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SAFE USE AND CARE OF HOSE ASSEMBLIES

Hi-Force hose assemblies are manufactured to the highest standards and incorporate all the requirements of the latest European Standards. The main safety Directive covering hose and machinery products is the European Machinery Directive 2006/42/EC.

The two most important harmonized European standards on safety requirements for hose assemblies are:-

- ISO EN12100 (Safety of Machinery: Basic concepts, general principles for design)
- ISO4413/2010 (Safety requirements for fluid power systems and their components)

All Hi-Force Hose assemblies incorporate a safety factor on working pressure of 4:1. This conforms to SAE, DIN and EN regulations.

All hose assemblies are subjected to many variable factors which need to be taken into account, as these will affect the Service Life and Storage Life of the hose.

In order to maximize the life of the hose assembly the following should always be taken into account:

Correct Storage of hose assemblies extends Service Life:
Due to the critical nature of the hose assemblies in any hydraulic system, Hi-Force recommend that as a matter of course hose assemblies should be replaced irrespective of visible condition after a maximum period of 8 years.
The storage conditions for hose assemblies should ideally be in a store room which should be cool (up to +20°C) dry (rel. humidity max. 65%) and protected from sunlight.
Exposure to ozone and UV radiation will shorten the service life of a hose.

Specifying the correct hose assembly.
When choosing the hose assembly for the hydraulic system to be operated it is important to give these items as much attention as the power pump and cylinders/tools they are to be used with.
Care must be taken that the **working pressure** (as marked on the outer sleeve of the hose) of the hose assembly is correct for the system it is to be incorporated in. The hydraulic system should never exceed the stated working pressure of the hose.
Many hose assemblies are equipped with quick release couplings so that tools can be attached or removed quickly and safely and it is critical that the working pressure of these couplings match the working pressure of the hose and hydraulic system.


Failure to observe can lead to serious injury and even death. Oil jets released under pressure can inject the skin.

Maintenance:
All hose assemblies should be subjected to regular inspection and pressure checks, so that any weaknesses in the assembly can be identified before any failure occurs.

IMPORTANT: These checks **should not** only be carried out on an annual or monthly basis, but visual inspection of the hose assembly should be carried out every time it is used.
These visual inspections must be made before, during and after use of any hose assembly.
These checks should be made for the following:-

- Correct pressure rating of the hose to the system it is to be employed in.
- Abrasions, cuts, cracks to the outer casing of the hose assembly

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- Kinks in the hose assembly
- Sharp bends in the hose assembly
- Couplings are clean, dirt free, and are not corroded or threads damaged.
- Any leaks of oil of evidence of leakage.

If any of the above are present in the hose assembly it should not be used and it should be removed from service.

All hose assemblies should be completely unrolled before use and be operated with a minimum of bends in the assembly during operation.

Summary Guide to Safe Use:

Always consider and incorporate the following when using hose assemblies:

- Correct Working Pressure – The system pressure should never exceed the rated working pressure of the hose.
- Do not mix and match components of different working pressures in the same system.
- Do not expose the hose to internal or external temperatures exceeding the recommended stated limits. Consult additional technical information when the hydraulic fluids contain emulsions or solutions. The fluid manufacturers recommended maximum operating temperatures should be adhered to regardless of the hose temperature range.
- The hose assembly (hose structure, reinforcements and couplings) must be compatible with the fluid to be used in the hydraulic system. If in doubt seek further technical advice.
- Do not bend the hose to a radius smaller than the minimum recommended and the hose assembly should not be subjected to stretching or twisting.
- Hose assemblies should be protected and routed to minimize the risk of damage due to: kinking, abrasion, vehicle or truck damage and ensure that objects are not dropped on to the hose assembly.
- Never transport hydraulic equipment by pulling or carrying the equipment using the hose assembly as a pull rope or carrying handle.
- Should you ever receive an injury caused by a spray of hydraulic oil, seek medical care immediately.
- Never use and always remove from service any hose assembly that is damaged.