

# DAPCO®

Heavy Duty Guide Retainer Sets

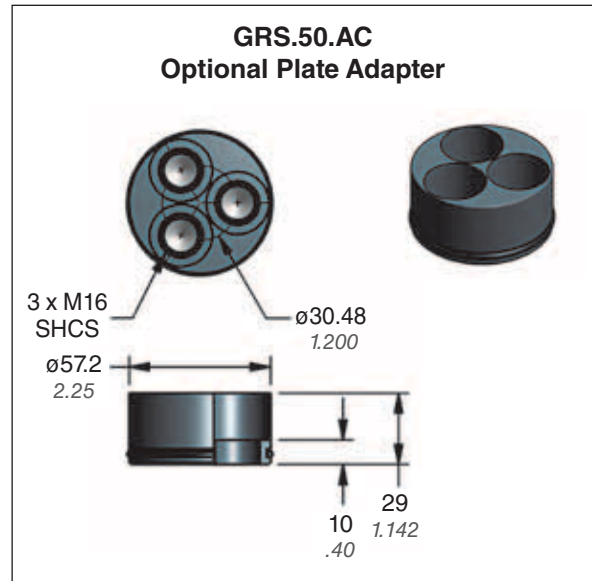
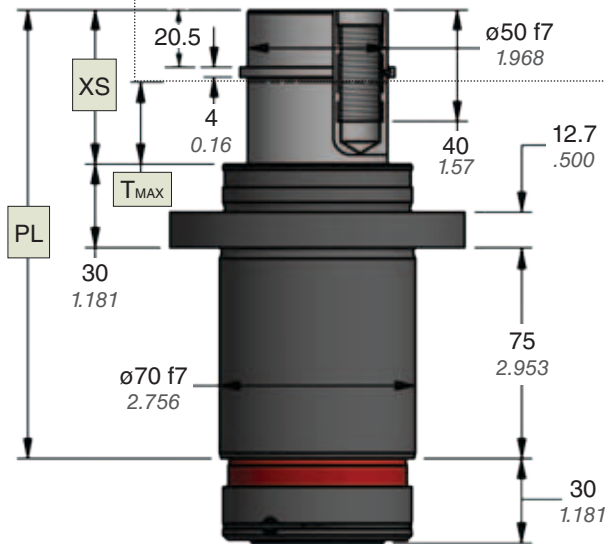
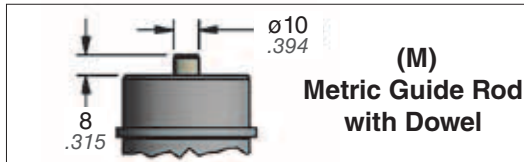
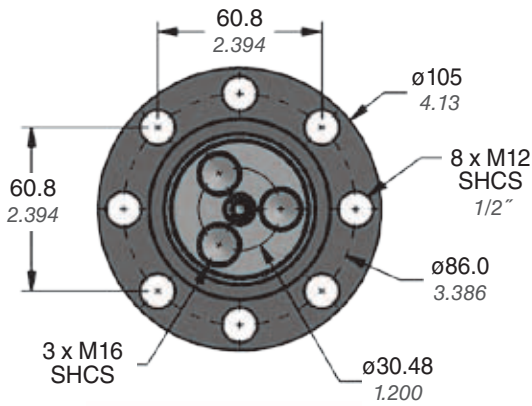
GRS.HD Series

**NEW!**



## Heavy Duty Guidance and Retention with Increased Load Capacity

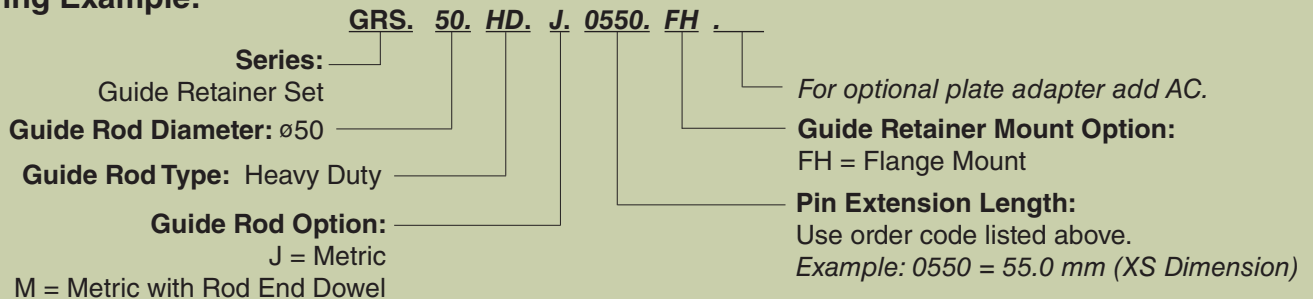
- Robust one-piece guide retainer with extended composite bushings
- High capacity guide rod dampener
- 50 mm and 65 mm rod diameter models
- Conforms to automotive standard specifications



The Optional Plate Adapter may be used to facilitate attachment to the Guide Rod. Refer to page 5 for installation.

Pin Length Code	XS		PL		Max Travel (T <sub>MAX</sub> )	
	mm	inch	mm	inch	mm	inch
0550	55.0	2.165	160.0	6.299	30.0	1.181
0650	65.0	2.559	170.0	6.693	40.0	1.575
0750	75.0	2.953	180.0	7.087	50.0	1.969
0850	85.0	3.346	190.0	7.480	60.0	2.362
0950	95.0	3.740	200.0	7.874	70.0	2.756
1050	105.0	4.134	210.0	8.268	80.0	3.150
1150	115.0	4.528	220.0	8.661	90.0	3.543
1250	125.0	4.921	230.0	9.055	100.0	3.937
1350	135.0	5.315	240.0	9.449	110.0	4.331
1450	145.0	5.709	250.0	9.843	120.0	4.724

### Ordering Example:



### Replacement Part Ordering Information:



**Guide Rod:**  
 GRS.50HD.J.0550.RO  
 GRS.50HD.M.0550.RO



**Guide Retainer:**  
 GRS.50HD

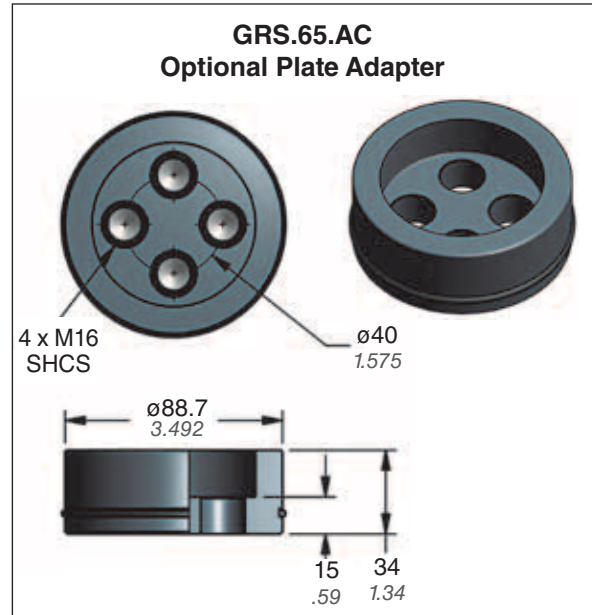
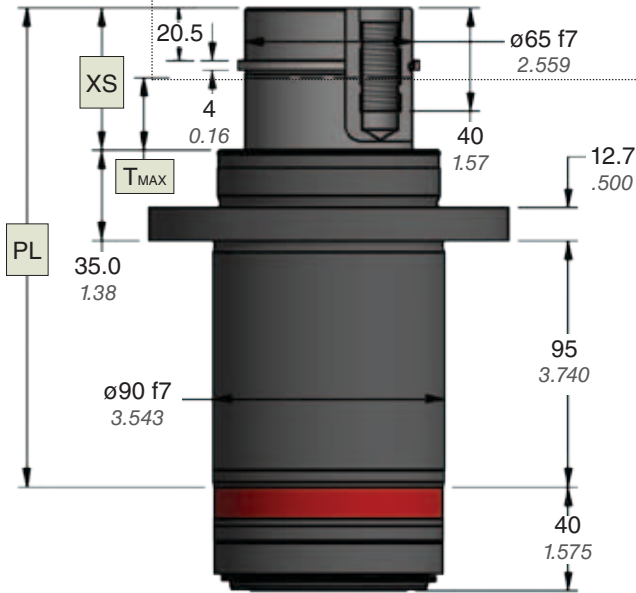
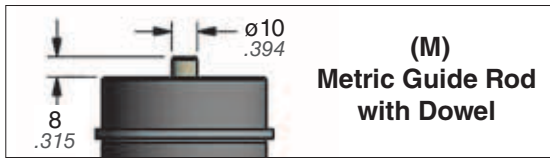
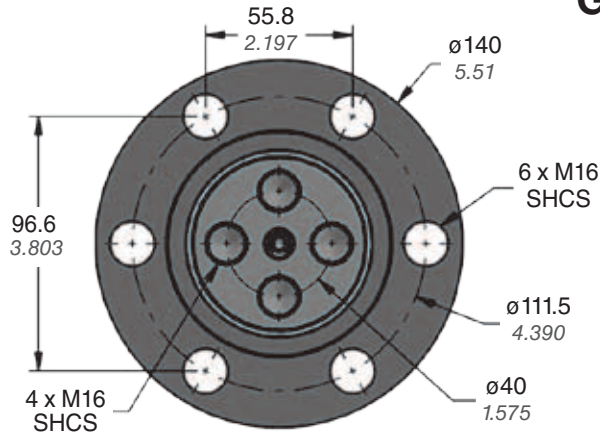


**Plate Adapter:**  
 GRS.50.AC

### Repair Kit:

**GRS.50HD.RK**  
 Includes bushings, rod wiper, dampener and a maintenance manual.

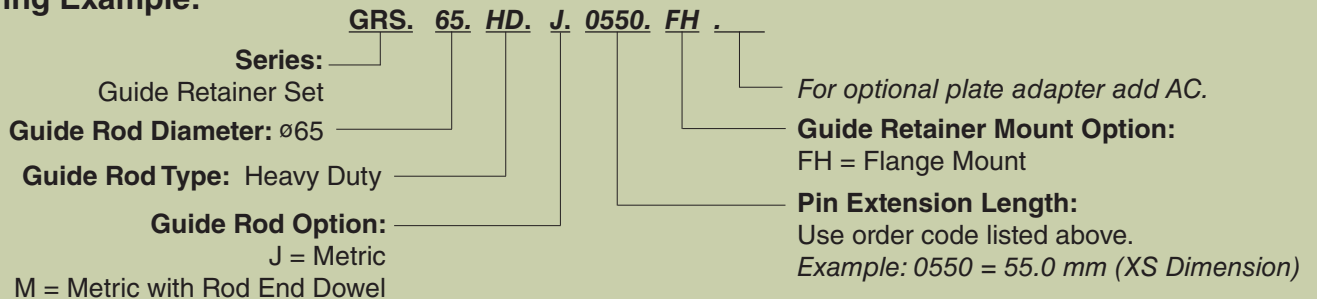
GRS.65.HD



The Optional Plate Adapter may be used to facilitate attachment to the Guide Rod. Refer to page 5 for installation.

Pin Length Code	XS		PL		Max Travel (T <sub>MAX</sub> )	
	mm	inch	mm	inch	mm	inch
0550	55.0	2.165	185.0	7.283	30.0	1.181
0650	65.0	2.559	195.0	7.677	40.0	1.575
0750	75.0	2.953	205.0	8.071	50.0	1.969
0850	85.0	3.346	215.0	8.465	60.0	2.362
0950	95.0	3.740	225.0	8.858	70.0	2.756
1050	105.0	4.134	235.0	9.252	80.0	3.150
1150	115.0	4.528	245.0	9.646	90.0	3.543
1250	125.0	4.921	255.0	10.039	100.0	3.937
1350	135.0	5.315	265.0	10.433	110.0	4.331
1450	145.0	5.709	275.0	10.827	120.0	4.724

Ordering Example:



Replacement Part Ordering Information:



Guide Rod:  
GRS.65HD.J.0550.RO  
GRS.65HD.M.0550.RO



Guide Retainer:  
GRS.65HD



Plate Adapter:  
GRS.65.AC

Repair Kit:  
GRS.65HD.RK  
Includes bushings, rod wiper, dampener and a maintenance manual.

## Maximum Attachment Capacity

The guidelines below show attachment limits per GRS based on press ram velocity. For increased capacity, install additional Guide Retainer Sets.

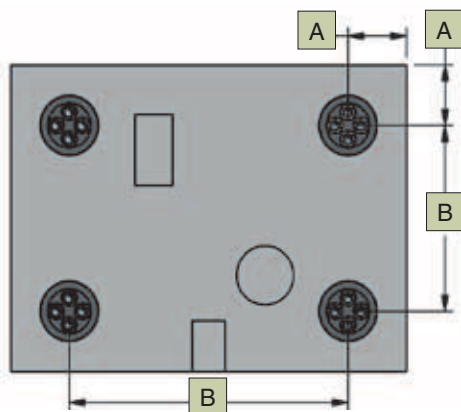
### GRS.50.HD

Velocity Estimate (m/sec)		0.50	0.60	0.65	0.75	0.80	0.90	0.95	1.00	1.05	1.10
Per GRS	max (lb.)	1058	735	626	470	413	327	293	265	240	219
	max (kg)	480	333	284	213	188	148	133	120	109	99
Pad Mass		GRS.50.HD Quantity									
lb.	kg										
250	113	2	2	2	2	2	2	2	2	3	3
500	227	2	2	2	3	3	3	3	3	4	4
750	340	2	3	3	3	3	4	4	4	5	5
1000	454	2	3	3	4	4	5	5	5	6	6
1250	567	3	3	3	4	5	5	6	6	7	7
1500	680	3	4	4	5	5	6	7	7	8	8
1750	794	3	4	4	5	6	7	7	8		
2000	907	3	4	5	6	6	8	8			
2250	1021	4	5	5	6	7	8				
2500	1134	4	5	5	7	8					

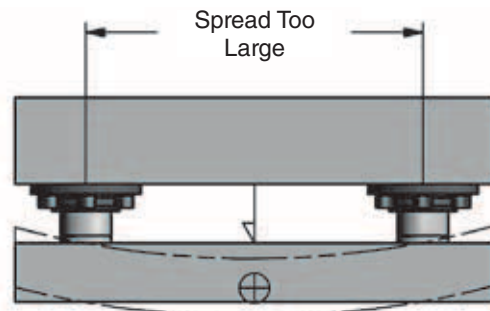
### GRS.65.HD

Velocity Estimate (m/sec)		0.50	0.60	0.65	0.75	0.80	0.90	0.95	1.00	1.05	1.10
Per GRS	max (lb.)	1411	980	835	627	551	435	391	353	320	292
	max (kg)	640	444	379	284	250	198	177	160	145	132
Pad Mass		GRS.65.HD Quantity									
lb.	kg										
250	113	2	2	2	2	2	2	2	2	2	2
500	227	2	2	2	2	2	3	3	3	3	3
750	340	2	2	2	3	3	3	3	4	4	4
1000	454	2	3	3	3	3	4	4	4	5	5
1250	567	2	3	3	3	4	4	5	5	5	6
1500	680	3	3	3	4	4	5	5	6	6	7
1750	794	3	3	4	4	5	6	6	6	7	8
2000	907	3	4	4	5	5	6	7	7	8	8
2250	1021	3	4	4	5	6	7	7	8		
2500	1134	3	4	4	5	6	7	8			

## Pad Flexing



Model	Minimum Distance	
	A	B
GRS.50.HD	70 mm 2.756	115 mm 4.528
GRS.65.HD	90 mm 3.543	150 mm 5.906



Deceleration of the pad may cause pad flexing to occur. Add additional GRS to the center to prevent side load from inertial deflection at end of stroke travel. Lighter pads may result in a flexible structure requiring center support. Heavier pads will require additional GRS to distribute the weight according to the shape and die steel attachments.

# Installation

## Guide Rod Details

The GRS requires machining from only one side of the plate when ordered with the M Guide Rod Option. These GRS models have a small hex socket located in the center of the Guide Rod that facilitates alignment through the plate during installation and removal.

GRS.50.HD.M

	GRS.50.HD.M	GRS.65.HD.M
øA	30.48 1.200	40.00 1.575
øB	10.00 H7 0.394	10.00 H7 0.394
E	3 x M16 SHCS	4 x M16 SHCS

GRS.65.HD.M

## Machining Details

Verify that there is adequate clearance for the GRS.HD during operation. Allow for clearance at the bottom of the stroke and avoid overstroking the rod or impacting the bottom of the Guide Retainer Set; both will cause permanent damage.

### Pocket and Clearance Dimensions

	GRS.50.HD.M	GRS.65.HD.M
øB	10.00 H7 0.394	10.00 H7 0.394
øC	70.00 H8 2.756	90.00 H8 3.543
G	≥25 mm 0.984	≥25 mm 0.984

### GRS...HD.M Example

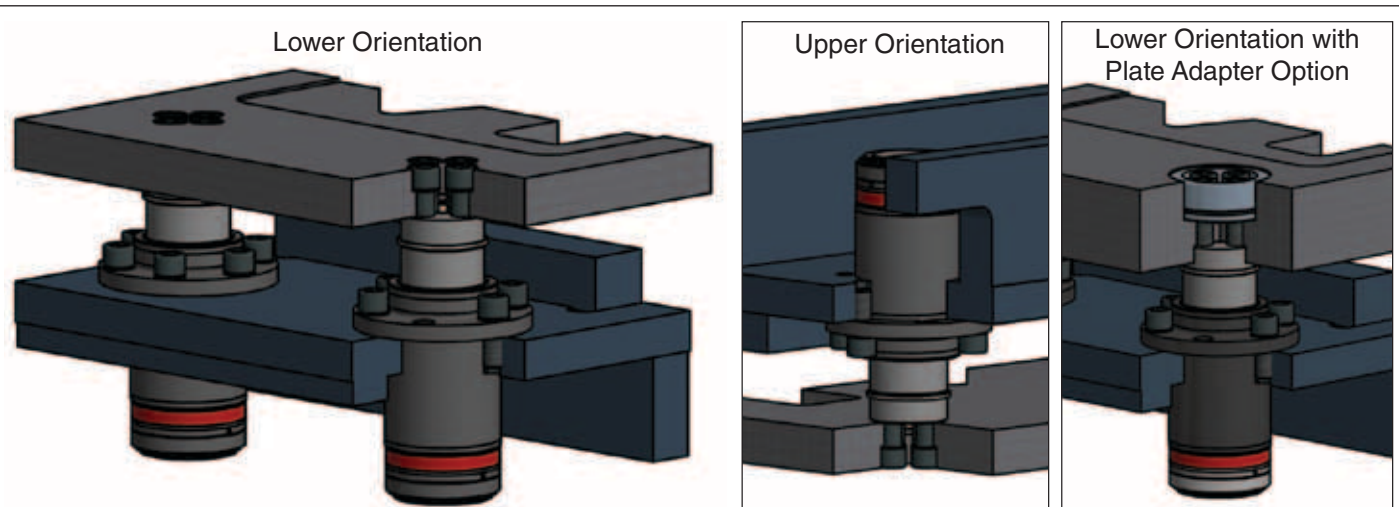
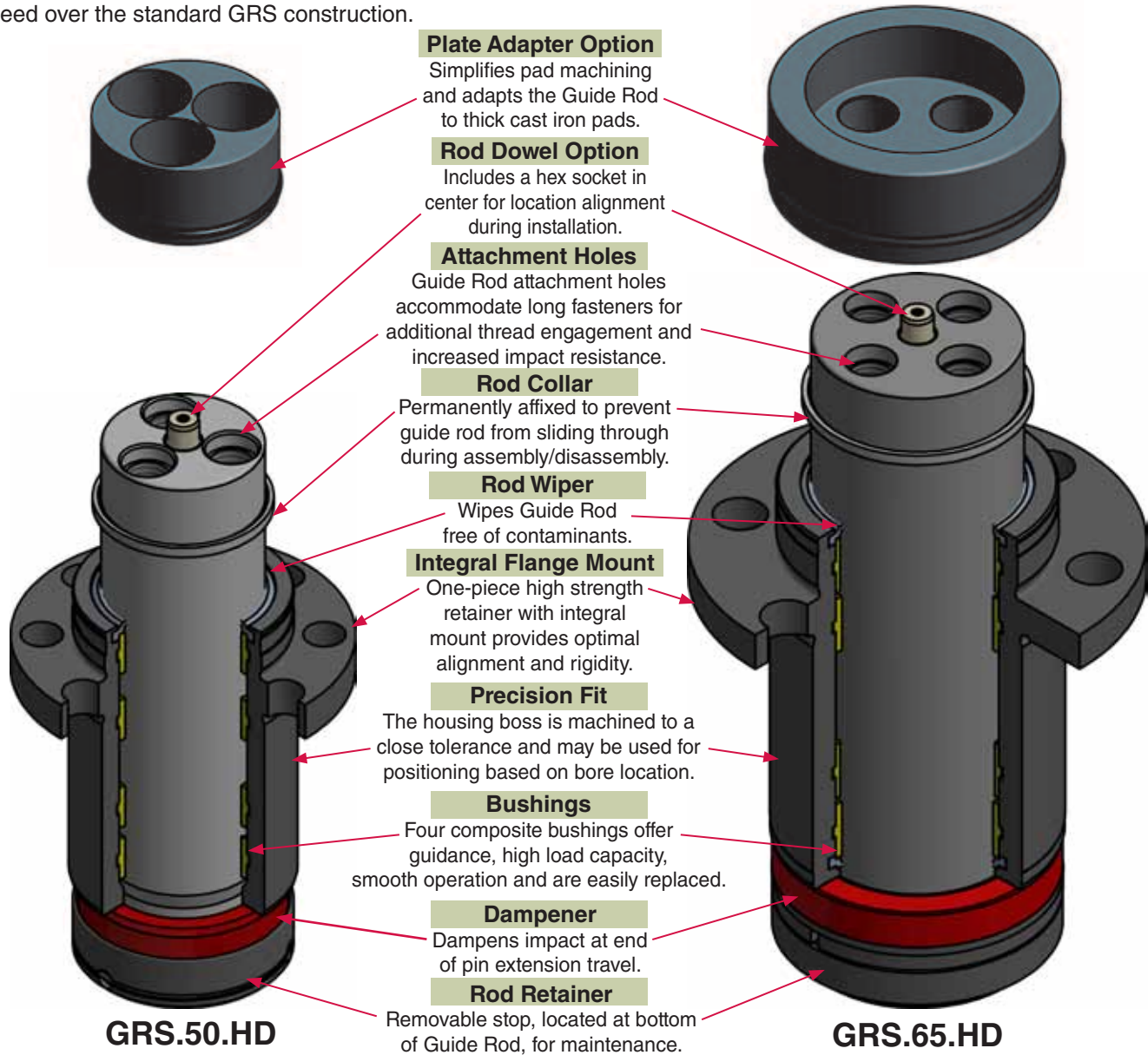
### Pocket and Clearance Dimensions when using Optional Plate Adapter

	GRS.50.HD.J	GRS.65.HD.J
øC	70.00 H8 2.756	90.00 H8 3.543
øD1	50.045-50.100 1.9703-1.9724	65.045-65.100 2.5608-2.5630
øD2	58.00 ± 0.05 2.283 ± .002	90.00 ± 0.05 3.543 ± .002
F	20.00 MAX 0.787	20.00 MAX 0.787
G	≥25 mm 0.984	≥25 mm 0.984

### GRS...HD.J Example

## Heavy Duty Guide Retainer Sets

DADCO offers Heavy Duty Guide Retainer Sets in two sizes (GRS.50 and GRS.65) to meet automotive standard specifications. The construction of these models permits up to 10 times the attachment mass and increased operating speed over the standard GRS construction.



The GRS Series saves cost by providing an all-in-one replacement to common pins, bushings and spools. The GRS may be installed in upper or lower orientation for maximum versatility.