

EGD MFG INC
2320 Kishwaukee Street
Rockford IL 61104

Adjustment Instructions
Read Before installing
EGD MFG INC Adjustable Shock Absorbers

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The E.G.D. adjustable shock absorbers have the capacity to stop total energy loads up to 94,200 inch-pounds. Properly adjusted, they will stop these loads smoothly and gently. Avoid serious damage to the shock absorber or the load by following the adjustment procedure closely.

1. CAPACITIES OF E.G.D. ADJUSTABLE SHOCK ABSORBERS

Recheck calculations to make sure the energy to be absorbed falls within the inch-pound capacity of the unit.

For straight-line motion compute
Kinetic Energy = $0.1865 \times W \times V^2$
Where W Is Weight in pounds and V
Is Velocity in feet per second.

Add to this

Propelling Work == $F \times S$
where F is the propelling force in
pounds due to gravity, an air or
hydraulic cylinder or motor. Note
that for downward motion gravity is
positive. For upward motion note
that gravity and friction are negative.
S is stroke in inches.

Size	Max. Capacity in./lbs.
3/4" Bore x 1" Stroke, Flange & Clevis	1,320
3/4" Bore x 2" Stroke, Flange & Clevis	2,640
3/4" Bore x 2½" Stroke, Flange & Clevis	3,300
3/4" Bore x 3" Stroke, Flange & Clevis	4,000
1-1/8" Bore x 2" Stroke, Flange & Clevis	10,000
1-1/8" Bore x 3" Stroke, Flange	15,000
1-1/8" Bore x 3" Stroke, Clevis	10,000
1-1/8" Bore x 4" Stroke, Flange	20,000
1-1/8" Bore x 4" Stroke, Clevis	12,000
1-1/2" Bore x 2" Stroke, Flange & Clevis	14,200
1-1/2" Bore x 3½" Stroke, Flange & Clevis	25,000
1-1/2" Bore x 5" Stroke; Flange & Clevis	35,400
1-1/2" Bore x 6½" Stroke, Flange & Clevis	46,000
2" Bore x 2" Stroke, Flange & Clevis	31,400
2" Bore x 3" Stroke, Flange & Clevis	47,100
2" Bore x 6" Stroke, Flange	94,200
2" Bore x 6" Stroke, Clevis	61,500

2. MOUNTING THE ADJUSTABLE SHOCK ABSORBER

Mount the shock absorber securely making certain that the shock load will strike the piston rod bumper squarely at all positions throughout its full stroke. Mount so at least one port is in uppermost position.

Attach the make-up reservoir, if used, in the uppermost port to the shock absorber to permit air bleeding and replacement of lost fluid.

If an external accumulator is used, connect it at an elevation higher than the shock absorber to permit air bleeding. Accumulator bleeder ports should be on top.

Make sure the support for the shock absorber is sufficiently strong.

Stopping force is important in designing the structure to support the shock absorber. To compute this, take the total energy found in section 1 and divide it by the stroke.

$$\text{Stopping Force (Lbs)} = ((0.1865 \times W \times V^2) + (F \times S))/S$$

As a further check, note that the shock absorbers are designed for the maximum stopping force as listed below

Bore Size	Max. Stopping Force/lbs.
3/4"	1,320
1-1/8"	5,000
1-1/2"	7,100
2"	15,700

3. ADJUSTMENT

Set the dial in the mid range of weights listed on the scale. At reduced speed run the load into the shock absorber and observe the action of the rod. If it:

1. Fails to go full stroke or hesitates mid-stroke, adjust toward smaller weight values.
2. Goes through its full stroke and "Bangs" at the end of the stroke, adjust toward larger weight values.

Then, gradually increase the speed and readjust as necessary until a satisfactory stopping action at full speed is obtained.

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4. HEAT DISSIPATION is important with any energy absorbing device. The temperature of the fluid inside the Shock Absorber should not exceed 160 degrees F. For frequent cycling, check to be sure that outside surfaces are exposed to air circulation. If the Shock Absorber tube gets too hot to hold with your hand, consult the factory.

5. FILLING THE UNIT

The E.G.D. Adjustable Shock Absorber is filled with a special fluid specified on the nameplate. The unit must always be completely filled with this fluid to operate properly and there must be no trapped air inside. Use an E.G D. make-up reservoir to make sure that the Shock Absorber is always filled.

Fill the Shock Absorber and make-up reservoir or external accumulator, if used, with the fluid specified on the nameplate. Fill the system slowly loosening the bleeder ports to allow air to bleed out. It helps to move the Shock Absorber piston rod in and out by hand or jack during the air bleeding and filling process. If an external accumulator is used, it should be nearly full when the piston rod is fully depressed. On spring return Shock Absorbers, be sure the rod is fully extended when filling. (Spring return units are filled at the factory, but check the fluid level before operating).

6. FLUID

Keep unit filled with Texaco Regal R & O 150 fluid or equivalent.

Approved alternate fluids:

Mobile-DTE -- Extra Heavy
Viscosity Oil Co -- P.T.O. 150 AZ

7. INSPECTION AND TESTING

Periodically inspect the E.G.D. Adjustable Shock Absorber system to make sure that:

- A. It is completely filled with fluid and has no air trapped inside (see filling instructions.)
- B. The piston rod fully returns to the "ready" position after each stroke.
- C. The piston rod moves and can rotate freely throughout its entire stroke.
- D. All mounting bolts are tight.

8. PARTS REPLACEMENT

Very few parts of the E. G. D. Adjustable Shock Absorber are subject to wear. The rate of this normal wear depends on the frequency of use and the environment.

If there is a noticeable leakage of fluid at the piston rod, if the rod fails to return to its "ready" position or if the action of the unit is erratic, contact your local distributor for return instructions to the factory for service.