



Installation Instructions

4" Bore Self-Compensating Shock Absorber

Maximum efficiency of operation can be obtained by carefully following these instructions:

GENERAL

Install the ACE Self-Compensating Shock (Figure 1) on a surface of sufficient strength. Align the shock absorber rod end button with the load striking surface. This avoids side loading (5 degrees maximum). Use the full stroke of the shock absorber up to and including an additional .03 inch (0.8 mm) and provide a solid mechanical stop to prevent bottoming out. To allow maximum heat dissipation, DO NOT PAINT THE SHOCK ABSORBER. If necessary, guard the shock absorber to protect it from foreign materials such as acids, steam, weld flash, etc. Applications using two or more self-compensating shocks should have the load balanced between them equally.

SELF-CONTAINED MODEL INSTALLATION

All standard 4" bore self-compensating shocks are prefilled with ATF oil and are ready for use after proper installation.

AIR-OIL TANK INSTALLATION

Models CAA and CSA 4" bore self-compensating shocks are prefilled with ATF oil but, MUST BE CONNECTED TO AN AIR-OIL tank before use. Install (Figure 2) the proper ACE air-oil tank as close as possible to and physically higher than the shock absorber. The line connecting the shock absorber to the air-oil tank must be free of kinks and loops. The inside diameter of this must be equal to, or greater than, that of the port in the shock absorber. Do not put a shut off valve or check valve between the shock absorber and the air-oil tank. Install a check valve in the air line to the air-oil tank and plug the extra ports of the tank. Fill the tank with ATF oil (taking care to avoid overfilling) and charge the system to between 50 - 100 psi.

SIDE FOOT MOUNTING INSTALLATION

Bolt the shock absorber (Figure 3) to the mounting structure using bolts listed. Be sure to securely tighten the bolts. PLACE A KEY BEHIND THE REAR FOOT BAR TO PREVENT MOVEMENT OF THE SHOCK ABSORBER.

Figure 1

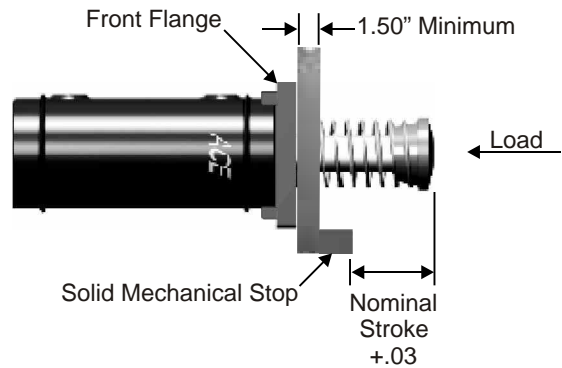


Figure 2

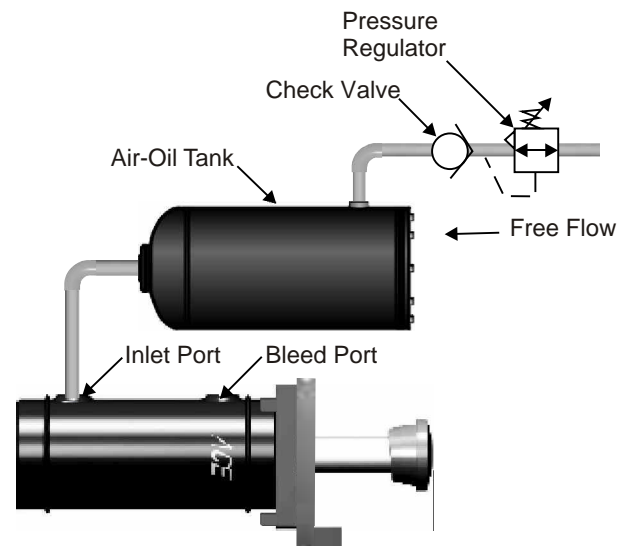
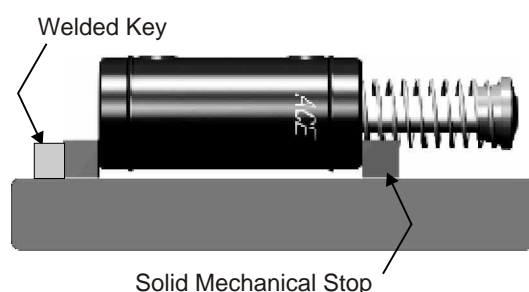


Figure 3



Bore	Bolt Size	Air-Oil Tank
4	(4) 1.00	AO-81
4	(4) 1.00	AO-82

CLEVIS MOUNTING INSTALLATION

Fasten the rear clevis and the rod clevis (**Figure 4**) to the mating clevis members of the equipment. Make sure the shock absorber is using the full stroke plus .03 in (0.8 mm) and is not bottoming out. Be sure that the equipment cannot pull the rod out any further than the shock absorber stroke will allow.

AIR EXHAUST CIRCUIT FOR MODEL CAA SHOCK ABSORBER

This type of installation (**Figure 5**) is necessary when it is desired to have the rod remain in the shock absorber after decelerating the load. Use special care to avoid overfilling the air-oil tank. If not built in, a special ACE check valve should be used to eliminate "misting" of oil out of the air-oil tank.

RE-CIRCULATING COOLING CIRCUIT FOR MODELS CAA & CSA SHOCK ABSORBERS

This type of installation (**Figure 6**) may be required when ambient temperatures and/or cycle rates cause a self contained shock to heat beyond 200°F. Use high pressure (1,000 psi) check valves with a low cracking pressure (5 psi). If a filter is to be used in this circuit, a 30 to 40 micron filter element with a 5 psi by-pass is recommended. Consult factory for assistance.

PRIMARY MOUNTING INSTALLATIONS

Install the ACE self-compensating shock on a surface of sufficient strength. Align the shock absorber rod end button with the load striking surface and the bleed screws and/or ports pointing up if mounted horizontally. Tighten the (6) 5/8-18 UNF screws securely (**Figure 7**).

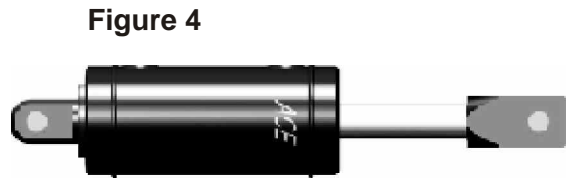


Figure 4

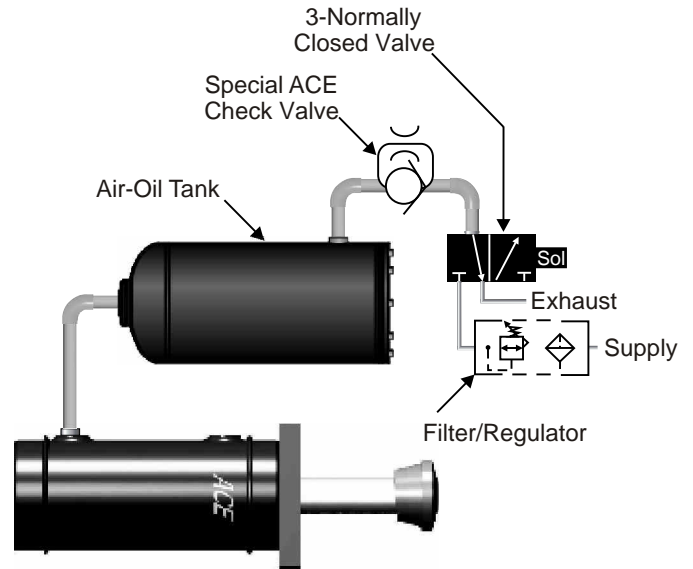


Figure 5

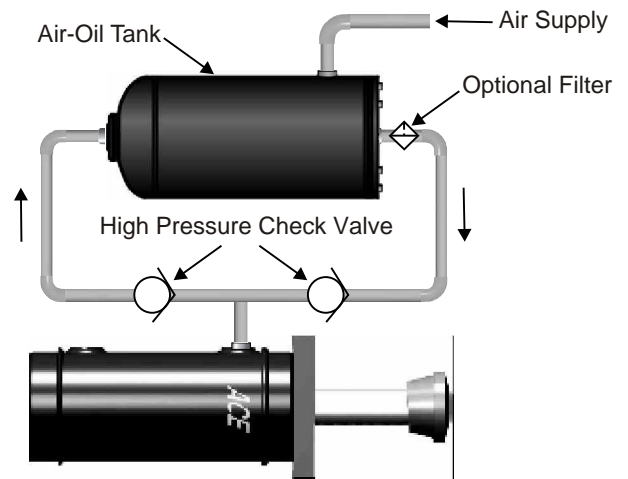
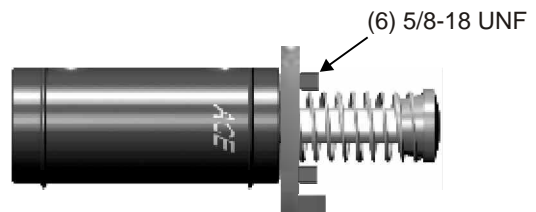


Figure 6



ACE Controls Inc.

World leader in deceleration technology
ISO 9001:2000 Certified

ACE Form24, 4" Bore Sel-Comp.
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