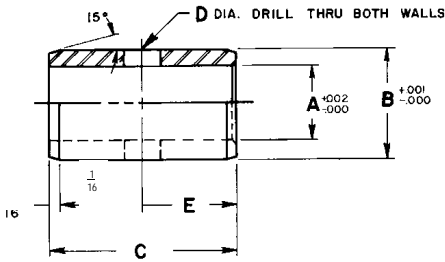
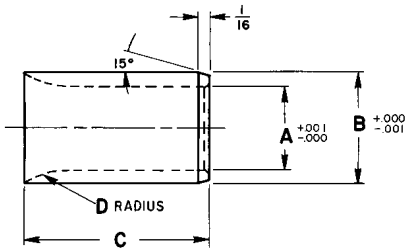


# New From United For Swing Hangars, Frames and Truck Brake Riggings:



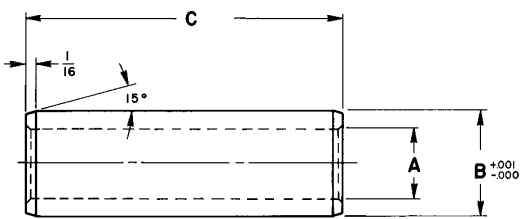
**TYPE GPA**

UNITED PART NO.	A	B	C	D	E
GPA-112-19-1 1/4	1-1/4	1.758	1-3/16	1/2	9/16
GPA-112-20-1 3/8	1-3/8	1.758	1-1/4	9/16	1/2



**TYPE GPB**

UNITED PART NO.	A	B	C	D
GPB-94-11-1.128	1.128	1.484	11/16	1/8
GPB-136-34-1 3/4	1-3/4	2.125	2-1/8	9/32
GPB-138-34-1 47/64	1-47/64	2.140	2-9/64	9/32
GPB-152-22-2	2	2.375	1-3/4	1/4
GPB-154-27-1 63/64	1-63/64	2.390	1-11/16	9/32
GPB-161-48-2 1/8	2-1/8	2.531	3-1/64	3/8
GPB-192-62-2.654	2.654	3.046	3-27/32	5/16



**TYPE GPC**

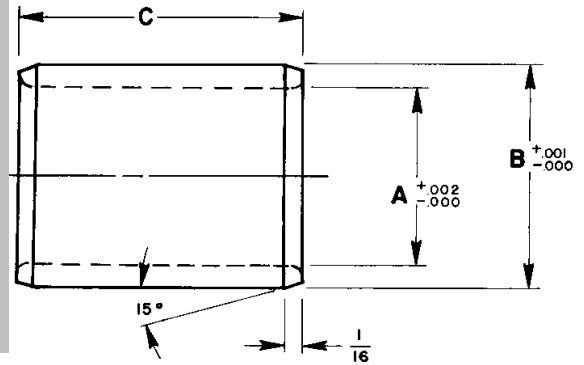
UNITED PART NO.	A	B	C
GPC-94-137-15/16	15/16	1.485	8-19/32
GPC-94-157-15/16	15/16	1.485	9-13/16
GPC-102-124-15/16	15/16	1.609	7-25/32
GPC-102-127-15/16	15/16	1.609	7-31/32
GPC-115-128-15/16	15/16	1.796	8

**NEW!  
RAILROAD  
BUSHINGS**

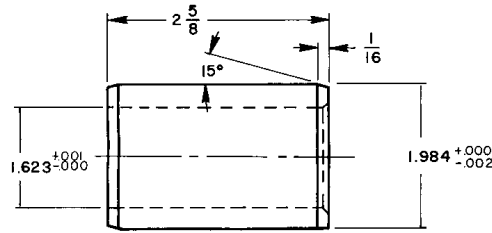
**UNIFORMLY  
CASE  
HARDENED**

**HIGH  
QUALITY  
STEEL**

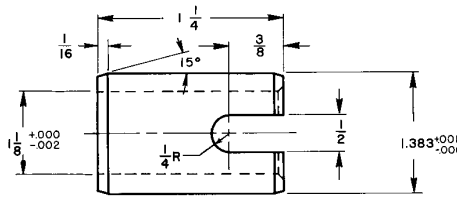
General Purpose GP  
Series GP-XXX (See page A45) →



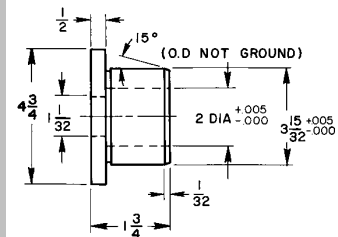
**SPECIALIZED and GENERAL PURPOSE TYPES**



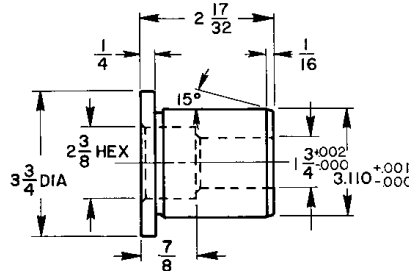
**GPD-125-42-1.623**



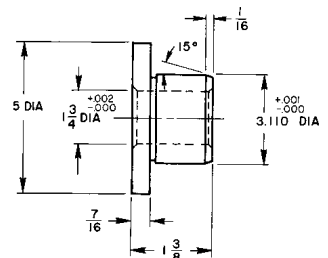
**GPE-89-32-1-1/8**



**GPF-222-28-1-1/32**



**GPG-200-40-1-3/4**



**GPH-200-22-1-3/4**

# Precision Ground Railroad Bushings

GPPART NO.	A	B	C
GP-89-8-1	1	1.383	1/2
GP-89-12-1	1	1.383	3/4
GP-89-16-1	1	1.383	1
GP-89-24-1	1	1.383	1-1/2
GP-89-8-1 1/8	1-1/8	1.383	1/2
GP-95-10-1 1/8	1-1/8	1.490	5/8
GP-95-12-1 1/8	1-1/8	1.490	3/4
GP-95-15-1 1/8	1-1/8	1.490	15/16
GP-95-16-1 1/8	1-1/8	1.490	1
GP-95-20-1 1/8	1-1/8	1.490	1-1/4
GP-95-24-1 1/8	1-1/8	1.490	1-1/2
GP-95-28-1 1/8	1-1/8	1.490	1-3/4
GP-95-32-1 1/8	1-1/8	1.490	2
GP-95-36-1 1/8	1-1/8	1.490	2-1/4
GP-95-40-1 1/8	1-1/8	1.490	2-1/2
GP-95-41-1 1/8	1-1/8	1.490	2-9/16
GP-95-44-1 1/8	1-1/8	1.490	2-3/4
GP-96-14-1	1	1.508	7/8
GP-96-16-1	1	1.508	1
GP-96-8-1 1/8	1-1/8	1.508	1/2
GP-96-10-1 1/8	1-1/8	1.508	5/8
GP-96-12-1 1/8	1-1/8	1.508	3/4
GP-96-15-1 1/8	1-1/8	1.508	15/16
GP-96-16-1 1/8	1-1/8	1.508	1
GP-96-18-1 1/8	1-1/8	1.508	1-1/8
GP-96-20-1 1/8	1-1/8	1.508	1-1/4
GP-96-24-1 1/8	1-1/8	1.508	1-1/2
GP-96-32-1 1/8	1-1/8	1.508	2
GP-96-32-1 1/4	1-1/4	1.508	2
GP-103-10-1 1/4	1-1/4	1.615	5/8
GP-103-12-1 1/4	1-1/4	1.615	3/4
GP-103-14-1 1/4	1-1/4	1.615	29/32
GP-103-16-1 1/4	1-1/4	1.615	1
GP-103-18-1 1/4	1-1/4	1.615	1-3/32
GP-103-20-1 1/4	1-1/4	1.615	1-1/4
GP-103-24-1 1/4	1-1/4	1.615	1-1/2
GP-103-28-1 1/4	1-1/4	1.615	1-3/4
GP-103-30-1 1/4	1-1/4	1.615	1-29/32
GP-103-32-1 1/4	1-1/4	1.615	2
GP-103-33-1 1/4	1-1/4	1.615	2-1/32
GP-103-36-1 1/4	1-1/4	1.615	2-1/4
GP-103-38-1 1/4	1-1/4	1.615	2-3/8
GP-103-40-1 1/4	1-1/4	1.615	2-1/2
GP-103-44-1 1/4	1-1/4	1.615	2-3/4
GP-103-45-1 1/4	1-1/4	1.615	2-13/16
GP-105-20-1 1/8	1-1/8	1.633	1-1/4
GP-105-8-1 1/4	1-1/4	1.633	1/2
GP-105-10-1 1/4	1-1/4	1.633	5/8
GP-105-12-1 1/4	1-1/4	1.633	3/4
GP-105-13-1 1/4	1-1/4	1.633	13/16
GP-105-14-1 1/4	1-1/4	1.633	29/32
GP-105-16-1 1/4	1-1/4	1.633	1
GP-105-18-1 1/4	1-1/4	1.633	1-1/8
GP-105-20-1 1/4	1-1/4	1.633	1-1/4
GP-105-24-1 1/4	1-1/4	1.633	1-1/2
GP-105-26-1 1/4	1-1/4	1.633	1-5/8
GP-105-30-1 1/4	1-1/4	1.633	1-29/32
GP-105-32-1 1/4	1-1/4	1.633	2
GP-105-36-1 1/4	1-1/4	1.633	2-1/4
GP-111-10-1 3/8	1-3/8	1.740	5/8
GP-111-12-1 3/8	1-3/8	1.740	3/4
GP-111-16-1 3/8	1-3/8	1.740	1
GP-111-18-1 3/8	1-3/8	1.740	1-1/8
GP-111-20-1 3/8	1-3/8	1.740	1-1/4
GP-111-24-1 3/8	1-3/8	1.740	1-1/2
GP-111-28-1 3/8	1-3/8	1.740	1-3/4
GP-111-32-1 3/8	1-3/8	1.740	2
GP-112-12-1 1/4	1-1/4	1.758	3/4
GP-112-14-1 1/4	1-1/4	1.758	7/8
GP-112-15-1 1/4	1-1/4	1.758	15/16
GP-112-16-1 1/4	1-1/4	1.758	1
GP-112-17-1 1/4	1-1/4	1.758	1-1/16
GP-112-18-1 1/4	1-1/4	1.758	1-1/8
GP-112-22-1 1/4	1-1/4	1.758	1-3/8
GP-112-54-1 1/4	1-1/4	1.758	3-3/8

GPPART NO.	A	B	C
GP-112-5-1 3/8	1-3/8	1.758	5/16
GP-112-8-1 3/8	1-3/8	1.758	1/2
GP-112-10-1 3/8	1-3/8	1.758	5/8
GP-112-12-1 3/8	1-3/8	1.758	3/4
GP-112-14-1 3/8	1-3/8	1.758	7/8
GP-112-16-1 3/8	1-3/8	1.758	1
GP-112-18-1 3/8	1-3/8	1.758	1-1/8
GP-112-20-1 3/8	1-3/8	1.758	1-1/4
GP-112-24-1 3/8	1-3/8	1.758	1-1/2
GP-112-32-1 3/8	1-3/8	1.758	2
GP-119-10-1	1-1/2	1.865	5/8
GP-119-12-1	1-1/2	1.865	3/4
GP-119-13-1 1/2	1-1/2	1.865	27/32
GP-119-16-1 1/2	1-1/2	1.865	1
GP-119-18-1 1/2	1-1/2	1.865	1-3/32
GP-119-20-1 1/2	1-1/2	1.865	1-1/4
GP-119-24-1 1/2	1-1/2	1.865	1-1/2
GP-119-28-1 1/2	1-1/2	1.865	1-3/4
GP-119-32-1 1/2	1-1/2	1.865	2
GP-119-36-1 1/2	1-1/2	1.865	2-1/4
GP-119-40-1 1/2	1-1/2	1.865	2-1/2
GP-119-44-1 1/2	1-1/2	1.865	2-3/4
GP-120-32-1 1/2	1.508	1.878	2
GP-121-16-1 3/8	1-3/8	1.883	1
GP-121-18-1 3/8	1-3/8	1.883	1-1/8
GP-121-10-1 1/2	1-1/2	1.883	5/8
GP-121-12-1 1/2	1-1/2	1.883	3/4
GP-121-14-1 1/2	1-1/2	1.883	7/8
GP-121-16-1 1/2	1-1/2	1.883	1
GP-121-18-1 1/2	1-1/2	1.883	1-3/32
GP-121-20-1 1/2	1-1/2	1.883	1-1/4
GP-121-24-1 1/2	1-1/2	1.883	1-1/2
GP-121-32-1 1/2	1-1/2	1.883	2
GP-121-42-1 1/2	1-1/2	1.883	2-5/8
GP-127-10-1 5/8	1-5/8	1.990	5/8
GP-127-20-1 5/8	1-5/8	1.990	1-1/4
GP-128-16-1 1/2	1-1/2	2.008	1
GP-128-18-1 1/2	1-1/2	2.008	1-1/8
GP-128-20-1 1/2	1-1/2	2.008	1-1/4
GP-128-10-1 5/8	1-5/8	2.008	5/8
GP-128-12-1 5/8	1-5/8	2.008	3/4
GP-128-16-1 5/8	1-5/8	2.008	1
GP-128-18-1 5/8	1-5/8	2.008	1-1/8
GP-128-24-1 5/8	1-5/8	2.008	1-1/2
GP-128-32-1 43/64	1-43/64	2.008	2
GP-135-10-1 1/4	1-3/4	2.115	5/8
GP-135-12-1 3/4	1-3/4	2.115	3/4
GP-135-16-1 3/4	1-3/4	2.115	1
GP-135-17-1 3/4	1-3/4	2.115	1-1/16
GP-135-18-1 3/4	1-3/4	2.115	1-1/8
GP-135-20-1 3/4	1-3/4	2.115	1-1/4
GP-135-24-1 3/4	1-3/4	2.115	1-1/2
GP-135-28-1 3/4	1-3/4	2.115	1-3/4
GP-135-32-1 3/4	1-3/4	2.115	2
GP-135-36-1 3/4	1-3/4	2.115	2-1/4
GP-135-40-1 3/4	1-3/4	2.115	2-1/2
GP-135-44-1 3/4	1-3/4	2.115	2-3/4
GP-135-47-1 3/4	1-3/4	2.115	2-15/16
GP-135-63-1 3/4	1-3/4	2.115	3-15/16
GP-137-36-1 5/8	1-5/8	2.133	2-1/4
GP-137-10-1 3/4	1-3/4	2.133	5/8
GP-137-12-1 3/4	1-3/4	2.133	3/4
GP-137-14-1 3/4	1-3/4	2.133	7/8
GP-137-16-1 3/4	1-3/4	2.133	1
GP-137-17-1 3/4	1-3/4	2.133	1-1/16
GP-137-18-1 3/4	1-3/4	2.133	1-1/8
GP-137-20-1 3/4	1-3/4	2.133	1-1/4
GP-137-24-1 3/4	1-3/4	2.133	1-1/2
GP-137-32-1 3/4	1-3/4	2.133	2
GP-137-44-1 3/4	1-3/4	2.133	2-3/4
GP-137-47-1 3/4	1-3/4	2.133	2-15/16
GP-137-48-1 3/4	1-3/4	2.133	3
GP-137-29-1 13/16	1-13/16	2.133	1-13/16
GP-137-31-1 13/16	1-13/16	2.133	1-31/32
GP-141-10-1 13/16	1-13/16	2.195	5/8

GPPART NO.	A	B	C
GP-143-69-1 3/4	1.751	2.254	4-5/16
GP-144-15-1 3/4	1-3/4	2.258	15/16
GP-144-18-1 3/4	1-3/4	2.258	1-1/8
GP-144-20-1 3/4	1-3/4	2.258	1-1/4
GP-144-24-1 3/4	1-3/4	2.258	1-1/2
GP-144-32-1 3/4	1-3/4	2.258	2
GP-144-32-1 13/16	1-13/16	2.258	2
GP-151-24-2	2	2.365	1-1/2
GP-152-28-2	2	2.375	1-3/4
GP-153-14-2	2	2.383	7/8
GP-153-20-2	2	2.383	1-1/4
GP-153-24-2	2	2.383	1-1/2
GP-153-26-2	2	2.383	1-5/8
GP-153-28-2	2	2.383	1-3/4
GP-153-32-2	2	2.383	2
GP-160-16-2	2	2.508	1
GP-160-18-2	2	2.508	1-1/8
GP-160-20-2	2	2.508	1-1/4
GP-160-24-2	2	2.508	1-1/2
GP-160-32-2	2	2.508	2
GP-160-36-2	2	2.508	2-1/4
GP-160-48-2	2	2.508	3
GP-160-52-2	2	2.508	3-1/4
GP-160-64-2	2	2.508	4
GP-160-24-2 1/16	2-1/16	2.508	1-1/2
GP-160-28-2 1/16	2-1/16	2.508	1-3/4
GP-160-32-2 1/16	2-1/16	2.508	2
GP-160-32-2 1/16	2-1/16	2.508	2-1/32
GP-175-26-2 27/64	2-27/64	2.740	1-5/8
GP-176-22-2 1/4	2-1/4	2.758	1-3/8
GP-176-24-2 1/4	2-1/4	2.758	1-1/2
GP-176-34-2 1/4	2-1/4	2.758	2-1/8
GP-176-36-2 1/4	2-1/4	2.758	2-1/4
GP-176-60-2 1/4	2-1/4	2.758	3-3/4
GP-176-26-2 13/32	2-13/32	2.758	1-5/8
GP-176-26-2 27/32	2-27/64	2.758	1-5/8
GP-181-27-2 5/16	2-5/16	2.820	1-23/32
GP-181-32-2 5/16	2-5/16	2.820	2
GP-181-38-2 5/16	2-5/16	2.820	2-3/8
GP-183-32-2 3/8	2-3/8	2.883	2
GP-192-25-2 7/16	2-7/16	3.008	1-9/16
GP-192-24-2 1/2	2-1/2	3.008	1-1/2
GP-192-32-2 1/2	2-1/2	3.008	2
GP-192-36-2 1/4	2-1/2	3.008	2-1/4
GP-192-32-2 9/16	2-9/16	3.008	2
GP-192-36-2 9/16	2-9/16	3.008	2-1/4
GP-192-48-2 9/16	2-9/16	3.008	3
GP-197-43-2 5/16	2-5/16	3.070	2-11/16
GP-197-24-2 9/16	2-9/16	3.070	1-1/2
GP-197-28-2 9/16	2-9/16	3.070	1-3/4
GP-197-30-2 9/16	2-9/16	3.070	1-7/8
GP-197-32-2 9/16	2-9/16	3.070	2
GP-208-12-2 3/4	2-3/4	3.258	3/4
GP-208-24-2 3/4	2-3/4	3.258	1-1/2
GP-208-28-2 3/4	2-3/4	3.258	1-3/4
GP-208-29-2 3/4	2-3/4	3.258	1-13/16
GP-208-32-2 3/4	2-3/4	3.258	2
GP-208-33-2 3/4	2-3/4	3.258	2-1/16
GP-208-34-2 3/4	2-3/4	3.258	2-1/8
GP-208-36-2 3/4	2-3/4	3.258	2-1/4
GP-224-28-3	3	3.508	1-3/4
GP-224-35-3	3	3.508	2-3/16
GP-224-41-3	3	3.508	2-9/16
GP-227-15-3	3.067	3.552	31/32
GP-229-15-3 1/16	3-1/16	3.570	31/32
GP-230-32-3 3/32	3-3/32	3.586	2
GP-231-17-3 1/8	3-1/8	3.615	1-3/32
GP-233-32-3 3/32	3-3/32	3.633	2
GP-233-17-3 1/8	3-1/8	3.633	1-3/32
GP-236-94-3 1/16	3-1/16	3.696	5-7/8
GP-247-18-3 1/2	3-1/2	3.865	1-1/8
GP-249-18-3 1/2	3-1/2	3.883	1-1/8
GP-260-31-3 9/16	3-9/16	4.195	1-15/16
GP-260-39-3 9/16	3-9/16	4.195	2-7/16
GP-285-41-3 9/16	3-9/16	4.445	2-9/16

*Precision Bushings*

***If It Has Anything To Do  
With Bushings, We Build It  
Better At UNITED!***

**BUSHINGS  
GALORE!**



**AND  
THERE'S  
MORE...  
CALL *UNITED*  
TODAY!**

**PRECISION SPECIAL GUN DRILL BUSHINGS  
FOR  
DRILLMATION, DeHOFF, ELDORADO, LAHR,  
PRATT WHITNEY  
AND YOUR MACHINES!**

**A46**

**All Aboard With *UNITED* Quality!**

5-10-97

# Avoid Set Up Delays

**Gun Drill Master  
Liners Sets in Cases**

## UNITED GUN DRILL MASTER LINER SETS

With a **UNITED GDL MASTER GUN DRILL LINER SET** you avoid set up delays and increase your gun drill guiding capacity.

Each set covers minimum to maximum GDI Insert ranges.

Liners store easily in a durable polyethylene case.



**GUN DRILL MASTER LINER  
SETS in CASES  
AVAILABLE: CASES ONLY**

## SELECT YOUR O.D.

1" O.D. SET: GDL-64	1-3/8 O.D. SET: GDL-88	1-3/4 O.D. SET: GDL-112	2-1/4 O.D. SET: GDL-144																																																				
Set of FIVE 1" O.D. by 1" long GDL Gun Drill Bushing Master Liners.	Set of SIX 1-3/8 O.D. by 1-3/8 long GDL Gun Drill Bushing Master Liners.	Set of SEVEN 1-3/4 O.D. by 1-3/4 long GDL Gun Drill Bushing Master Liners.	Set of FOUR 2-1/4 O.D. by 2-1/8 long GDL Gun Drill Bushing Master Liners.																																																				
<table border="0"> <tr> <th style="background-color: #cccccc;">GD MASTER LINER</th> <th style="background-color: #cccccc;">USE WITH 1/2" LONG INSERTS</th> </tr> <tr> <td>GDL-64-16-13</td> <td>13/64 O.D.</td> </tr> <tr> <td>GDL-64-16-16</td> <td>1/4 O.D.</td> </tr> <tr> <td>GDL-64-16-20</td> <td>5/16 O.D.</td> </tr> <tr> <td>GDL-64-16-32</td> <td>1/2 O.D.</td> </tr> <tr> <td>GDL-64-16-48</td> <td>3/4 O.D.</td> </tr> </table>	GD MASTER LINER	USE WITH 1/2" LONG INSERTS	GDL-64-16-13	13/64 O.D.	GDL-64-16-16	1/4 O.D.	GDL-64-16-20	5/16 O.D.	GDL-64-16-32	1/2 O.D.	GDL-64-16-48	3/4 O.D.	<table border="0"> <tr> <th style="background-color: #cccccc;">GD MASTER LINER</th> <th style="background-color: #cccccc;">USE WITH 3/4" LONG INSERTS</th> </tr> <tr> <td>GDL-88-22-13</td> <td>13/64 O.D.</td> </tr> <tr> <td>GDL-88-22-16</td> <td>1/4 O.D.</td> </tr> <tr> <td>GDL-88-22-20</td> <td>5/16 O.D.</td> </tr> <tr> <td>GDL-88-22-32</td> <td>1/2 O.D.</td> </tr> <tr> <td>GDL-88-22-48</td> <td>3/4 O.D.</td> </tr> <tr> <td>GDL-88-22-64</td> <td>1" O.D.</td> </tr> </table>	GD MASTER LINER	USE WITH 3/4" LONG INSERTS	GDL-88-22-13	13/64 O.D.	GDL-88-22-16	1/4 O.D.	GDL-88-22-20	5/16 O.D.	GDL-88-22-32	1/2 O.D.	GDL-88-22-48	3/4 O.D.	GDL-88-22-64	1" O.D.	<table border="0"> <tr> <th style="background-color: #cccccc;">GD MASTER LINER</th> <th style="background-color: #cccccc;">USE WITH 1" LONG INSERTS</th> </tr> <tr> <td>GDL-112-28-13</td> <td>13/64 O.D.</td> </tr> <tr> <td>GDL-112-28-16</td> <td>1/4 O.D.</td> </tr> <tr> <td>GDL-112-28-20</td> <td>5/16 O.D.</td> </tr> <tr> <td>GDL-112-28-32</td> <td>1/2 O.D.</td> </tr> <tr> <td>GDL-112-28-48</td> <td>3/4 O.D.</td> </tr> <tr> <td>GDL-112-28-64</td> <td>1" O.D.</td> </tr> <tr> <td>GDL-112-28-88</td> <td>1-3/8 O.D.</td> </tr> </table>	GD MASTER LINER	USE WITH 1" LONG INSERTS	GDL-112-28-13	13/64 O.D.	GDL-112-28-16	1/4 O.D.	GDL-112-28-20	5/16 O.D.	GDL-112-28-32	1/2 O.D.	GDL-112-28-48	3/4 O.D.	GDL-112-28-64	1" O.D.	GDL-112-28-88	1-3/8 O.D.	<table border="0"> <tr> <th style="background-color: #cccccc;">GD MASTER LINER</th> <th style="background-color: #cccccc;">USE WITH 1-1/4" LONG INSERTS</th> </tr> <tr> <td>GDL-144-34-48</td> <td>3/4 O.D.</td> </tr> <tr> <td>GDL-144-34-64</td> <td>1" O.D.</td> </tr> <tr> <td>GDL-144-34-88</td> <td>1-3/8 O.D.</td> </tr> <tr> <td>GDL-144-34-112</td> <td>1-3/4 O.D.</td> </tr> </table>	GD MASTER LINER	USE WITH 1-1/4" LONG INSERTS	GDL-144-34-48	3/4 O.D.	GDL-144-34-64	1" O.D.	GDL-144-34-88	1-3/8 O.D.	GDL-144-34-112	1-3/4 O.D.
GD MASTER LINER	USE WITH 1/2" LONG INSERTS																																																						
GDL-64-16-13	13/64 O.D.																																																						
GDL-64-16-16	1/4 O.D.																																																						
GDL-64-16-20	5/16 O.D.																																																						
GDL-64-16-32	1/2 O.D.																																																						
GDL-64-16-48	3/4 O.D.																																																						
GD MASTER LINER	USE WITH 3/4" LONG INSERTS																																																						
GDL-88-22-13	13/64 O.D.																																																						
GDL-88-22-16	1/4 O.D.																																																						
GDL-88-22-20	5/16 O.D.																																																						
GDL-88-22-32	1/2 O.D.																																																						
GDL-88-22-48	3/4 O.D.																																																						
GDL-88-22-64	1" O.D.																																																						
GD MASTER LINER	USE WITH 1" LONG INSERTS																																																						
GDL-112-28-13	13/64 O.D.																																																						
GDL-112-28-16	1/4 O.D.																																																						
GDL-112-28-20	5/16 O.D.																																																						
GDL-112-28-32	1/2 O.D.																																																						
GDL-112-28-48	3/4 O.D.																																																						
GDL-112-28-64	1" O.D.																																																						
GDL-112-28-88	1-3/8 O.D.																																																						
GD MASTER LINER	USE WITH 1-1/4" LONG INSERTS																																																						
GDL-144-34-48	3/4 O.D.																																																						
GDL-144-34-64	1" O.D.																																																						
GDL-144-34-88	1-3/8 O.D.																																																						
GDL-144-34-112	1-3/4 O.D.																																																						
Order as: GDL-64	Order as: GDL-88	Order as: GDL-112	Order as: GDL-144																																																				
ALL O.D.s SET: GDL-176	CASES ONLY MOLDED CASE WITHOUT BUSHINGS HANDSOME, DURABLE BLACK MOLDED POLYETHYLENE CASE. ORGANIZE YOUR GUN DRILL BUSHINGS IN THE CASE THAT HAS A PLACE FOR EVERYTHING. ORDER BY SIZE BELOW.																																																						
Set of FIVE by 2-1/2 long GDL Gun Drill Bushing Master Liners.	CASE ONLY NO.	FOR GDL SIZES	NO. of BUSHINGS	CASE DIMENSIONS																																																			
<table border="0"> <tr> <th style="background-color: #cccccc;">GD MASTER LINER</th> <th style="background-color: #cccccc;">USE WITH 2-1/2" LONG INSERTS</th> </tr> <tr> <td>GDL-176-40-48</td> <td>3/4 O.D.</td> </tr> <tr> <td>GDL-176-40-64</td> <td>1" O.D.</td> </tr> <tr> <td>GDL-176-40-88</td> <td>1-3/8 O.D.</td> </tr> <tr> <td>GDL-176-40-112</td> <td>1-3/4 O.D.</td> </tr> <tr> <td>GDL-176-40-144</td> <td>2-1/4 O.D.</td> </tr> </table>	GD MASTER LINER	USE WITH 2-1/2" LONG INSERTS	GDL-176-40-48	3/4 O.D.	GDL-176-40-64	1" O.D.	GDL-176-40-88	1-3/8 O.D.	GDL-176-40-112	1-3/4 O.D.	GDL-176-40-144	2-1/4 O.D.	GDL-64B	1" O.D. x 1" Long	5	6-1/2 x 4-1/2 x 2																																							
GD MASTER LINER	USE WITH 2-1/2" LONG INSERTS																																																						
GDL-176-40-48	3/4 O.D.																																																						
GDL-176-40-64	1" O.D.																																																						
GDL-176-40-88	1-3/8 O.D.																																																						
GDL-176-40-112	1-3/4 O.D.																																																						
GDL-176-40-144	2-1/4 O.D.																																																						
Order as: GDL-176	GDL-88B	1-3/8 O.D. x 1-3/8 Long	6	10-1/4 x 7-1/2 x 3-1/2																																																			
	GDL-112B	1-3/4 O.D. x 1-3/4 Long	7	13-1/2 x 9 x 4-1/4																																																			
	GDL-144B	2-1/4 O.D. x 2-1/8 Long	4	13-1/2 x 9 x 4-1/4																																																			
	GDL-176B	2-3/4 O.D. x 2-1/2 Long	5	13-1/2 x 9 x 4-1/4																																																			

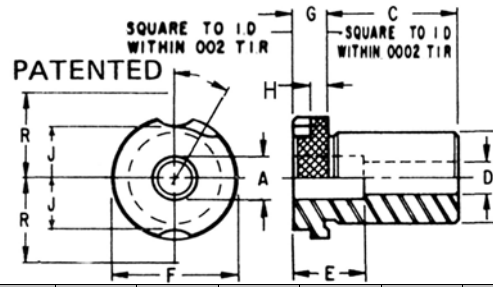
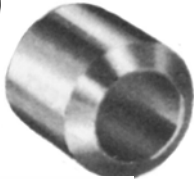
**Gun Drill Liner Bushings GDL**

# Expanded Gun Drill Bushings



**GUN DRILL LINER BUSHINGS**

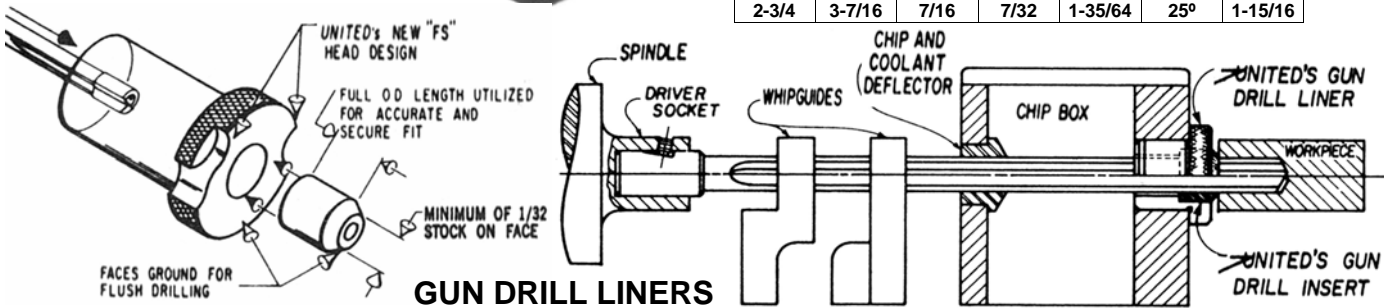
**GUN DRILL INSERTS**



O. D.	F	G	H	J	L	R
1"	1-27/64	3/8	3/16	19/32	35°	59/64
1-3/8	1-51/64	3/8	3/16	25/32	30°	1-7/64
1-3/4	2-19/64	3/8	3/16	1"	30°	1-25/64
2-1/4	2-51/64	3/8	3/16	1-1/4	25°	1-41/64
2-3/4	3-7/16	7/16	7/32	1-35/64	25°	1-15/16

**STYLE GDL**

See this Section for Inserts.

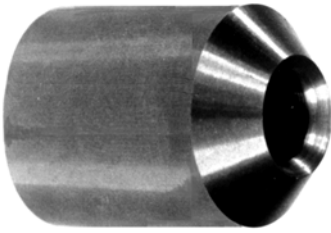


**GUN DRILL LINERS**

A I.D. SIZES			USE INSERT	B O.D. SIZES		C LENGTHS - UNDER HEAD						D	E
NOM.	ACTUAL	NOM.		ACTUAL	1"	1-3/8	1-3/4	2-1/8	2-1/2	3"			
13/64	.2045 - .2047	GDI-13-8	1"	1.0000 - .9998	GDL-64-16-13	GDL-64-22-13	GDL-64-28-13	GDL-64-34-13	GDL-64-40-13	GDL-64-48-13	1/8	7/16	
1/4	.2515 - .2517	GDI-16-8			GDL-64-16-16	GDL-64-22-16	GDL-64-28-16	GDL-64-34-16	GDL-64-40-16	GDL-64-48-16	5/32		
5/16	.3140 - .3142	GDI-20-8			GDL-64-16-20	GDL-64-22-20	GDL-64-28-20	GDL-64-34-20	GDL-64-40-20	GDL-64-48-20	7/32		
1/2	.5016 - .5018	GDI-32-8			GDL-64-16-32	GDL-64-22-32	GDL-64-28-32	GDL-64-34-32	GDL-64-40-32	GDL-64-48-32	11/32		
3/4	.7517 - .7519	GDI-48-8			GDL-64-16-48	GDL-64-22-48	GDL-64-28-48	GDL-64-34-48	GDL-64-40-48	GDL-64-48-48	9/16		
13/64	.2045 - .2047	GDI-13-12	1-3/8	1.3750 - 1.3747	GDL-88-16-13	GDL-88-22-13	GDL-88-28-13	GDL-88-34-13	GDL-88-40-13	GDL-88-48-13	1/8	5/8	
1/4	.2515 - .2517	GDI-16-12			GDL-88-16-16	GDL-88-22-16	GDL-88-28-16	GDL-88-34-16	GDL-88-40-16	GDL-88-48-16	5/32		
5/16	.3140 - .3142	GDI-20-12			GDL-88-16-20	GDL-88-22-20	GDL-88-28-20	GDL-88-34-20	GDL-88-40-20	GDL-88-48-20	7/32		
1/2	.5016 - .5018	GDI-32-12			GDL-88-16-32	GDL-88-22-32	GDL-88-28-32	GDL-88-34-32	GDL-88-40-32	GDL-88-48-32	11/32		
3/4	.7517 - .7519	GDI-48-12			GDL-88-16-48	GDL-88-22-48	GDL-88-28-48	GDL-88-34-48	GDL-88-40-48	GDL-88-48-48	9/16		
1"	1.0017 - 1.0019	GDI-64-12	GDL-88-16-64	GDL-88-22-64	GDL-88-28-64	GDL-88-34-64	GDL-88-40-64	GDL-88-48-64	51/64				
13/64	.2045 - .2047	GDI-13-16	1-3/4	1.7500 - 1.7497			GDL-112-28-13	GDL-112-34-13	GDL-112-40-13	GDL-112-48-13	1/8	3/4	
1/4	.2515 - .2517	GDI-16-16					GDL-112-28-16	GDL-112-34-16	GDL-112-40-16	GDL-112-48-16	5/32		
5/16	.3140 - .3142	GDI-20-16					GDL-112-28-20	GDL-112-34-20	GDL-112-40-20	GDL-112-48-20	7/32		
1/2	.5016 - .5018	GDI-32-16					GDL-112-28-32	GDL-112-34-32	GDL-112-40-32	GDL-112-48-32	11/32		
3/4	.7517 - .7519	GDI-48-16					GDL-112-28-48	GDL-112-34-48	GDL-112-40-48	GDL-112-48-48	9/16		
1"	1.0017 - 1.0019	GDI-64-16					GDL-112-28-64	GDL-112-34-64	GDL-112-40-64	GDL-112-48-64	51/64		
1-3/8	1.3771 - 1.3773	GDI-88-16			GDL-112-28-88	GDL-112-34-88	GDL-112-40-88	GDL-112-48-88	1-3/64				
3/4	.7517 - .7519	GDI-48-20	2-1/4	2.2500 - 2.2497			GDL-144-28-48	GDL-144-34-48	GDL-144-40-48	GDL-144-48-48	9/16	1"	
1"	1.0017 - 1.0019	GDI-64-20					GDL-144-28-64	GDL-144-34-64	GDL-144-40-64	GDL-144-48-64	51/64		
1-3/8	1.3771 - 1.3773	GDI-88-20					GDL-144-28-88	GDL-144-34-88	GDL-144-40-88	GDL-144-48-88	1-1/16		
1-3/4	1.7522 - 1.7524	GDI-112-20					GDL-144-28-112	GDL-144-34-112	GDL-144-40-112	GDL-144-48-112	1-27/64		
3/4	.7517 - .7519	GDI-48-24	2-3/4	2.7500 - 2.7497			GDL-176-28-48	GDL-176-34-48	GDL-176-40-48	GDL-176-48-48	9/16	1-1/4	
1"	1.0017 - 1.0019	GDI-64-24					GDL-176-28-64	GDL-176-34-64	GDL-176-40-64	GDL-176-48-64	51/64		
1-3/8	1.3771 - 1.3773	GDI-88-24					GDL-176-28-88	GDL-176-34-88	GDL-176-40-88	GDL-176-48-88	1-1/16		
1-3/4	1.7522 - 1.7524	GDI-112-24					GDL-176-28-112	GDL-176-34-112	GDL-176-40-112	GDL-176-48-112	1-27/64		
2-1/4	1.2525 - 2.2527	GDI-144-24					GDL-176-28-144	GDL-176-34-144	GDL-176-40-144	GDL-176-48-144	1-51/64		

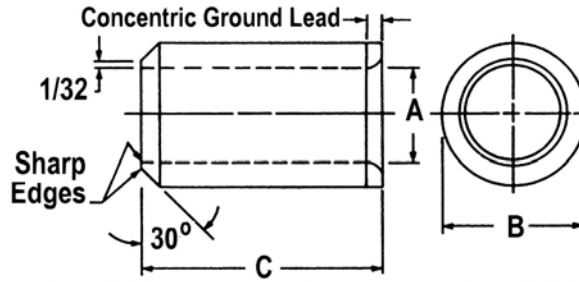
# Standard and Ultra II Inserts for GD Liners

Gun Drill Inserts GDI and Ultra II GDI-UII

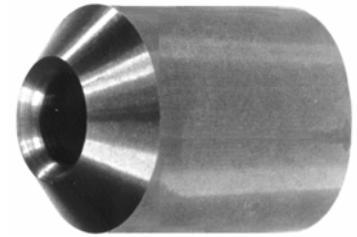


STYLE GDI

STANDARD Material RC-61-65



Note: A and B Diameters concentric and square within .0002 T.I.R.



ULTRA II Material RC-64-68

STYLE GDI-UII

## Type GDI - Standard Gun Drill Inserts

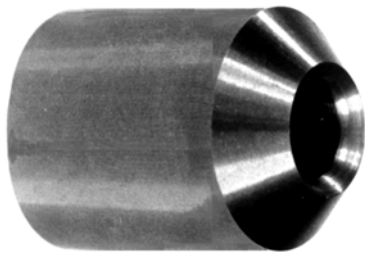
A I.D. SIZES		B O.D. SIZES		C LENGTH					LINER USED IN
NOM.	ACTUAL	NOM	ACTUAL	1/2	3/4	1"	1-1/4	1-1/2	
52 - 39	.0635 - .0995	13/64	.2046 - .2043	GDI-13-8					GDL-64
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513	GDI-16-8					
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138	GDI-20-8					
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014	GDI-32-8					
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515	GDI-48-8					
<b>GDI STANDARD MATERIAL</b>									
52 - 39	.0635 - .0995	13/64	.2046 - .2043			GDI-13-12			GDL-88
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513			GDI-16-12			
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138			GDI-20-12			
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014			GDI-32-12			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515			GDI-48-12			
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015			GDI-64-12			
52 - 39	.0635 - .0995	13/64	.2046 - .2043			GDI-13-16			GDL-112
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513			GDI-16-16			
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138			GDI-20-16			
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014			GDI-32-16			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515			GDI-48-16			
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015			GDI-64-16			
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768			GDI-88-16			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515				GDI-48-20		GDL-144
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015				GDI-64-20		
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768				GDI-88-20		
1" - 1-25/64	1.0000 - 1.3906	1-3/4	1.7523 - 1.7519				GDI-112-20		
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515					GDI-48-24	GDL-176
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015					GDI-64-24	
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768					GDI-88-24	
1" - 1-25/64	1.0000 - 1.3906	1-3/4	1.7523 - 1.7519					GDI-112-24	
1-3/8 - 1-49/64	1.3750 - 1.7656	2-1/4	2.2525 - 2.2521					GDI-144-24	

## 5 to 10 TIMES LONGER WEAR! Type GDI-UII - Ultra II Material Gun Drill Inserts

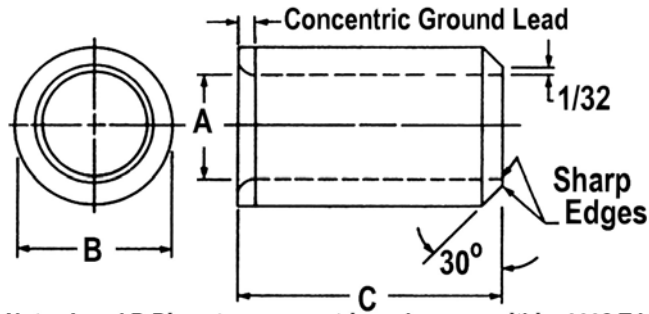
A I.D. SIZES		B O.D. SIZES		C LENGTH					LINER USED IN
NOM.	ACTUAL	NOM	ACTUAL	1/2	3/4	1"	1-1/4	1-1/2	
52 - 39	.0635 - .0995	13/64	.2046 - .2043	GDI-13-8U2					GDL-64
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513	GDI-16-8U2					
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138	GDI-20-8U2					
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014	GDI-32-8U2					
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515	GDI-48-8U2					
<b>GDI-UII ULTRA II MATERIAL 5 TO 10 TIMES WEAR OVER STANDARD</b>									
52 - 39	.0635 - .0995	13/64	.2046 - .2043			GDI-13-12U2			GDL-88
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513			GDI-16-12U2			
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138			GDI-20-12U2			
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014			GDI-32-12U2			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515			GDI-48-12U2			
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015			GDI-64-12U2			
52 - 39	.0635 - .0995	13/64	.2046 - .2043			GDI-13-16U2			GDL-112
40 - 9/64	.0980 - .1406	1/4	.2516 - .2513			GDI-16-16U2			
1/8 - 10	.1250 - .1935	5/16	.3141 - .3138			GDI-20-16U2			
3/16 - 0	.1875 - .3160	1/2	.5017 - .5014			GDI-32-16U2			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515			GDI-48-16U2			
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015			GDI-64-16U2			
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768			GDI-88-16U2			
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515				GDI-48-20U2		GDL-144
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015				GDI-64-20U2		
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768				GDI-88-20U2		
1" - 1-25/64	1.0000 - 1.3906	1-3/4	1.7523 - 1.7519				GDI-112-20U2		
5/16 - 17/32	.3125 - .5312	3/4	.7518 - .7515					GDI-48-24U2	GDL-176
1/2 - 49/64	.5000 - .7656	1"	1.0018 - 1.0015					GDI-64-24U2	
5/8 - 1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768					GDI-88-24U2	
1" - 1-25/64	1.0000 - 1.3906	1-3/4	1.7523 - 1.7519					GDI-112-24U2	
1-3/8 - 1-49/64	1.3750 - 1.7656	2-1/4	2.2525 - 2.2521					GDI-144-24U2	

**Gun Drill Inserts and Bushings GDIC, GDC**

# Carbide Inserts & Press Fit GD Bushings



**STYLE GDIC**



**Note: A and B Diameters concentric and square within .0002 T.I.R.**  
All I.D. sizes are held to +.0002 - .0000 unless otherwise specified.

## Type GDIC - Carbide Gun Drill Inserts

MANUFACTURED AS ORDERED FROM SEMI FINISHED

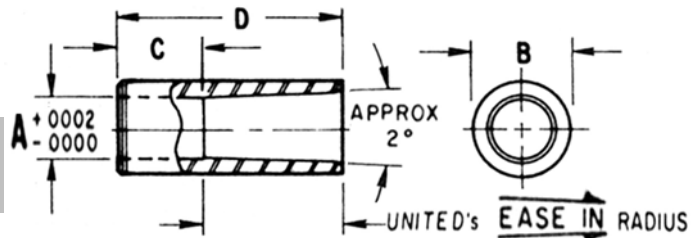
**SOLID TUNGSTEN CARBIDE RC - 76 - 79**  
**10 to 50 Times the Wear!**

A I.D. SIZES			B O.D. SIZES		C LENGTH			LINER
NOM.		ACTUAL	NOM	ACTUAL	1/2	3/4	1"	USED IN
52 -	39	.0635 - .0995	13/64	.2046 - .2043	GDIC-13-8			GDL-64
40 -	9/64	.0980 - .1406	1/4	.2516 - .2513	GDIC-16-8			
1/8 -	10	.1250 - .1935	5/16	.3141 - .3138	GDIC-20-8			
3/16 -	0	.1875 - .3160	1/2	.5017 - .5014	GDIC-32-8			
5/16 -	17/32	.3125 - .5312	3/4	.7518 - .7515	GDIC-48-8			
52 -	39	.0635 - .0995	13/64	.2046 - .2043		GDIC-13-12		GDL-88
40 -	9/64	.0980 - .1406	1/4	.2516 - .2513		GDIC-16-12		
1/8 -	10	.1250 - .1935	5/16	.3141 - .3138		GDIC-20-12		
3/16 -	0	.1875 - .3160	1/2	.5017 - .5014		GDIC-32-12		
5/16 -	17/32	.3125 - .5312	3/4	.7518 - .7515		GDIC-48-12		
1/2 -	49/64	.5000 - .7656	1"	1.0018 - 1.0015		GDIC-64-12		
52 -	39	.0635 - .0995	13/64	.2046 - .2043			GDIC-13-16	GDL-112
40 -	9/64	.0980 - .1406	1/4	.2516 - .2513			GDIC-16-16	
1/8 -	10	.1250 - .1935	5/16	.3141 - .3138			GDIC-20-16	
3/16 -	0	.1875 - .3160	1/2	.5017 - .5014			GDIC-32-16	
5/16 -	17/32	.3125 - .5312	3/4	.7518 - .7515			GDIC-48-16	
1/2 -	49/64	.5000 - .7656	1"	1.0018 - 1.0015			GDIC-64-16	
5/8 -	1-1/32	.6250 - 1.0312	1-3/8	1.3772 - 1.3768			GDIC-88-16	

## Type GDC - Carbide Press Fit Gun Drill Bushings



**STYLE GDC**



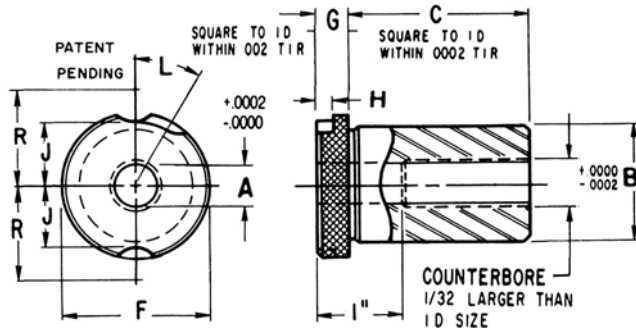
**SOLID TUNGSTEN CARBIDE RC - 76 - 79**  
**10 to 50 Times the Wear!**

All I.D. sizes are held to +.0002 - .0000 unless otherwise specified.

A I.D. SIZES		B O.D. SIZES		C	D LENGTH OVERALL	GDC PART NO.	
NOM.	ACTUAL	NOM	ACTUAL				
1/8 -	15	.1250 - .1800	1/2	.5017 - .5014	5/16	1-1/2	GDC-32-24
15 -	D	.1800 - .2460			3/8		GDC-32-24A
D -	23/64	.2460 - .3594	3/4	.7518 - .7515	1/2	1-3/4	GDC-48-28
23/64 -	27/64	.3594 - .4219			5/8		GDC-48-28A
27/64 -	1/2	.4219 - .5000			3/4		GDC-64-32
1/2 -	5/8	.5000 - .6250	1"	1.0018 - 1.0015	7/8	2"	GDC-64-32A
5/8 -	11/16	.6250 - .6875			1"		GDC-64-32B
11/16 -	13/16	.6875 - .8125	1-1/4	1.2520 - 1.2517	1-1/4	2-1/4	GDC-80-36
13/16 -	1"	.8125 - 1.0000	1-1/2	1.5022 - 1.5018	1-1/2	2-1/2	GDC-96-40

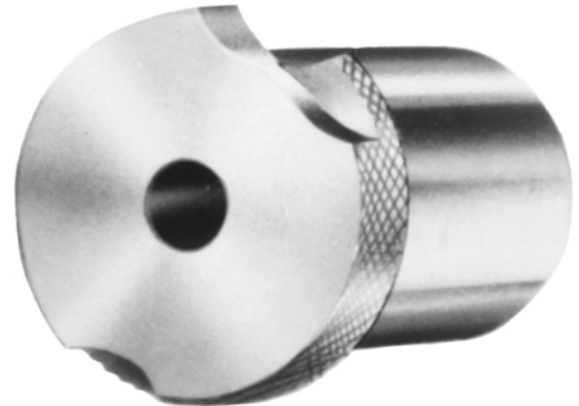
# De Hoff and General Gun Drill Bushings

GDH & GD  
Gun Drill Bushings



O. D.	F	G	H	J	L	R
1"	1-27/64	3/8	3/16	19/32	35°	59/64
1-3/8	1-51/64	3/8	3/16	25/32	30°	1-7/64
1-3/4	2-19/64	3/8	3/16	1"	30°	1-25/64
2-1/4	2-51/64	3/8	3/16	1-1/4	25°	1-41/64
2-3/4	3-7/16	7/16	7/32	1-35/64	25°	1-15/16

STYLE  
GDH



All I.D. sizes are held to +.0002 - .0000 unless otherwise specified.  
Manufactured as ordered from semi finished. O.D. sizes 2-1/4 and 2-3/4 are also available.  
**Note: Renewable Bushings with overall lengths longer than one inch are counterbored from exit end forward.**

## Type GDH - For De Hoff Type Gun Drilling Machines



A I.D. SIZES		B O.D. SIZES		C LENGTHS - UNDER HEAD						LOCK SCREWS	
NOM.	ACTUAL	NOM.	ACTUAL	3/4	1"	1-3/8	1-3/4	2-1/8	2-1/2		3"
1/8 - 3/16	.1250 - .1875	1"	1.0000 - .9998	GDH-64-12	GDH-64-16	GDH-64-22	GDH-64-28				LS-2
12 - 11/32	.1890 - .3437			GDH-64-12	GDH-64-16	GDH-64-22	GDH-64-28	GDH-64-34			
9/32 - 9/16	.2812 - .5625			GDH-64-12	GDH-64-16	GDH-64-22	GDH-64-28	GDH-64-34	GDH-64-40		
15/32 - 25/32	.4687 - .7812			GDH-64-12	GDH-64-16	GDH-64-22	GDH-64-28	GDH-64-34	GDH-64-40	GDH-64-48	
1/8 - 3/16	.1250 - .1875	1-3/8	1.3750 - 1.3747		GDH-88-16	GDH-88-22	GDH-88-28				LS-2
12 - 11/32	.1890 - .3437				GDH-88-16	GDH-88-22	GDH-88-28	GDH-88-34			
9/32 - 9/16	.2812 - .5625				GDH-88-16	GDH-88-22	GDH-88-28	GDH-88-34	GDH-88-40		
15/32 - 23/32	.4687 - .7187				GDH-88-16	GDH-88-22	GDH-88-28	GDH-88-34	GDH-88-40	GDH-88-48	
47/64 - 1-1/16	.7344 - 1.0625				GDH-88-16	GDH-88-22	GDH-88-28	GDH-88-34	GDH-88-40	GDH-88-48	

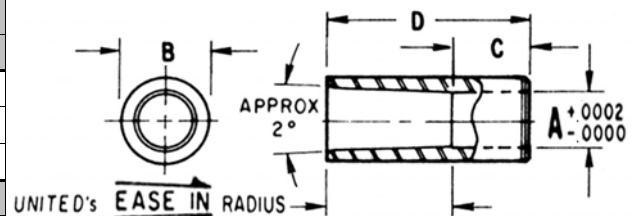
## Type GD - General Purpose Press Fit Applications

STYLE  
GD



All I.D. sizes are held to +.0002 - .0000 unless otherwise specified.

A I.D. SIZES		B O.D. SIZES		C	D LENGTH OVERALL	GD PART NO.
NOM.	ACTUAL	NOM.	ACTUAL			
1/8 - 15	.1250 - .1800	1/2	.5017 - .5014	5/16	1-1/2	GD-32-24
15 - D	.1800 - .2460			3/8		GD-32-24A
D - 23/64	.2460 - .3594	3/4	.7518 - .7515	1/2	1-3/4	GD-48-28
23/64 - 27/64	.3594 - .4219			5/8		GD-48-28A
27/64 - 1/2	.4219 - .5000	1"	1.0018 - 1.0015	3/4	2"	GD-64-32
1/2 - 5/8	.5000 - .6250			7/8		GD-64-32A
5/8 - 11/16	.6250 - .6875			1"		GD-64-32B
11/16 - 13/16	.6875 - .8125	1-1/4	1.2520 - 1.2517	1-1/4	2-1/4	GD-80-36
13/16 - 1"	.8125 - 1.0000	1-1/2	1.5022 - 1.5018	1-1/2	2-1/2	GD-96-40

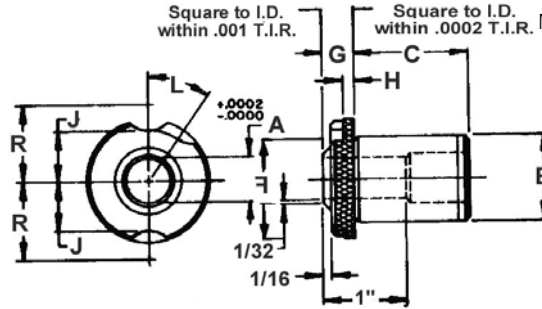
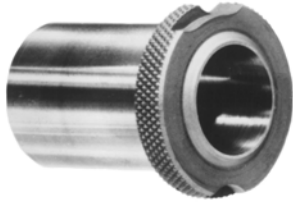




**Gun Drill Bushings  
GDE - GDD - GDLR**

# Gun Drill Bushings Eldorado & Lahr Types

**Type GDE  
for Eldorado type**



MANUFACTURED AS ORDERED FROM SEMI FINISHED  
ALL I.D. sizes are held to +.0002 - .0000 unless otherwise specified.

For Eldorado Type  
Gun Drilling Machines

O.D	F	G	H	J	L	R
1"	1-27/64	3/8	3/16	19/32	35°	59/64
1-3/8	1-51/64	3/8	3/16	25/32	30°	1-7/64

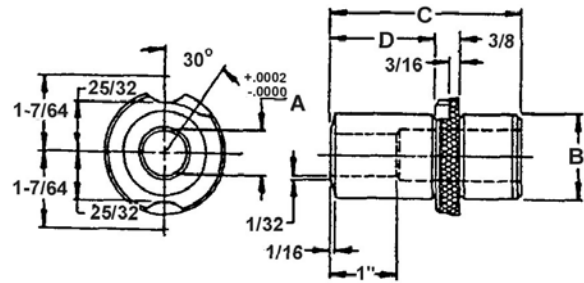
A I.D. RANGE (STANDARD DRILL SIZES)		B O.D. SIZE		C LENGTHS (BODY ONLY)							LOCK SCREWS
NOMINAL	ACTUAL	NOM.	ACTUAL	3/4	1"	1-3/8	1-3/4	2-1/8	2-1/2	3"	
1/8 — 3/16	.1250 — .1875	1"	1.000 — .9998	GDE-64-12	GDE-64-16	GDE-64-22	GDE-64-28				LS-2
#12 — 11/32	.1890 — .3437			GDE-64-12	GDE-64-16	GDE-64-22	GDE-64-28	GDE-64-34			
9/32 — 9/16	.2812 — .5625			GDE-64-12	GDE-64-16	GDE-64-22	GDE-64-28	GDE-64-34	GDE-64-40		
15/32 — 25/32	.4687 — .7812			GDE-64-12	GDE-64-16	GDE-64-22	GDE-64-28	GDE-64-34	GDE-64-40	GDE-64-48	
1/8 — 3/16	.1250 — .1875	1-3/8	1.3750 — 1.3747		GDE-88-16	GDE-88-22	GDE-88-28				LS-2
#12 — 11/32	.1890 — .3437				GDE-88-16	GDE-88-22	GDE-88-28	GDE-88-34			
9/32 — 9/16	.2812 — .5625				GDE-88-16	GDE-88-22	GDE-88-28	GDE-88-34	GDE-88-40		
15/32 — 1-1/16	.4687 — 1.0625				GDE-88-16	GDE-88-22	GDE-88-28	GDE-88-34	GDE-88-40	GDE-88-48	

**Type GDD  
for Eldorado type  
Deep Drilling**



For  
Eldorado Type  
Gun Drilling  
Machines

**Deep Drilling**



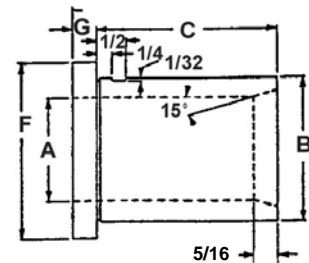
A I.D. RANGE (STANDARD DRILL SIZES)		B O.D. SIZE		C LENGTHS (OVERALL)				LOCK SCREWS
NOMINAL	ACTUAL	NOM.	ACTUAL	1-7/8	2-3/8	2-7/8	3-3/8	
1/8 — 1-1/16	.1250 — 1.0625	1-3/8	1.3750 — 1.3747	GDD-88-30	GDD-88-38	GDD-88-46	GDD-88-54	LS-2
'D' Dimension →				1/2	1"	1-1/2	2"	

**Type GDLR  
for Lahr type  
Heavy Duty Drilling**



For  
Lahr Type  
Gun Drilling  
Machines

**Heavy Duty Drilling**



A I.D. RANGE (STANDARD DRILL SIZES)		B O.D. SIZE		C	F	G	PART NO.
NOMINAL	ACTUAL	NOM.	ACTUAL				
22/32—1-1/16	.7187 — 1.0625	1-3/8	1.3770 — 1.3768	3"	1-5/8	3/8	GDLR-88-48
31/32—1-13/32	.9687 — 1.4062	1-3/4	1.7521 — 1.7519	3"	2"	3/8	GDLR-112-48
1-11/32—1-7/8	1.3437 — 1.8750	2-1/4	2.2523 — 2.2521	3"	2-1/2	3/8	GDLR-144-48
1-1/2— 2-1/32	1.5000 — 2.0312	2-1/2	2.5025 — 2.5022	3"	2-3/4	3/8	GDLR-160-48
1-1/2— 2-9/32	1.5000 — 2.2812	2-3/4	2.7525 — 2.7522	3"	3"	3/8	GDLR-176-48