GAS STRUT SAFETY INFORMATION

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FOR YOUR SAFETY
PLEASE READ THESE INSTRUCTIONS CAREFULLY
AND RETAIN THEM FOR FUTURE USE.

GAS STRUT SAFETY INFORMATION

SAFETY REQUIREMENTS

- Gas struts contain nitrogen under extremely high pressure and under no circumstances should a gas strut be opened, tampered with or subjected to excessive heat.
- Gas struts should always be treated with respect in acknowledgment of the high internal pressure. As a pressurized item it is recommended that the struts are returned for safe disposal at the end of their working life.
- As the nature of a gas strut is to lose force over a long period of time it is advisable to periodically check its ability to operate as initially intended. Replace if and when necessary.
- When attempting to install a gas strut the correct personal protective equipment (eye glasses and gloves) should be worn and care taken over safety issues.
- Where gas struts are fitted to support loads where people could be in danger should the load fall, a locking stay must be used.

GAS STRUT SAFETY INFORMATION

INSTALLATION

For standard compression gas struts we advise the use of ball joints to alleviate possible side load and uneven wearing of the piston rod / seals.

Generally fit the piston **rod down** and preferably within 60° to the vertical and avoid the strut travelling through a large arc. Install with the **rod down** for optimum lubrication of the guide and sealing system at all times (see Figure A).

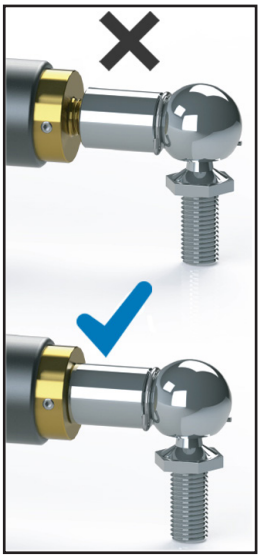
It is advisable to keep the strut in a single plane of movement. Failure to adhere to this advice may result in a reduced lifespan of the strut.

Ensure that the end fittings are perfectly in line and that they are screwed all the way in. If the end fittings need aligning the piston rod of the gas strut can rotate inside the body (cylinder). Place and hold the piston end fixing on a firm, flat service, then grip the cylinder and firmly twist it until the end fittings are aligned correctly (see Figure B).

If in any doubt as to the installation procedure please contact SGS.

A

B



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GAS STRUT SAFETY INFORMATION

FITTING BRACKETS

When utilising a bracket with a ball stud/end, the procedure to fit it to the relevant ball joint fitting is as follows:

1. Remove the retaining clip from the ball socket by rotating it from around the collar of the socket, and then pull it out from the two locating holes (see figure A).

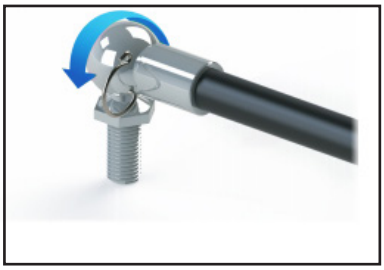
2. Ensure the ball socket is fully tightened onto the thread of the strut. Then using a vice or pair of pliers, grip the ball stud and with a rotating motion, remove the ball stud from the socket (see figure B).

3. Once removed, place the ball socket over the corresponding bracket and press firmly downward until a positive 'click' is heard (see figure C).

4. Once the ball of the bracket is firmly located inside the socket, reinsert the retaining clipinto the two locating holes, and clip it back over the collar of the socket (see figure D).

If in any doubt as to the installation procedure please contact SGS Engineering.

A



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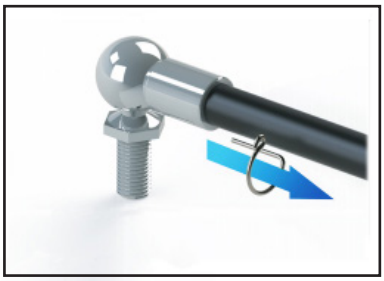

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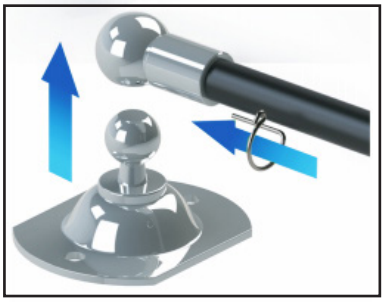

D

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GAS STRUT SAFETY INFORMATION

DO'S AND DON'TS

DO

1. Do store and install gas struts with the piston rod pointing down to ensure that the piston seal is kept lubricated.
2. Do try to use ball joint fixings to help prevent side load forces.
3. Do ensure the end fixings are in line to prevent side load forces.
4. Do ensure the fixings are fully tightened onto the strut.
5. Do provide physical stops to the struts limits – ie ensure the strut cannot be over extended or over compressed.
6. Do avoid external side load forces on the gas strut or the end fittings.
7. Do keep the piston rod clean from contaminate and debris.

DO NOT

1. Do not lubricate a gas strut. They contain oil for damping and self-lubrication.
2. Do not puncture or incinerate. SGS provides a disposal service at no cost.
3. Do not grip, scratch, chip, bend or paint the rod.
4. Gas struts are not designed to be cycled more than 15 times per minute.
5. Gas struts should not be over-compressed or over-extended: provide physical stops to limit the strut's extremes.
6. Never attempt to re-gas/re-fill a strut. This is a hazardous operation.

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GAS STRUT SAFETY INFORMATION

PERIODIC INSPECTION

Gas struts lose force over a period of time; it is advisable to regularly check that they perform as originally intended. It is recommended that they are returned to the supplier for safe disposal at the end of their working life.

SERVICE LIFE

To ensure safe and effective usage – and to enable long service life - gas struts must not be bent or subjected to any form of side-loading, by lateral forces or otherwise.

No greasing or lubrication is required. Gas struts are entirely maintenance-free.

TEMPERATURE

Temperature can affect the pressure of the gas inside the strut. Extreme temperature variations can result in the strut performing in a different way.

Cold weather may cause a temporary loss/reduction in internal pressure. For more information please contact SGS.

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FUNCTIONAL SAFETY

Gas struts are environmentally-friendly and low maintenance. However, they contain nitrogen gas at high pressure and thus must be fitted and used responsibly. A gas strut's functional safety essentially comes from the smooth piston rod surface and the internal seal arrangement that seal gas inside the cylinder. Damage to the piston rod or seal will degrade the lifespan of the gas strut.

Under no circumstances subject a gas strut to forces that put them under tensile stress or cause them to bend.

Welding on to the gas strut, or modifying the gas strut without the proper equipment, is highly likely to cause failure and will void the warranty.

Chipping, scratching, denting, painting or heating of the piston rod must be avoided. Gas struts are self-lubricating: do not grease the rod or seals.

Contamination of the piston rod should be avoided, this includes dirt, metal filings, dust, sand, road salt etc.

In outdoor environments, including applications where by the gas struts will be exposed to humidity, moisture, condensation, rainwater or seawater etc stainless steel gas struts should be used to prevent degradation/rusting. Failure to specify stainless steel struts and relavent fittings will result in short product life span.

End fittings must be fastened tightly prior to use.

GAS STRUT SAFETY INFORMATION

SAFE REMOVAL OF MALFUNCTIONING GAS STRUTS

In the event of a gas strut becoming damaged or bent or not performing in the expected manner then immediately contact SGS.

Extreme caution should be exercised when removing damaged struts.

If the gas strut is valved/adjustable then vent all the pressure from the damaged strut using the adjustment valve before attempting to remove the strut.

If the strut is not valved/adjustable then using a hacksaw, cut a small slot midway along the cylinder. Ensure correct eye, hand and ear protection is worn during this cutting procedure. Once the cylinder is pierced you be able to hear gas escaping. When venting/cutting the cylinder be aware that a small amount of lubricating oil may be ejected. Ensure this oil is disposed of in an environmentally friendly manner.

With the strut now rendered safe proceed with removing the gas strut.

If there is any uncertainty regarding removing or replacing a damaged gas strut then please contact SGS.