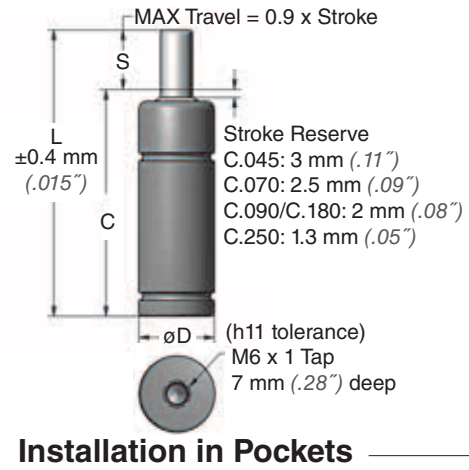
DADCO® Micro Series and Ultra Force® Series (U.0175/U.0325) Installation and Operation Specifications



Operating Specifications

Charging Medium:	Nitrogen Gas
Max Charging Pressure C.045/C.070/C.090/C.180/C.250:	177 bar *(2560 psi)*
Max Charging Pressure E.16/E.24:	150 bar *(2175 psi)*
Max Charging Pressure U.0175/U.0325/SL.16:	180 bar *(2600 psi)*
Maximum Speed:	1.6 m/s *(63 in/sec)*
Operating Temperature:	4°C – 71°C *(40°F – 160°F)*

Stroke (mm)	SPM Limit
7-16	200
25-38	120
50-63	80
> 80	50

Travel 90% of nominal stroke

General Information

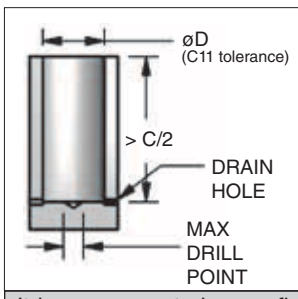
- DO NOT exceed 90% of stroke
- Stripping applications require a slight preload 0.5 mm – 1 mm *(.02″– .04″)*
- Use enough force to strip the part
- Design adequate safety so spring is not over stroked

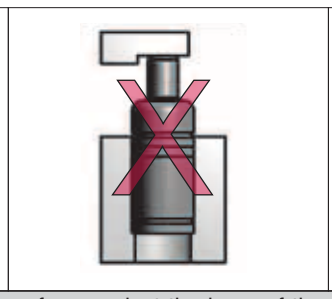
PRESSURE WARNING

Nitrogen Gas Springs are charged up to 180 bar.

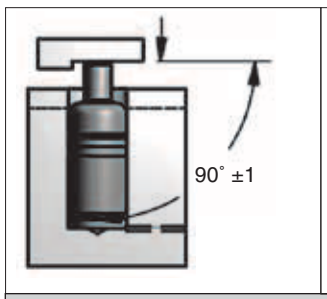
- Do not weld
- Do not machine or modify
- Protect from damage
- Dispose of properly (see below).

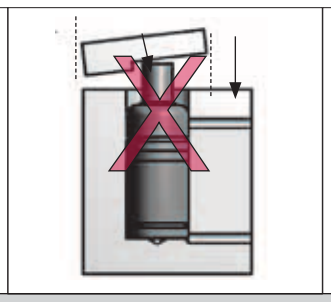
Installation in Pockets

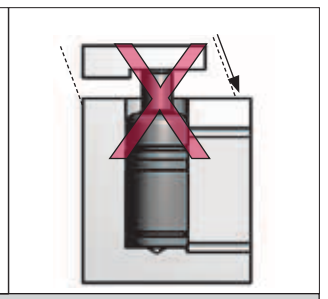




It is necessary to have a flat surface against the base of the spring in all circumstances. Maximum drill point for C.045, C.070 is ø8 mm, C.090, C.180, C.250 is ø10 mm, U.0175 and U.0325 is < øD/2. Incorrect pockets may cause structural damage or reduced life.

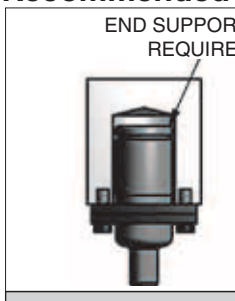


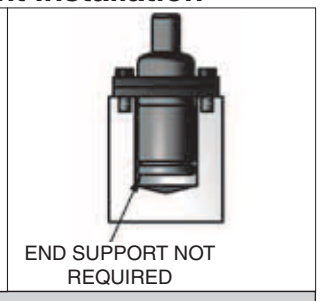




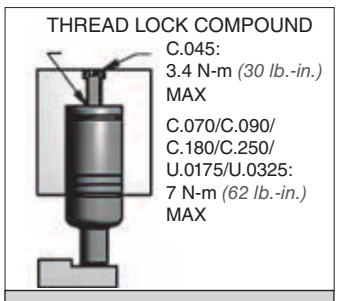
Side loading from axial or contact misalignment should be minimized, < 1°.

Recommended Mount Installation

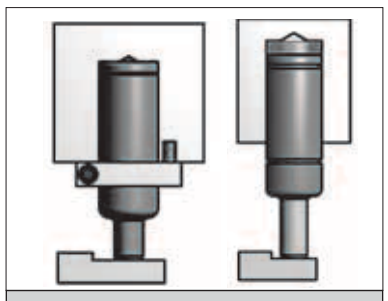




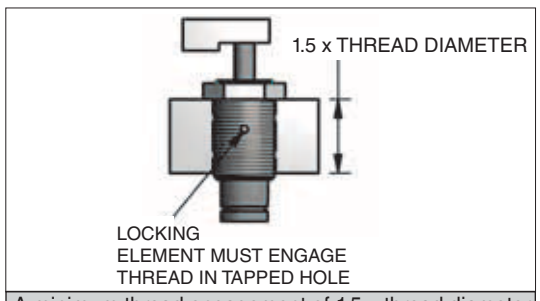
All properly installed mounts (RM, NF, FA, VFA, RF, TB) support the load. No back-up is required.



Retain inverted cylinders as shown with M6 cap screw, in pocket. A close tolerance hole is required, depth >C/2.

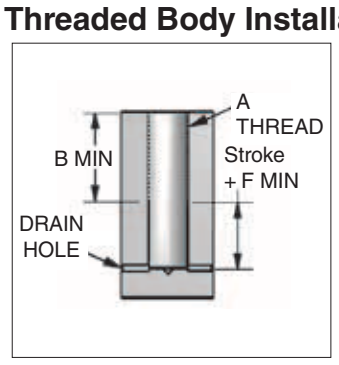


DADCO-LOK/RM mount may be used to retain the spring from rod end. If possible use a positive stop. Using spacers makes setup easier.

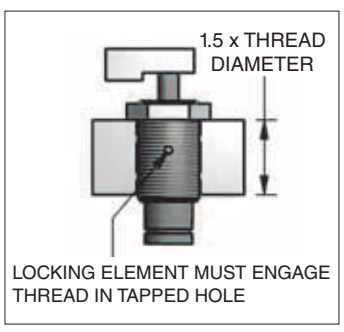


A minimum thread engagement of 1.5 x thread diameter is recommended for threaded body (TB) style gas springs. Use the torque specification above for proper installation. Torque specification varies if using a RT Ratcheting Tool, refer to Bulletin No. B04139B.

Threaded Body Installation Recommendations



Model	A	B	F	Model	A	B	F
E.16	M16 x 1.5 M16 x 2	24 *.94*	12 *.47*	C.045.__.TB3	M16 x 2	35 *1.38*	5 *.20*
E.24	M24 x 1.5	35 *1.38*	25 *.98*	C.045.__.TB4	M16 x 2	24 *.94*	5 *.20*
SL.16	M16 x 1.5	24 *.94*	20 *.79*	C.090.__.TB1	1″-8	38 *1.50*	13 *.51*
C.045.__.TB1	5/8″-11	24 *.94*	5 *.20*	C.090.__.TB2	M24 x 1.5	36 *1.42*	13 *.51*
C.045.__.TB2	M16 x 1.5	24 *.94*	5 *.20*	C.090.__.TB3	M24 x 1.5	35 *1.38*	13 *.51*

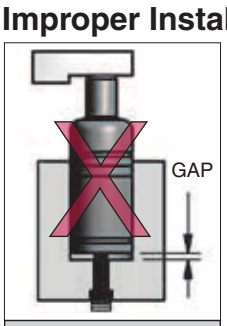


Maximum Installation Torque*	
E.16.__.TB2	500 lb-in (56 N-m)
E.16.__.TB4	300 lb-in (34 N-m)
E.16.__.TB5	400 lb-in (45 N-m)
SL.16 E.24	500 lb-in (56 N-m)
C.045.__.TB1	125 lb-in (14 N-m)
C.045.__.TB2	500 lb-in (56 N-m)
C.045.__.TB3 C.045.__.TB4	300 lb-in (34 N-m)
C.090.__.TB1 C.090.__.TB2 C.090.__.TB3	500 lb-in (56 N-m)

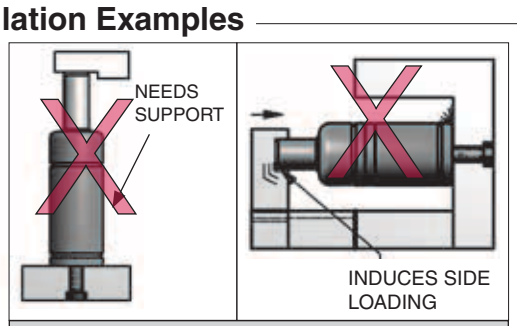
A minimum thread engagement of 1.5 x thread diameter is recommended for threaded body cylinders.

** Based on strength of threads*

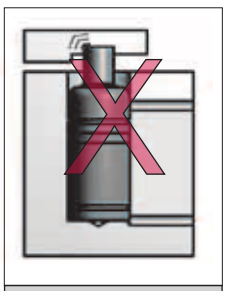
Improper Installation Examples



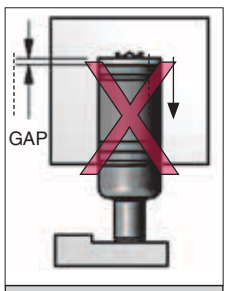
Verify cap screw length. Do not exceed M6 x 1 Tap depth. Incorrect installation of cap screw may cause damage.



Do not use the bottom mount in an unsupported or open mounting application.

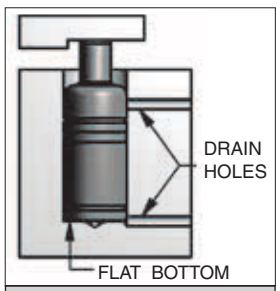


Do not constrain the rod end.

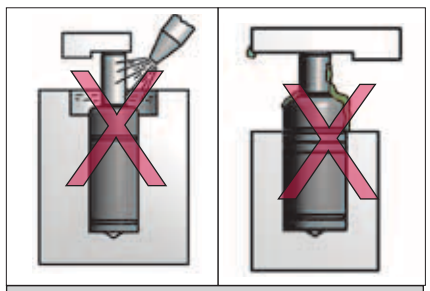


Avoid large gaps in upper. Use tapped hole in base to secure and pre-load if possible.

Draw Die and Other Contaminants

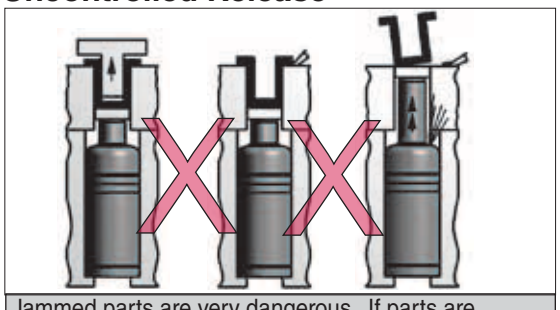


Protect gas springs by providing adequate drainage in gas spring pockets. This is especially important if the spring will be exposed to draw die lubricants or oils.

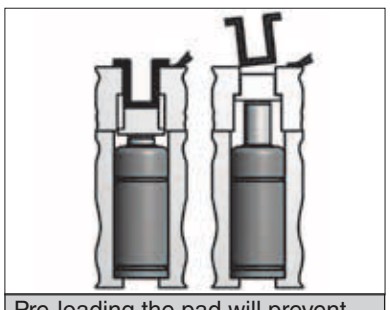


Direct contact with certain die lubricants and cleaners can be harmful to gas springs or can cause pressure increase. The Duralene® rod wiper, standard in Micro Series springs, will help prevent lubricant contamination. If lubricant exposure is still a problem, contact DADCO.

Uncontrolled Release

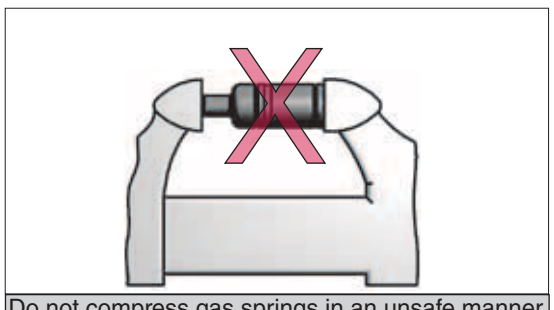


Jammed parts are very dangerous. If parts are jamming, determine the root cause and repair it before production continues. Failure to repair the problem will cause failure or damage of the gas spring.



Pre-loading the pad will prevent gas spring damage from "snap action" or sudden release.

Sudden release will cause gas spring to exhaust. Restricting rod travel will help prevent gas spring damage.



Do not compress gas springs in an unsafe manner. Never compress in a vice or clamp outside a die; damage can result. Never strike the rod with a hammer to test for pressure.

Proper Disposal

Before throwing out damaged or worn out gas springs be sure to discharge all pressure.

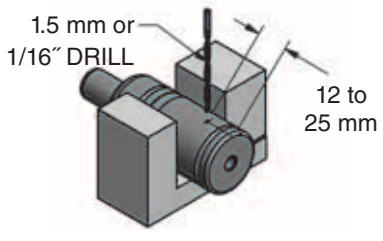
CAUTION

Always wear safety goggles and use extreme care when handling a damaged gas spring.

1. Discharge through the adjustable valve using the Valve Bleed Tool or Charging Adapter, 90.315.5.

Valve Bleed Tool 90.360.4

2. If spring is damaged and cannot be discharged using the Valve Bleed Tool then drill a hole to discharge.



RT-Ratcheting Tool

Available with a variety of internal and external hex drives for easy installation and removal of Micro TB style gas springs. Refer to Bulletin No. B04139B.

1.734.207.1100 • 800.DADCO.USA • fax 1.734.207.2222 • www.dadco.net