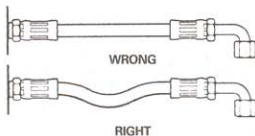


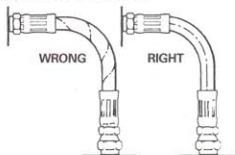
Hose Installation

1. Provide for length change.



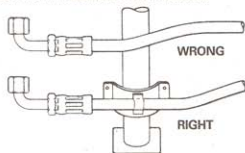
In straight hose installations, allow enough slack in the hose line to provide for changes in length that will occur when pressure is applied. This change in length can be from +2% to -4%.

2. Avoid twisting and orient properly.



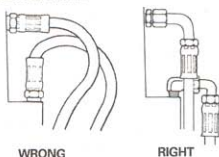
Do not twist hose during installation. This can be determined by the printed layline on the hose. Pressure applied to a twisted hose can cause hose failure or loosening of connections.

3. Protect from hazardous environment.



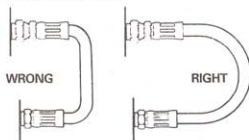
Keep hose away from hot parts. High ambient temperature will shorten hose life. If you can not route it away from the heat source, insulate it. (See Spring Guards page 66-76.)

4. Avoid mechanical strain.



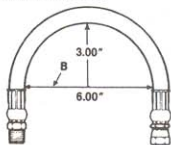
Use elbows and adapters in the installation to relieve strain on the assembly and to provide easier and neater installations that are accessible for inspection and maintenance.

5. Use proper bend radius.



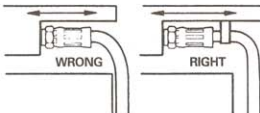
Keep the bend radius of the hose as large as possible to avoid collapsing of the hose and restriction of flow. Follow catalog specs on minimum bend radii.

6. Use proper bend radius (cont'd).



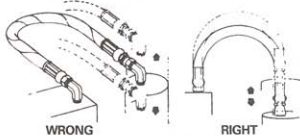
Minimum bend radius is measured on the inside bend of the hose. To determine minimum bend, divide the total distance between ends (B length) by 2. For example, B = 6, minimum bend radius = 3.

7. Secure for protection.



Install hose runs to avoid rubbing or abrasion. Use Weatherhead Hose Clamps to support long runs of hose or to keep hose away from moving parts. It is important that the clamps not allow the hose to move. This movement will cause abrasion and premature hose failure. (See Hose Clamps pg 83.)




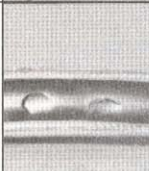




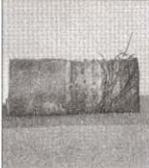

8. Avoid improper hose movement.



Make sure relative motion of the machine components produces bending rather than twisting of the hose. Hose should be routed so that the flex is in the same plane as the equipment movement.

 Refer to safety information regarding Coll-O-Crimp[®] hose installation on page 1.

Hose Failure Analysis

	<p>1. Problem: Hose has burst. Rusted wire, torn and rotted fibers are present. This was caused by abrasion damage. Exposure to elements will accelerate the deterioration.</p> <p>Solution: Route the hose so it does not rub against other objects while under pressure. Suggest using clamps and spring guards to protect.</p>		<p>2. Problem: Hose has burst on outside bend of hose. This hose has been bent past minimum bend radius. It has also taken a set in a bent position due to a kink in the inner tube or reinforcement.</p> <p>Solution: Check minimum bend radius for hose. Refer to page 26 to determine minimum bend radius. Utilize bend tube elbows if possible.</p>
	<p>3. Problem: Excessive heat. Hose cover or inner tube is brittle and cracked and is not flexible at room temperature.</p> <p>Solution: Use hose with higher temperature rating or protect from heat with shields. Examine entire system for potential heat source. For example: undersized lines, excessively long lines, too many bends and/or fittings, reservoir low on oil.</p>		<p>4. Problem: Incompatible fluid. Portions of the inner tube are swollen and/or washed out. Cover may also be swollen.</p> <p>Solution: Make sure hose used is compatible with fluid being used. Refer to chemical compatibility chart.</p>
	<p>5. Problem: Hose cover blistered and pulling away from carcass. Gas has effused through the tube and become trapped under the cover.</p> <p>Solution: Use perforated, pin-pricked or fiber cover hose.</p>		<p>6. Problem: End fitting blown off. Im-proper assembly procedures, incorrect hose end series, mixing competitor's components and Weatherhead components.</p> <p>Solution: Refer to hose assembly procedures and Hose End and Tool Selector Chart in this catalog. NEVER intermix components. Refer to pages 1-2 for important safety information.</p>
	<p>7. Problem: Hose has burst cleanly with no random wire breakage and cover abrasion. This condition is caused by excessive pressure.</p> <p>Solution: Use hose with higher pressure rating. Check pressure relief for damage or improper setting.</p>		<p>8. Problem: Hose has burst. Hose is permanently twisted and kinked. Many broken wires in failure area.</p> <p>Solution: Hose twisting can reduce hose life 90%. Tighten ends properly. Reroute hose to eliminate twist. Route hose to flex in only one plane. Use hose layline for a guide.</p>
	<p>9. Problem: End fitting blown off. This condition has been caused by improper skiving. Any remaining cover on hose in the crimping area will prohibit proper end retention.</p> <p>Solution: Make sure hose is properly skived. Refer to page 25 for hose skiving instructions.</p>		<p>10. Problem: Hose end appears to have been pinched on one side.</p> <p>Solution: This is an early sign of collet wear. Replace collet. New Weatherhead[®] collets offer the feature of being rebuildable. See the tool section chart in the back of this catalog.</p>

⚠ WARNING – Selection of Hose: Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog. Refer to Selection of Hose and Hose Installation (page 3-11 and page 26) for additional safety information. Hose failures can be caused by conditions such as excessive pressures, fluid incompatibility, extreme temperatures, and many more. Eaton has illustrated above some of the more common failures. If the conditions you are experiencing are not listed, please contact your Eaton representative for further assistance.