXX

Lead Wire Models: Part No. 189547-OXX

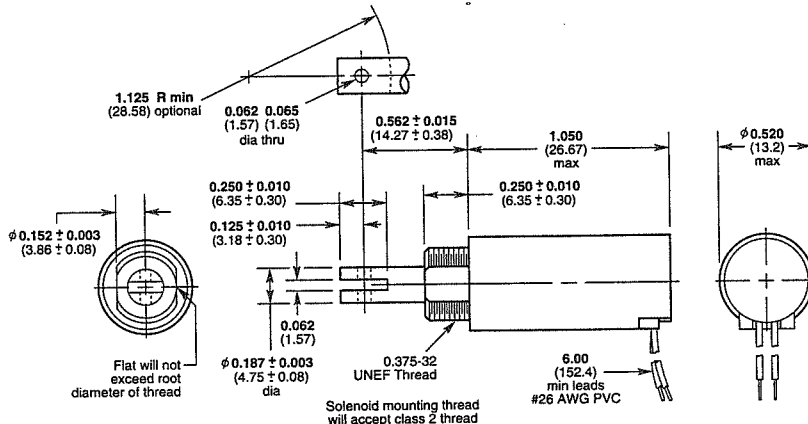


**Berg Connector:** #65039-034  
Our Part Number 183775-002

**22-26 AWG Pin No.:** 47750 (2 Req'd)  
Our Part Number 189620-002

(Stocked at the factory)

Solenoids  
Shown  
Energized

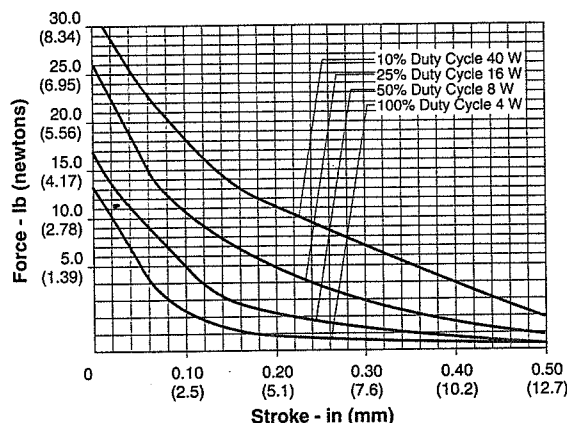


## Specifications

|                                      |                                                                                                                                                                                       |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dielectric Strength</b>           | 500 VRMS                                                                                                                                                                              |
| <b>Recommended Minimum Heat Sink</b> | Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminum plate measuring 2" square by 1/8" thick |
| <b>Holding Force</b>                 | 12 oz at 20°C                                                                                                                                                                         |
| <b>Weight</b>                        | 0.84 oz (24 gms)                                                                                                                                                                      |

**Caution:** Do not apply more than 15 oz-in torque maximum on mounting threads

## Series 20 1/2" Dia. Pull — Typical Force at 20°C\*



|                                                             | Maximum Duty Cycle |          |          |          |
|-------------------------------------------------------------|--------------------|----------|----------|----------|
|                                                             | Cont. Duty         | 50% Duty | 25% Duty | 10% Duty |
| Maximum ON Time (sec) when pulsed continuously <sup>1</sup> | ∞                  | 50       | 5        | 2        |
| Maximum ON Time (sec) for single pulse <sup>2</sup>         | ∞                  | 140      | 30       | 8        |
| Watts (@ 20°C)                                              | 4                  | 8        | 16       | 40       |
| Ampere Turns (@ 20°C)                                       | 497                | 704      | 994      | 1,573    |

| Coil Data              |                    |                      | Nominal VDC |          |          |          |
|------------------------|--------------------|----------------------|-------------|----------|----------|----------|
| avg (OXX) <sup>3</sup> | Resistance (@20°C) | # Turns <sup>4</sup> | Cont. Duty  | 50% Duty | 25% Duty | 10% Duty |
| 27                     | 1.43               | 306                  | 2.4         | 3.4      | 4.8      | 7.6      |
| 28                     | 1.95               | 342                  | 2.8         | 3.9      | 5.6      | 8.8      |
| 29                     | 3.84               | 508                  | 3.9         | 5.5      | 7.8      | 12.4     |
| 30                     | 5.29               | 572                  | 4.6         | 6.5      | 9.2      | 14.5     |
| 31                     | 9.56               | 795                  | 6.2         | 8.8      | 12.4     | 19.6     |
| 32                     | 16.54              | 1,068                | 8.1         | 11.5     | 16.3     | 25.7     |
| 33                     | 22.60              | 1,194                | 9.5         | 13.4     | 19.0     | 30.0     |
| 34                     | 37.41              | 1,547                | 12.2        | 17.3     | 24.0     | 39.0     |
| 35                     | 60.71              | 1,976                | 15.6        | 22.0     | 31.0     | 49.0     |
| 36                     | 96.19              | 2,475                | 19.6        | 28.0     | 39.0     | 62.0     |
| 37                     | 149.93             | 3,060                | 24.5        | 35.0     | 49.0     | 77.0     |

<sup>1</sup> Continuously pulsed at stated watts and duty cycle

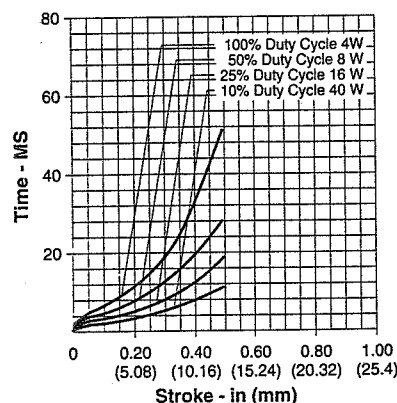
<sup>2</sup> Single pulse at stated watts (with coil at ambient room temperature 20°C)

<sup>3</sup> Other coil avg sizes available — please consult factory

<sup>4</sup> Reference number of turns

**How to order:** Add the coil avg number (OXX) to the part number (for example: to order a 25% duty cycle unit with terminals rated at 4.8 VDC, specify 189546-027). See page D2 for in-stock models.

## Series 20 1/2" Dia. Pull — Typical Speed @ No Load, 20°C\*



\* Performance data based on average test results of 35 and 38 avg wire sizes