

 **PNG** Technologies
Technical Support, It Matters
(734) 992-2648

KP-4-LPGKIT INSTRUCTIONS
WATER COOLED



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KP-4-LPGKIT CONTENTS:

(Please be sure to check that all items listed below are included in your kit.
If any parts are missing please contact us as soon as possible.)

HOSE



HOSE-HP-#6

5/16" I.D.
36" Length



HOSE-5/8

5/8" I.D. Hose
36" Length



HOSE-VAC-7/32

7/32" I.D. Vacuum Hose
36" Length



HOSE-WAT-3/8

3/8" I.D. Push Lock Hose
60" Length

NUTS & BOLTS



N-B-1100

1/4-20 Hex
Finish Nut
Qty. 2



N-B-1101

1/4" Split
Lock Washer
Qty. 2



N-B-1102

1/4" SAE
Flat Washer
Qty. 4



N-B-1104

1/4-20 x 1"
Hex Head Bolt
Qty. 2

FITTINGS



FITT-3/8-0006

3/8" Female x 3/8" Hose
SAE JIC 45° Swivel
Qty. 2



FITT-3/8-1303

3/8" NPT Male x 3/8"
Flare 90° Brass
Qty. 1



FITT-3/8-15

3/8" Tube x 3/8" Hose
SAE # 6
Qty. 1

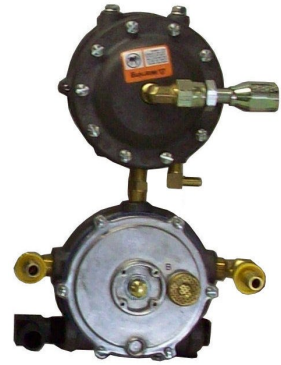
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REGULATOR/LOCKOFF ASSEMBLY

INCLUDES THE FOLLOWING:

- A. G-VFF30-2 (Model VFF30 Series Vacuum Fuellock Filter Silicone) - Qty. 1
- B. G-JB-2 (Model J Series, Blue Spring Reg/Vap Silicone w/Primer) - Qty. 1
- C. FITT-3/8-0015 (3/8" Tube x 3/8" Hose SAE #6) - Qty. 1
- D. FITT-1/8-1019 (1/8" Pipe x 1/4" Hose 90° Brass) - Qty. 1
- E. FITT-3/8-1303 (3/8" NPT Male x 3/8" Flare 90° Brass) - Qty. 2
- F. FITT-3/8-0006 (3/8" Female x 3/8" Hose SAE JIC 45° Swivel) - Qty. 2
- G. FITT-1/2-0021-1 (1/2" NPT x 5/8" Hose I.D. Nylon Elbow) - Qty. 1
- H. FITT-1/4-1109 (1/4" NPT Nipple) - Qty.
- I. BRKT-38-QTY.1



CARBURETOR

NOTE: Carburetor and Gasket will vary depending on the kit you need.

Carburetor—Qty. 1

Gasket—Qty. 1



ACCESSORIES



CLAMP-9
Hose Clamp
11/16" to 1-1/4"
Qty. 2



ACC-TS-8"
Plastic Tie Strap 8"
Qty. 4

LP-GAS CONVERSION KIT INSTALLATION INSTRUCTIONS

The following instructions give a general outline on installation procedures for converting gasoline engines to propane. These instructions are kept brief for simplicity, and we recommend that the installation should be done by a service personnel. Please beware of the safety regulations as outlined in the National Fire Protection Association pamphlets 58, 37 and 505. There may be additional government recommendations and safety rules in your locality which must be met with those listed above. These systems include all safety equipment required for complying to the regulation.

**REMEMBER SAFETY FIRST AND WHEN IN DOUBT,
PLEASE ASK FOR CLARIFICATION.**

A. PRELIMINARY STEPS:

1. Disconnect battery cables.
2. Drain radiator and observe the Lift Trucks general condition.

B. REMOVE THE FOLLOWING:

1. Gas lines, Carburetor and also fuel pump.

C. INSTALL THE FOLLOWING:

1. Vaporizer / Regulator—see page 7
2. Vacuum Lockoff—see page 7
3. LPG Carburetor—see page 8
4. Make sure that all hoses are not rubbing against any surface.
(For proper hose installation procedure see page 9-10)
5. Tighten all fittings and pipe compound on any fittings.
6. Make sure all coolant lines are connected.
7. Always make sure that the Vaporizer / Regulator is not mounted above radiator, this will cause freeze up.

PRE-START PROCEDURES

1. First, double check all of your work before the initial start.
2. Have a soapy solution ready to check for any leaks.
3. Install the LP tank in the proper position in the locating pin.
4. Hook up the 7141F Female connector to tank and turn on slow, so that you don't get vapor lock in the systems.
5. Use the soapy solution on all high pressure fittings and check all LP Hose ends on the high pressure hose.
6. You should be ready to start the lift truck.

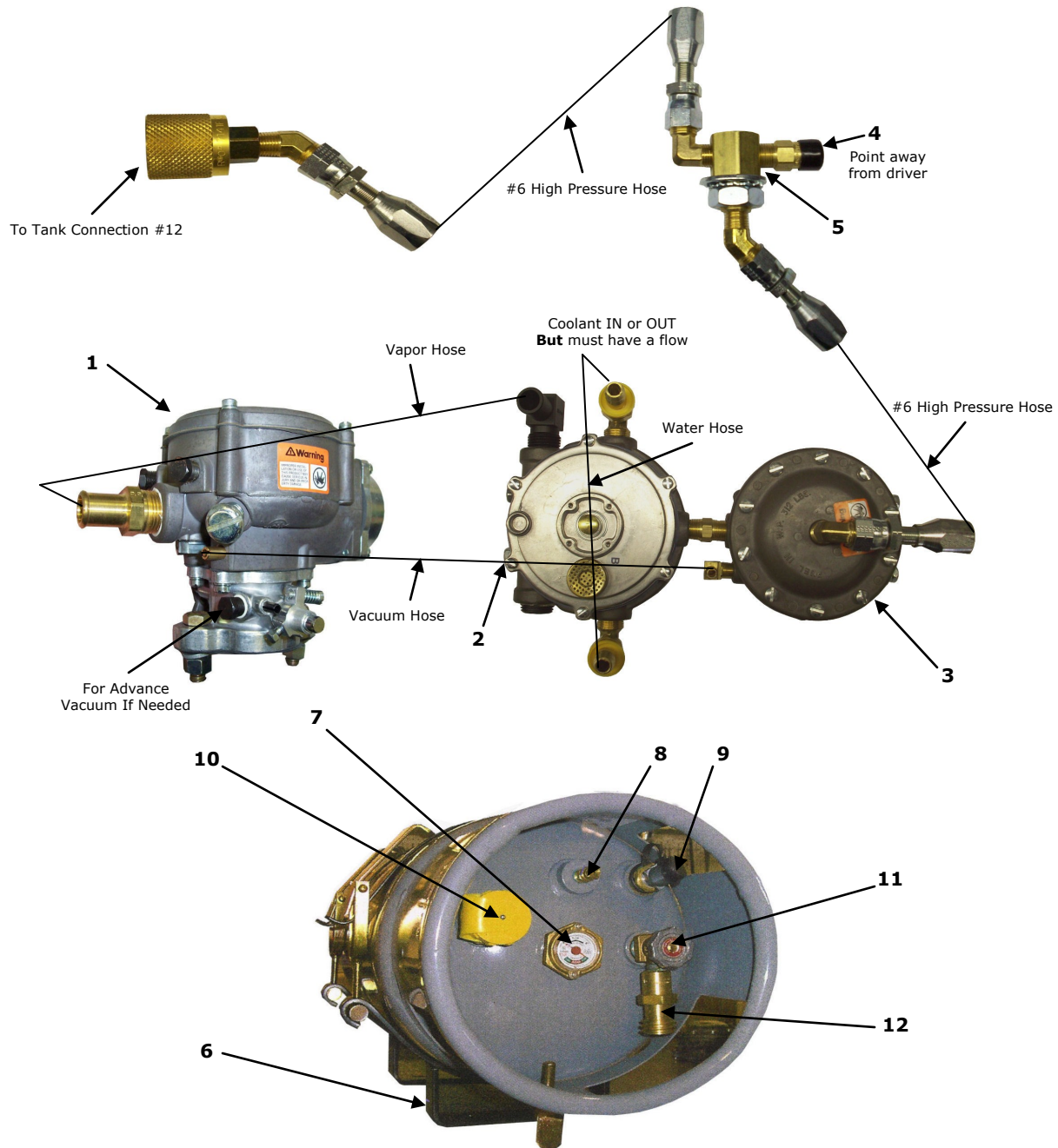
PNG Technologies will not be held responsible for any leaks or any other situations that may occur. Please remember safety.

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TYPICAL LP-GAS SYSTEM

- | | |
|-------------------------------------|--------------------------|
| 1. G-CA100 Mixer | 7. Fuel Gauge |
| 2. G-JB-2 Vaporizer/Regulator | 8. 80% Stop Bleeder |
| 3. G-VFF30-2 Vacuum Fuellock Filter | 9. Pressure Relief Valve |
| 4. Hydrostatic Relief Valve | 10. Filler Valve |
| 5. Bulkhead | 11. Service Valve |
| 6. Tank Bracket | 12. 7141M Male Connector |



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LPG CARBURETOR ADJUSTMENT

1. Idle Mixture Adjustment Screw

Turning the screw "IN" will make the fuel mixture richer.

Turning the screw "OUT" will make the fuel mixture leaner.

The Idle Mixture Adjustment Screw is adjusted correctly with an exhaust gas analyzer.

Mixture should be adjusted to .50% - .90% CO (Carbon Monoxide).

Without an exhaust gas analyzer:
Turn the idle mixture screw in until engine starts to run rough, or loses RPM or speed. Then, turn idle screw out approx. 1/2 turn "OUT" or until engine smooths out. This will ensure you're not in a lean mode but are in a richer mode so the engine will not burn up valve.

2. Idle Speed Adjustment Screw

Idle Speed should always be set to manufacture's specifications.

Most engines today idle between 650-750 RPM.

3. Power Mixture Adjustment Valve

This setting is preset at the factory and should not require adjustment.

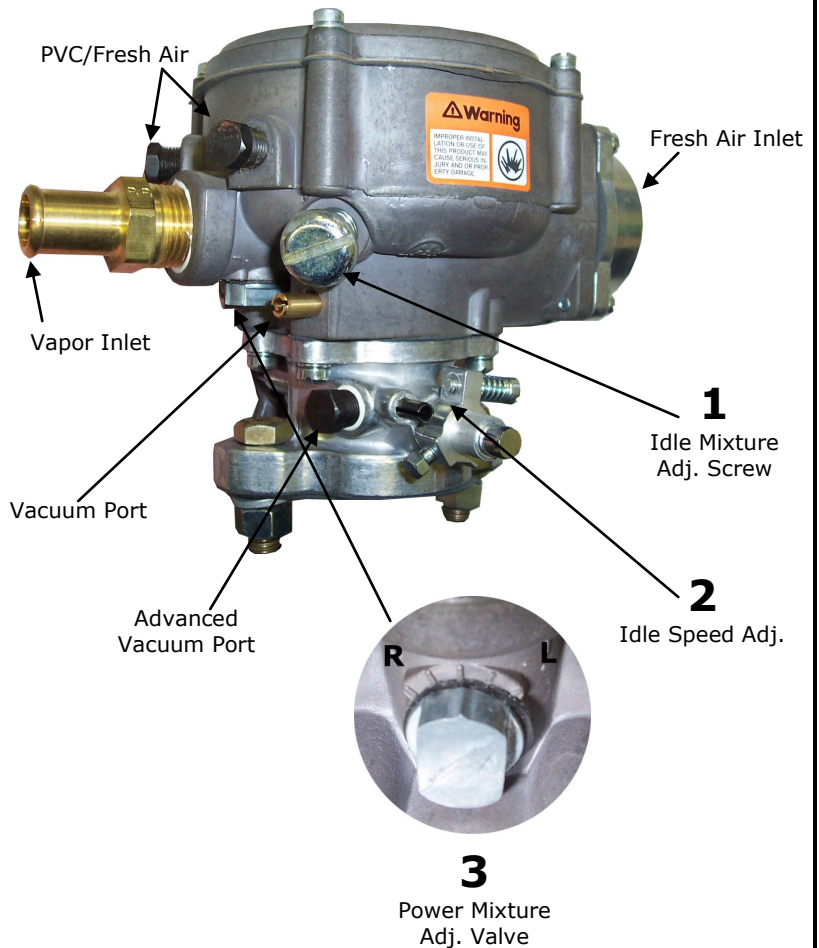
This adjustment is only effective when the engine is near full load condition.

NOTE: Can only be adjusted with the engine loaded, or close to the fully loaded condition.

If adjustment is needed, follow these steps:

1. Set parking brake and block drive wheels.
2. Connect a Tachometer to the engine.
3. Accelerate engine to Full Rated RPM Level.
4. Pull backwards on Tilt Lever until pump reaches hydraulic relief bypass.
The RPM should drop according to the specifications for the hydraulic bypass (Typically 250-500 RPM).
If the RPM will not drop, check and adjust your hydraulic pressure to the manufacturer's specifications before continuing.
5. Turn the Power Adjustment Valve until the highest engine RPM is reached.

NOTE: Using an exhaust gas analyzer your percentage of CO should be (.50% - 1.0%).

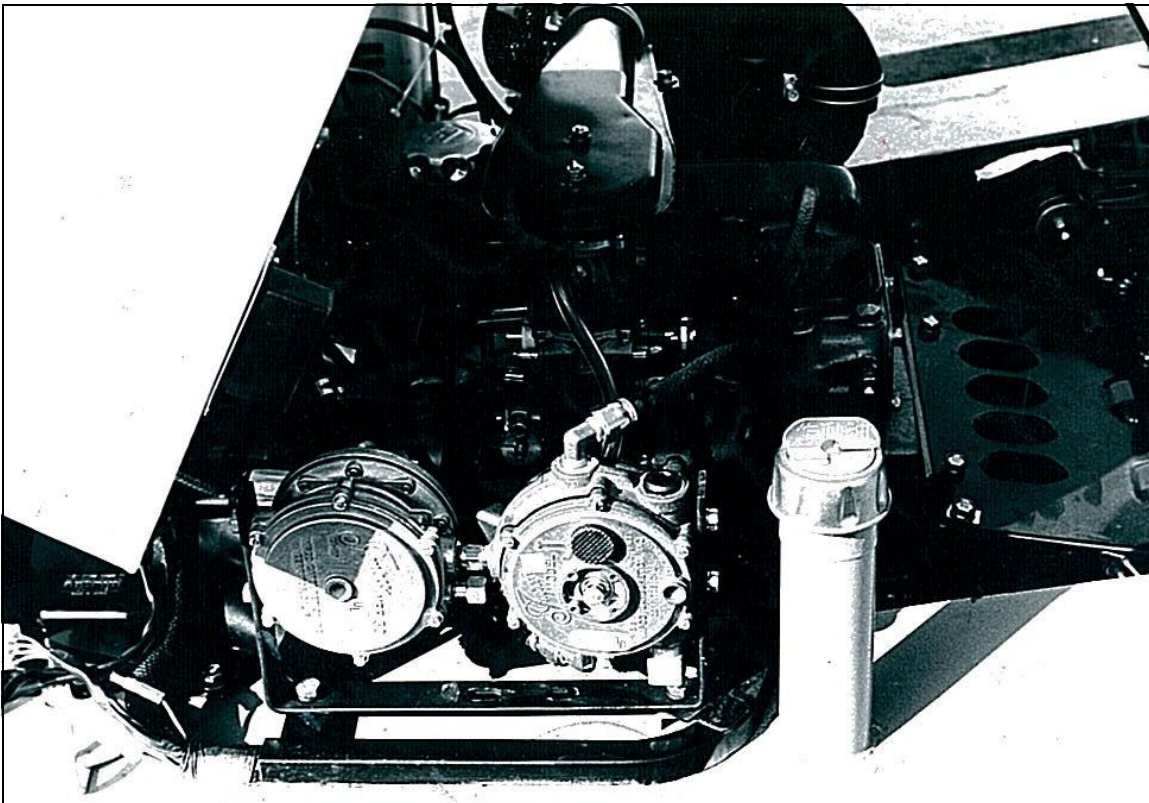


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"EXAMPLE PICTURES"

REGULATOR / LOCKOFF MOUNT

MOUNT REGULATOR / LOCKOFF TOGETHER IF POSSIBLE.
THIS MAKES IT EASY TO INSTALL.

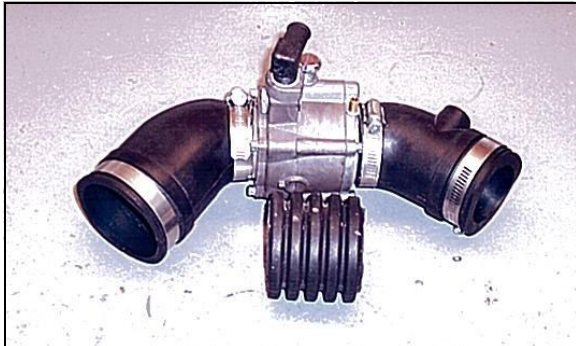


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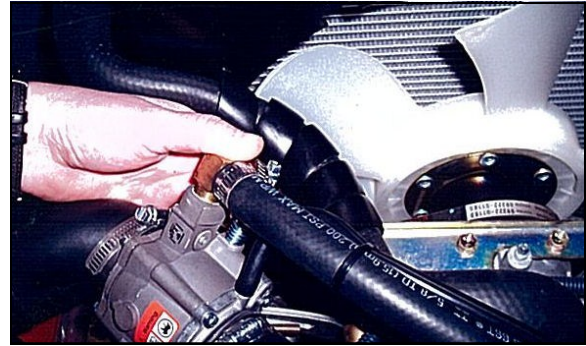
"EXAMPLE PICTURES"

IF CARB IS MOUNTED IN AIRSTREAM

CA55 VERSION



CA55 VERSION

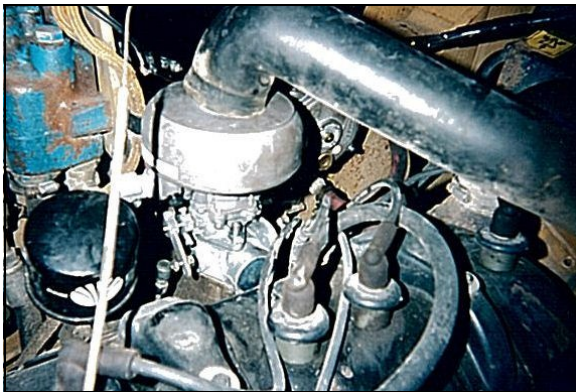


CA125 VERSION

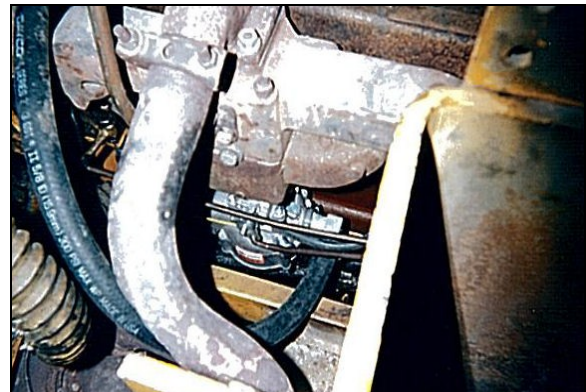


IF CARB IS MOUNTED ON MANIFOLD

CA125 DOWN DRAFT MOUNT



CA100 UP DRAFT MOUNT

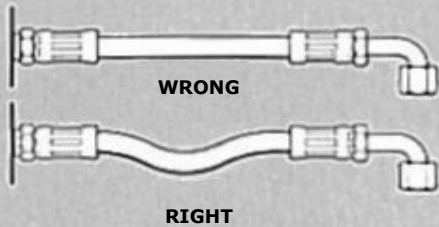


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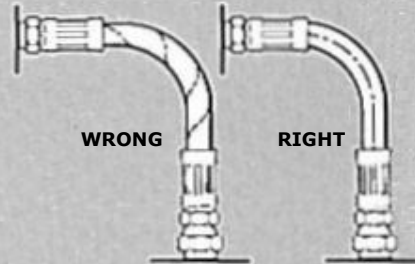
HOSE INSTALLATION

1. Provide for length change



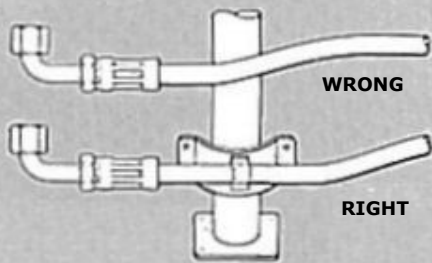
In straight hose installations allow enough slack in the hose line to provide for changes in length that will occur when pressure is applied. This change in length can be from +2% to -4%.

2. Avoid twisting and orient properly



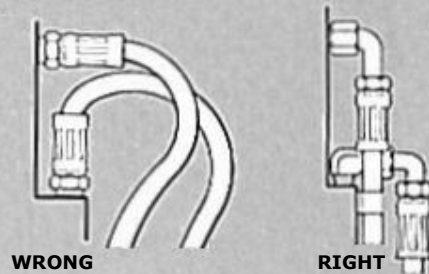
Do not twist hose during installation. This can be determined by the printed layline on the hose. Pressure applied to a twisted hose can cause hose failure or loosening of connections.

3. Protect from hazardous environment



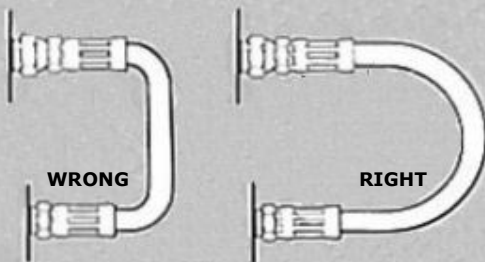
Keep hose away from hot parts. High ambient temperature will shorten hose life. If you can not route it away from the heat source, insulate it.

4. Avoid mechanical strain



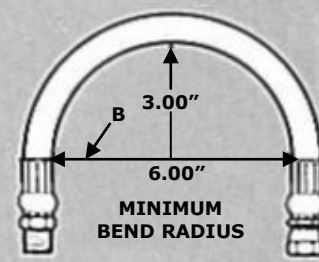
Use elbows and adapters in the installation to relieve strain on the assembly, and to provide easier and neater installations that are accessible for inspection and maintenance.

5. Use proper bend radius



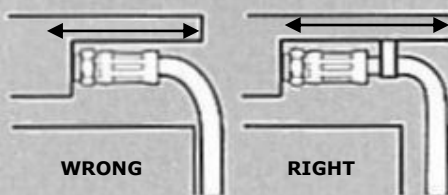
Keep the bend radius of the hose as large as possible to avoid collapsing of the hose and restriction of flow.

6. Use proper bend radius (con't)



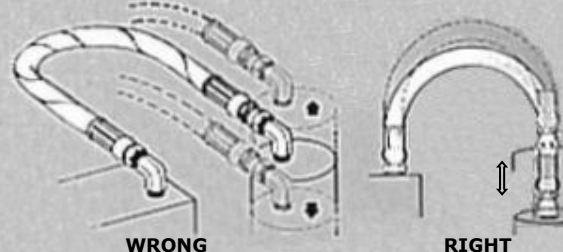
Minimum bend radius is measured on the inside bend of the hose. To determine minimum bend, divide the total distance between ends (B length) by 2. For example B=6, minimum bend radius = 3.

7. Secure for protection



Install hose runs to avoid rubbing or abrasion. Use 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.

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.

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HOSE INSTALLATION



1. Place socket in vice as shown. Squirt end of hose with lubricant and screw counterclockwise into socket until hose bottoms. Back off 1/2 turn.



2. Lubricate the threads of the nipple for adequate lubrication.



3. Place nipple head in vice. Screw hose and socket clockwise onto nipple until large threads engage.



4. Position socket in vice as shown and complete assembly.

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