

Summary Report for Individual Task
551-88L-2070
Construct High Pressure Hose
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD5 - This product/publication has been reviewed by the product developers in coordination with the [installation/activity name] foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

Condition: Aboard a vessel, at sea, at anchor or moored alongside a pier, day or night, under all sea and weather conditions, while wearing appropriate PPE, (i.e. hearing protection, eye protection, shield, apron, etc.), lock out tag out kit and a marine rail tool box.

Standard: The Soldier correctly constructs a high pressure hose aboard an Army vessel, IAW the appropriate Technical Manual and local SOPs, without injury to self or others and without damage to equipment.

Special Condition: None

Safety Risk: Extremely High

MOPP 4:

Task Statements

Cue: None

DANGER
None

WARNING
None

CAUTION
None

Remarks: None

Notes: None

Performance Steps

1. Demonstrate basic knowledge of high pressure hoses and components.

a. Support Clamp



Support Clamp
Figure 551-88L-2070_01

- (1) Lightweight vinyl coated steel support clamps are designed to support hose where long runs are necessary.
- (2) Prevents damage, exposure and chafing also will withstand high ambient temperatures.

b. Hose Spacers



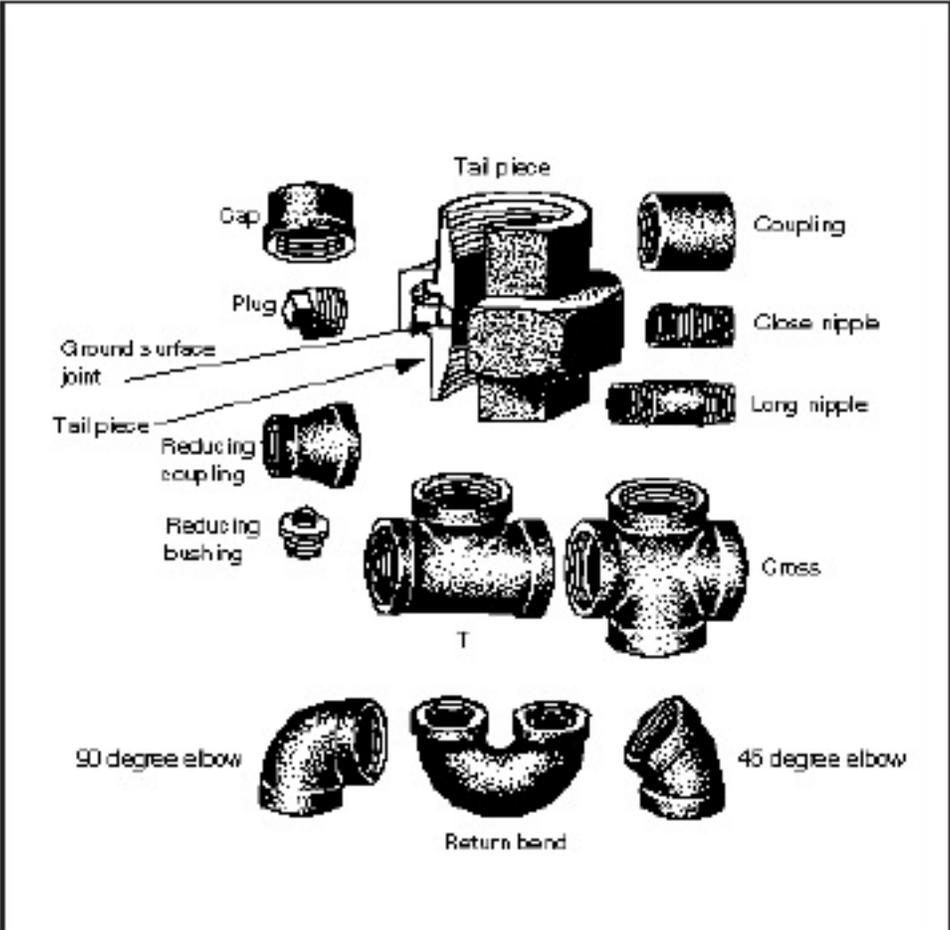
Hose Spacers
Figure 551-88L-2070_02

- (1) Prevents hose abrasion at points of contact.
- (2) Helps keep hoses organized.
- (3) Prevents damage from unrestrained hoses.

c. Fittings and Connectors

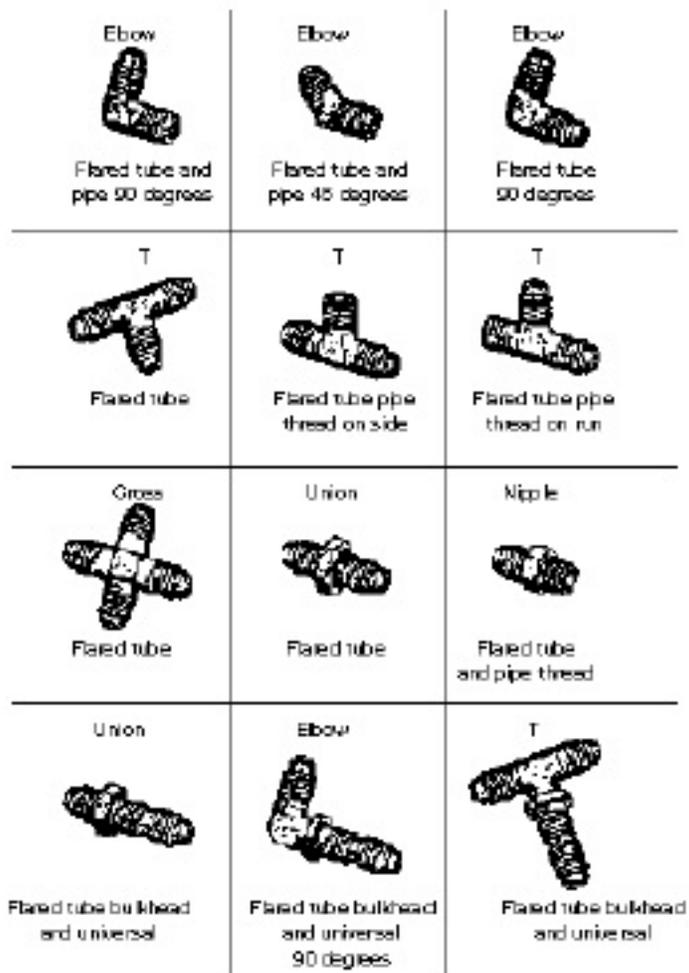
- (1) Fittings are used to connect the units of a fluid-powered system, including the individual sections of a circulatory system.
- (2) Many different types of connectors are available for fluid-powered systems.

(a) Threaded Connectors - Used in some low-pressure liquid powered systems.



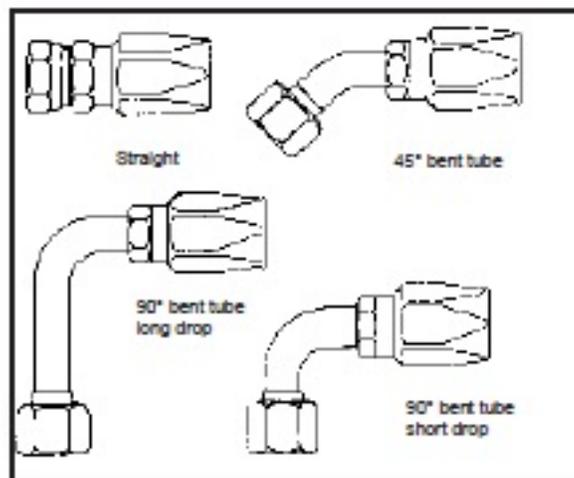
Threaded-pipe connectors
Figure 551-88L-2070_03

(b) Flared Connectors - Used in circulatory systems consisting of tube lines.



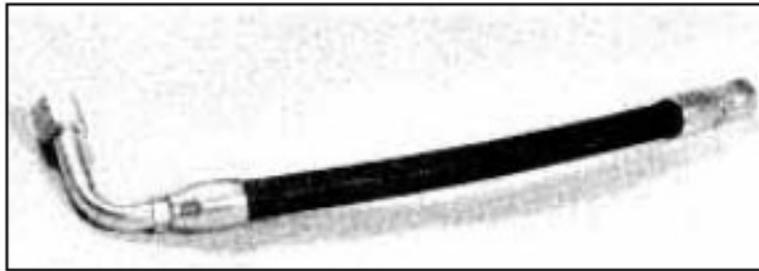
Flared Tube Fittings
Figure 551-88L-2070_04

(c) Flexible Hose Couplings - If a hose assembly is fabricated with field attachable couplings use the same couplings when fabricating the replacement assembly, as long as the failure (leak or break) did not occur at a coupling.



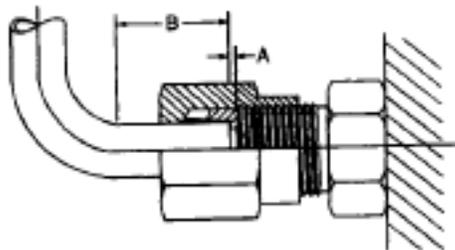
Field Attachable Couplings
Figure 551-88L-2070_05

2. Perform assembly of high pressure hose.



High Pressure Hose
Figure 551-88L-2070_06

- a. Measure and record the length of the old assembly.
- b. Using a hacksaw or tubing cutter, cut the tube at the juncture of the tube and the hose socket.
- c. Using a flat file, remove the burrs on the outside of the tube and use a rat tail file to remove the burrs on the inside.
- d. Place the tube into the counterbore (it should fit freely into it).
- e. To determine the required amount of new hose, measure the distance from the scribe mark on the tube (refer to Step a) to the shoulder hex of the nipple.
- f. Measure the length of the tube assembly from the flat face of the adapter in one port to the face of the adapter in the opposite port.



Measuring Length Of Hose
Figure 551-88L-2070_07

- g. Inspect the tubing to insure that no scratches, gouges, burrs or other surface defects are present.
- h. Cut the measured tubing squarely.
- i. Deburr the tube ends with a deburring tool or fine cut file.
- j. Place a nut, ferrule and sleeve onto tubing, assuring that the identification groove of the ferrule is toward the nut.
- k. Assemble the nut to the adapter until "hand tight" with the tubing fully inserted into the fitting until bottomed out.



Tubing, Ferrule and Sleeve
Figure 551-88L-2070_08

WARNING

Tubing must be fully inserted into the fitting and the nut tightened as specified to ensure performance and to prevent leakage and potential fitting blow-off.

3. Perform basic maintenance for high pressure hose and their systems.

a. Look, feel, and listen for any leakage in a high pressure hose.

b. Leakage can occur internal, external or both.

c. After 10 to 20 hours of operating a system, check hoses for leaks and tightness.

d. Never use additives in a system without prior approval or manufactures recommendations.

Note: Additives can cause damage to the system or to the seals, causing the system to leak.

e. Seals are packing materials used to prevent leaks in systems.

(1) A seal is any gasket, packing, seal ring, or other part designed specifically for sealing.

(2) Sealing applications are usually static or dynamic, depending if the parts being sealed move in relation to one another.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: None

Evaluation Preparation: None

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Demonstrated basic knowledge of high pressure hoses and components.			
a. Support Clamp			
b. Hose Spacers			
c. Fittings and Connectors			
2. Performed assembly of high pressure hose.			
3. Performed basic maintenance for high pressure hose and their systems.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	FM 5-499 (RESC/PAM 25-30, 29 JANUARY 2014)	Hydraulics	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks : None

ICTL Data :

ICTL Title	Personnel Type	MOS Data
88L20 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL2, Duty Pos: TFS, LIC: EN
88L30 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL3, Duty Pos: TFR, LIC: EN
88L40 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL4, Duty Pos: TGB, LIC: EN, SQI: O