



# HYDRAULIC HOSE SAFETY

**Presented by**

**RELIABLE EQUIPMENT & SERVICE CO., INC.**

**301 Ivyland Road - Warminster, PA 18974**

**Phone: 215-357-3500 – Fax: 215-357-9193**

**Visit us on the web at [www.reliable-equip.com](http://www.reliable-equip.com)**





# HYDRAULIC HOSE ASSEMBLY & INSPECTION





## LOW PRESSURE HYDRAULIC HOSE SET

Red or Orange non-conductive rubber hose sets designed and tested to meet the electrical conductivity requirements established in the utility market.

These assemblies are more flexible than their plastic alternatives and are built to meet the punishing demands of the electric power utility industry.

**RATED:** 2,250 psi working pressure, Certified, nonconductive. double rayon braid, extreme flexibility (even in cold temperatures).

Tested and marked to have passed a total hazard current test of 75kv for 3 min. with current not exceeding 100 micro amps / foot.

PART (RED)	PART (ORANGE)	PART (RED)	PART (ORANGE)	DESCRIPTION
REL-2250-18-A	REL-2250-O-18-A	REL-2250-18-B	REL-2250-O-18-B	18" Whip Assembly
REL-2250-___-A	REL-2250-O-___-A	REL-2250-___-B	REL-2250-O-___-B	Assembly

Each assembly above followed by an "A" includes two 3/8" I.D. hoses with 3/8" NPTF fittings on each end. Each assembly above followed by a "B" includes two 3/8" I.D. hoses with 3/8" NPTF male fittings on one hose and 1/2" NPTF male fitting on the other hose. Please specify desired length in inches.



## HIGH PRESSURE HYDRAULIC HOSE

10,000 psi (40,000 psi min. burst) high pressure hydraulic hose designed and tested to meet the electrical conductivity requirements established in the utility market. The 3VE3 series is a 3/16" I.D. hose, standard in most double acting applications, and the 3VE4 series, which is 1/4" I.D., is more common in single acting applications.



PART	LENGTH	DESCRIPTION
*3VE3	SPECIFY	3/16" H.P. HOSE
**3VE4	SPECIFY	1/4" H.P. HOSE

\* 3VE3 hoses includes hose guards & 1/4" MPT ends.  
8.1 lbs. Wt. / 100 ft.

\*\* 3VE4 hoses includes hose guards & 3/8" MPT ends.  
10.6 lbs. Wt. / 100 ft.

**FEATURES:** H/D thermoplastic construction, certified nonconductive, assemblies available in any length, Lightweight, wear resistant, and excellent weatherability. Temperature range from -40°F to +150°F, H/D hose guard provides greater hand and body protection. Safety orange jacket for greater operator awareness. Hoses are tested at 75kV/ft assuring that the hose has a leakage factor of less than 50 microamperes.



## High Pressure Hose Construction



## Safety Hose Guards

Newly designed safety hose guard provides greater hand and body protection. Combination metal/rubber construction affords improved strain relief behind coupling to better protect against kinking.

### POPULAR END-CONNECTIONS

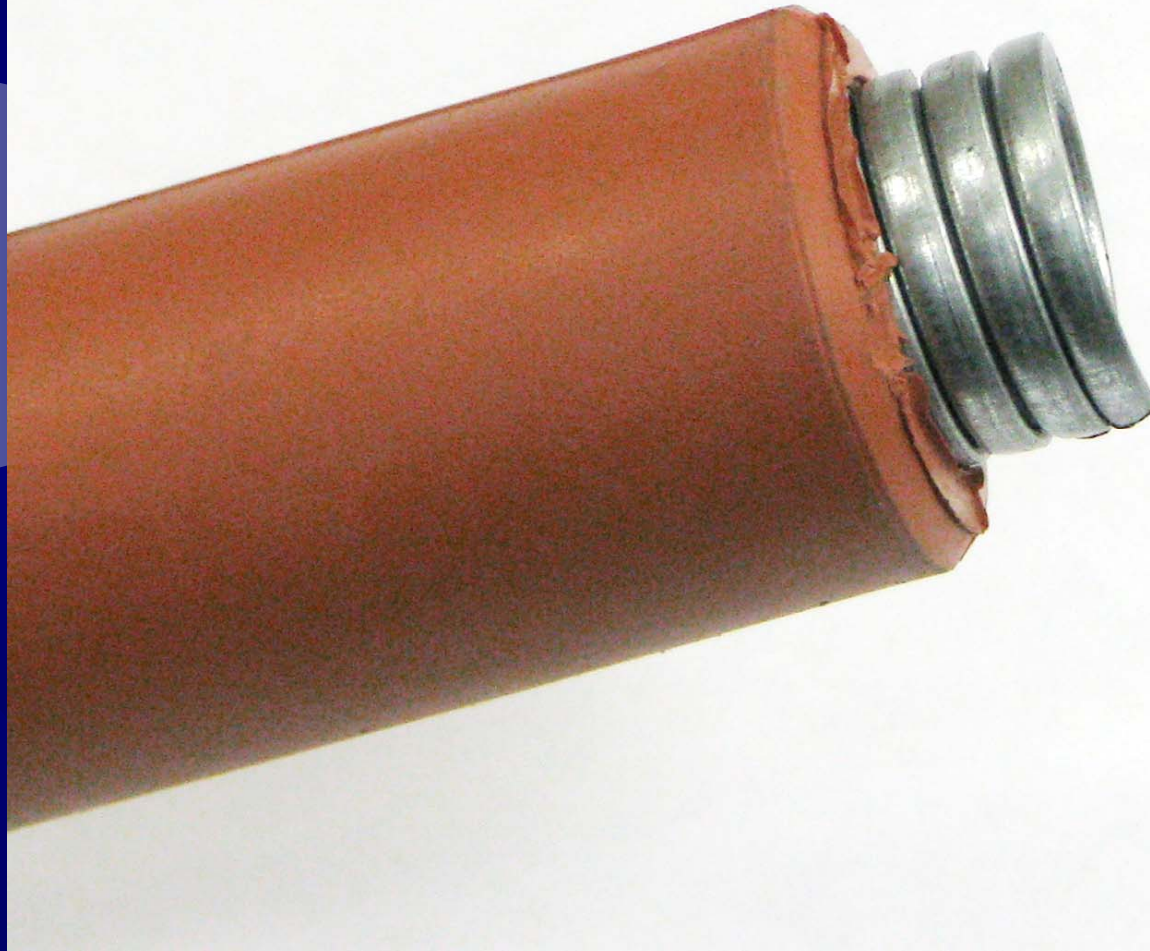


Permanently attached warning tags are provided on each assembly with detailed operator safety instructions.

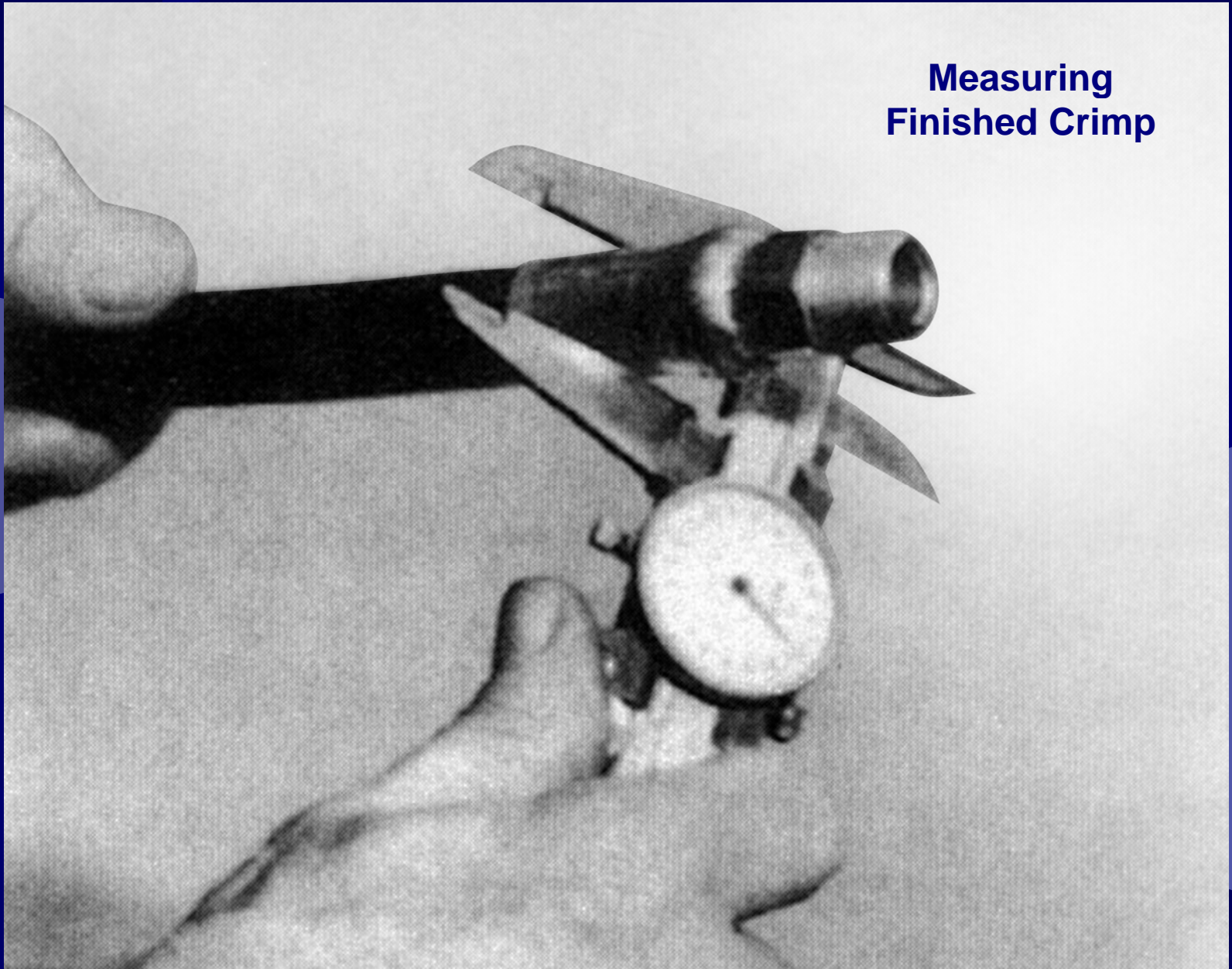




## High Pressure Strain Relief

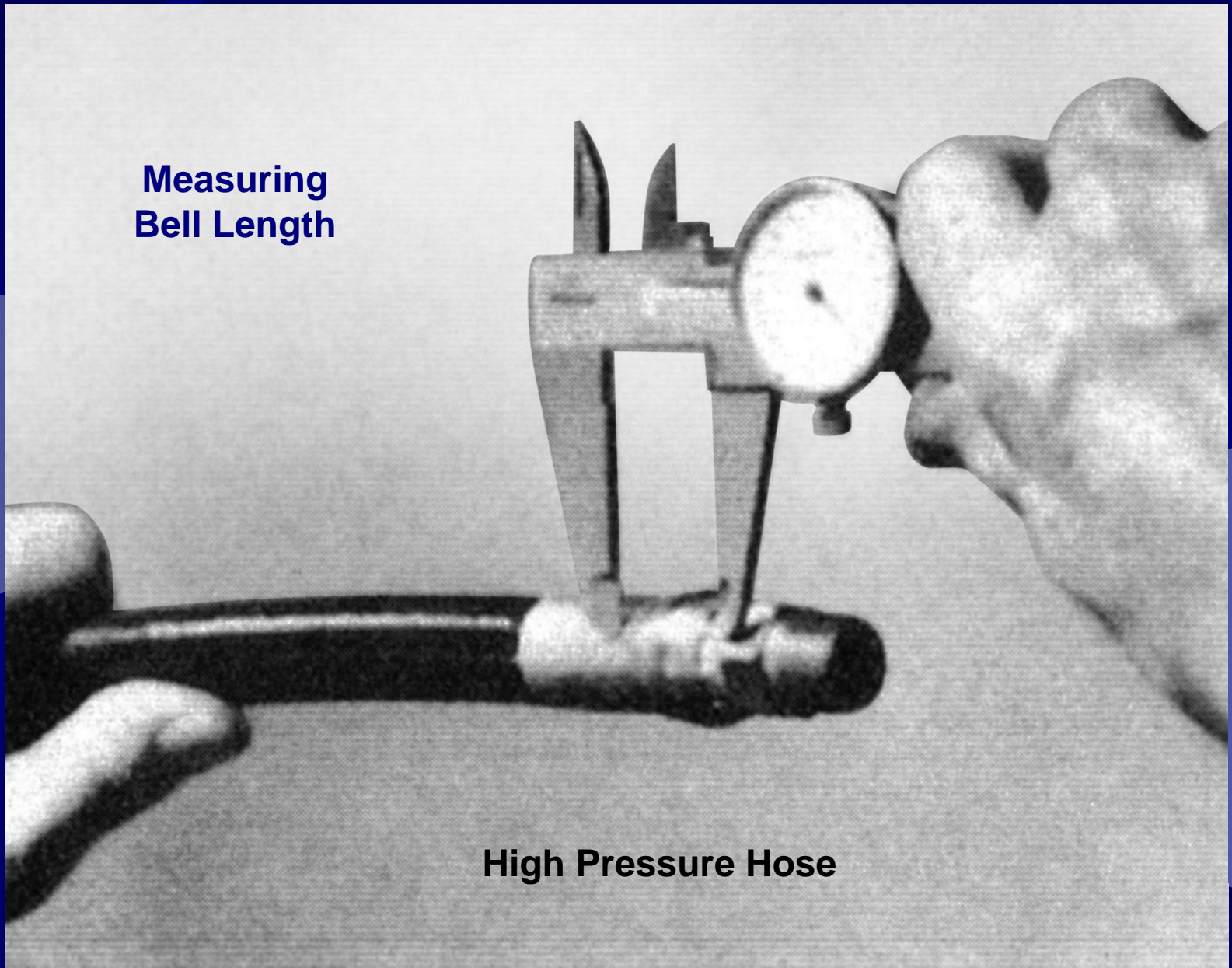


## Measuring Finished Crimp





**Measuring  
Bell Length**

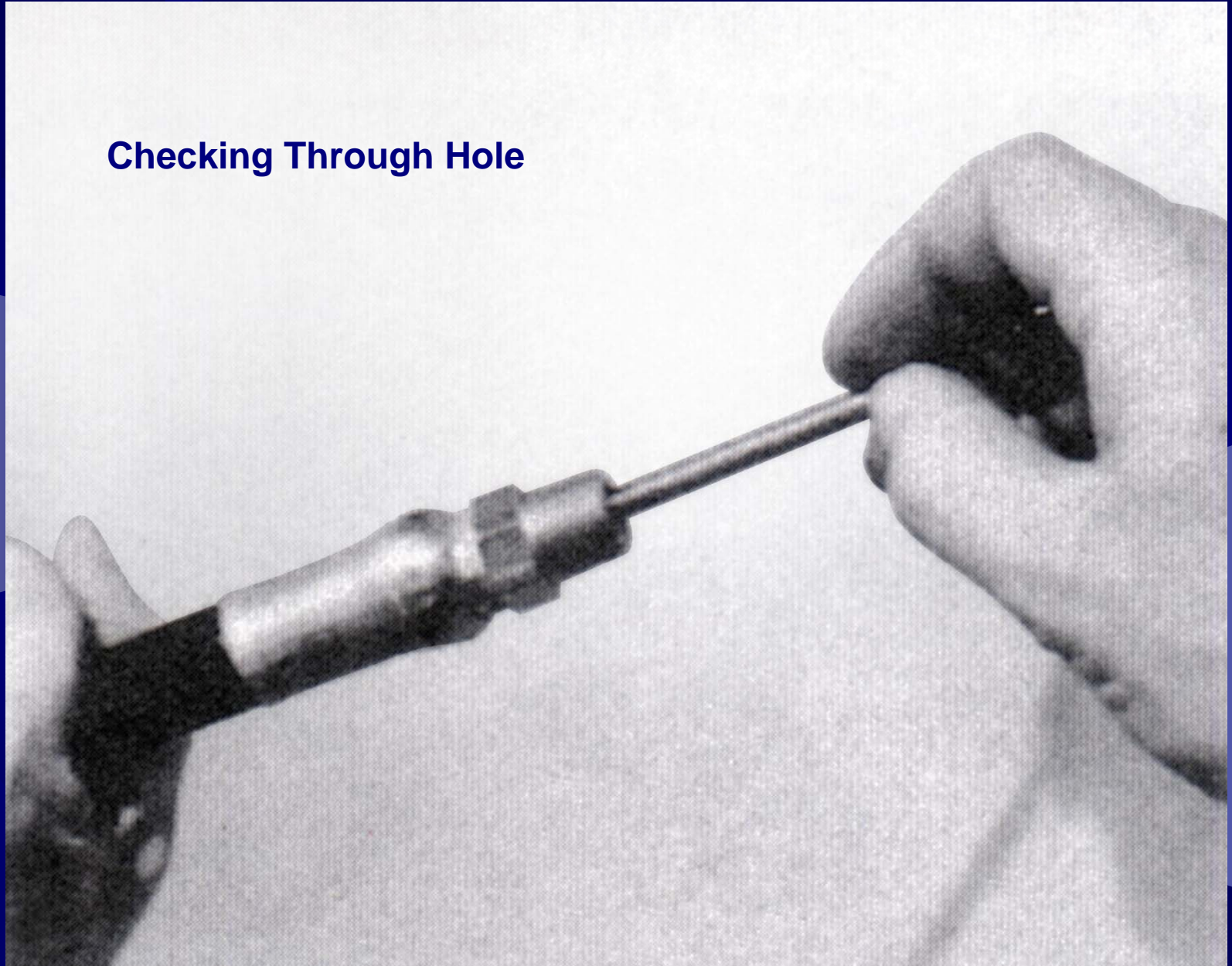


**High Pressure Hose**





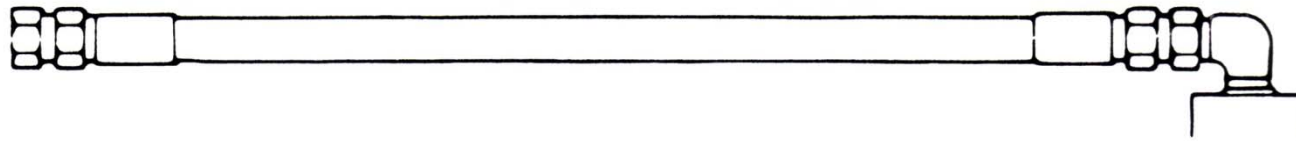
## Checking Through Hole



# HOSE INSTALLATION



**WRONG**



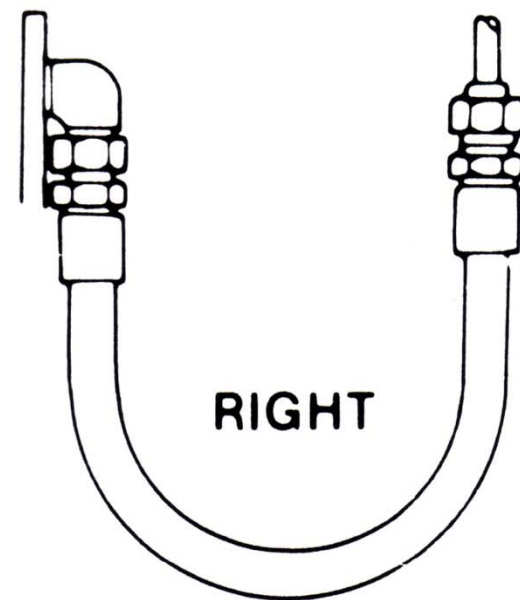
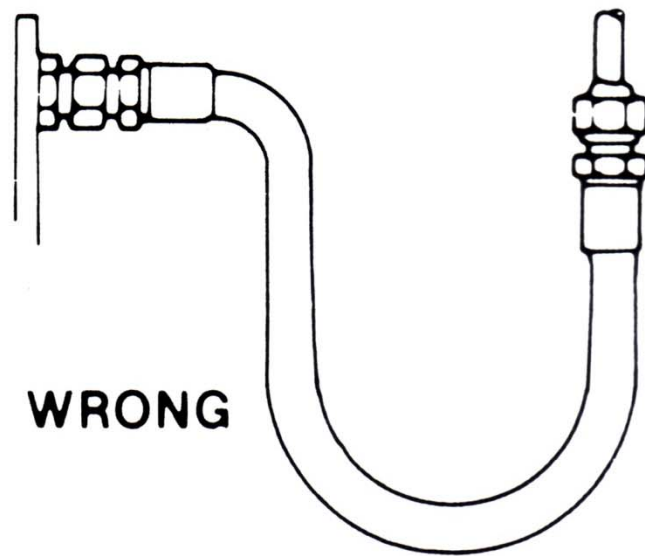
**RIGHT**



Since hose may change in length from +2% to -4% under the surge of high pressure, provide sufficient slack for expansion and contraction.

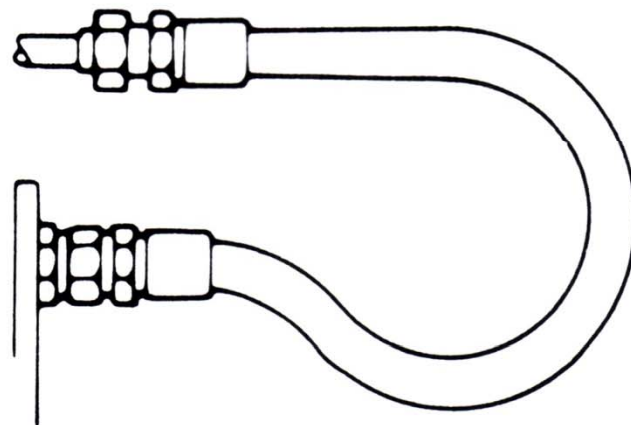




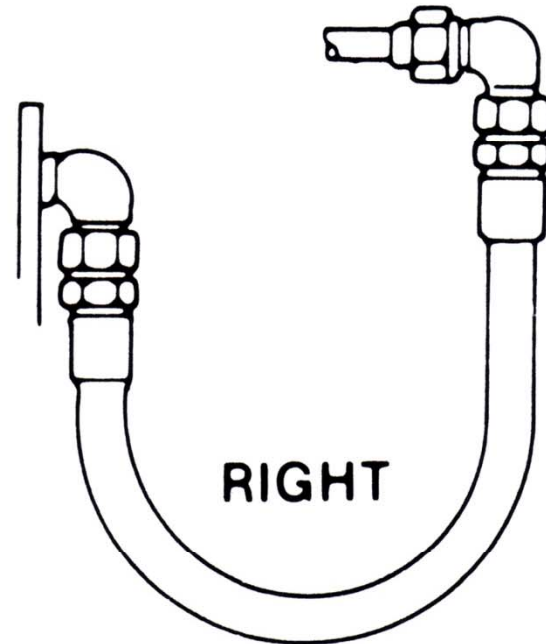


**Avoid sharp twist or bend in hose by using proper angle adapters.**





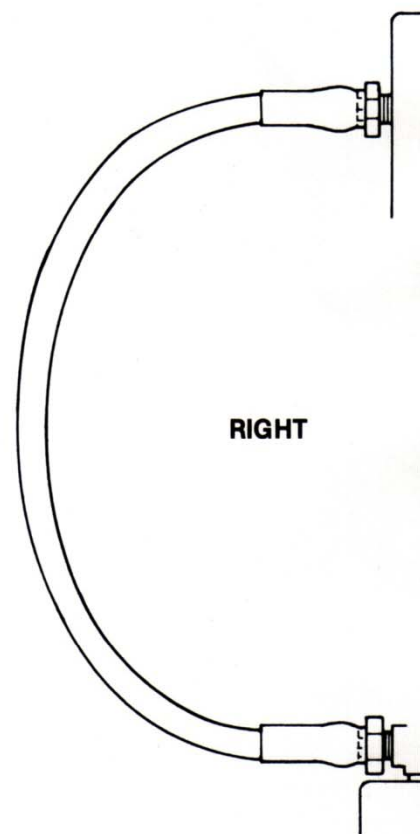
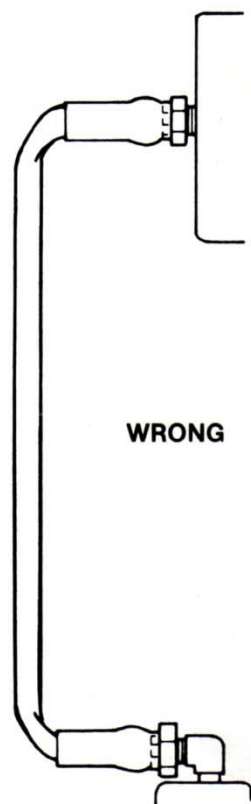
**WRONG**



**RIGHT**

**Where the radius falls below the required minimum, an angle adapter should be used as shown above to avoid sharp bends in hose.**





Use correct hose lengths and recommended radius bends between terminations to avoid kinks, flattened hose and restricted flow.





# HOSE INSPECTION





**Cracking & Separation**

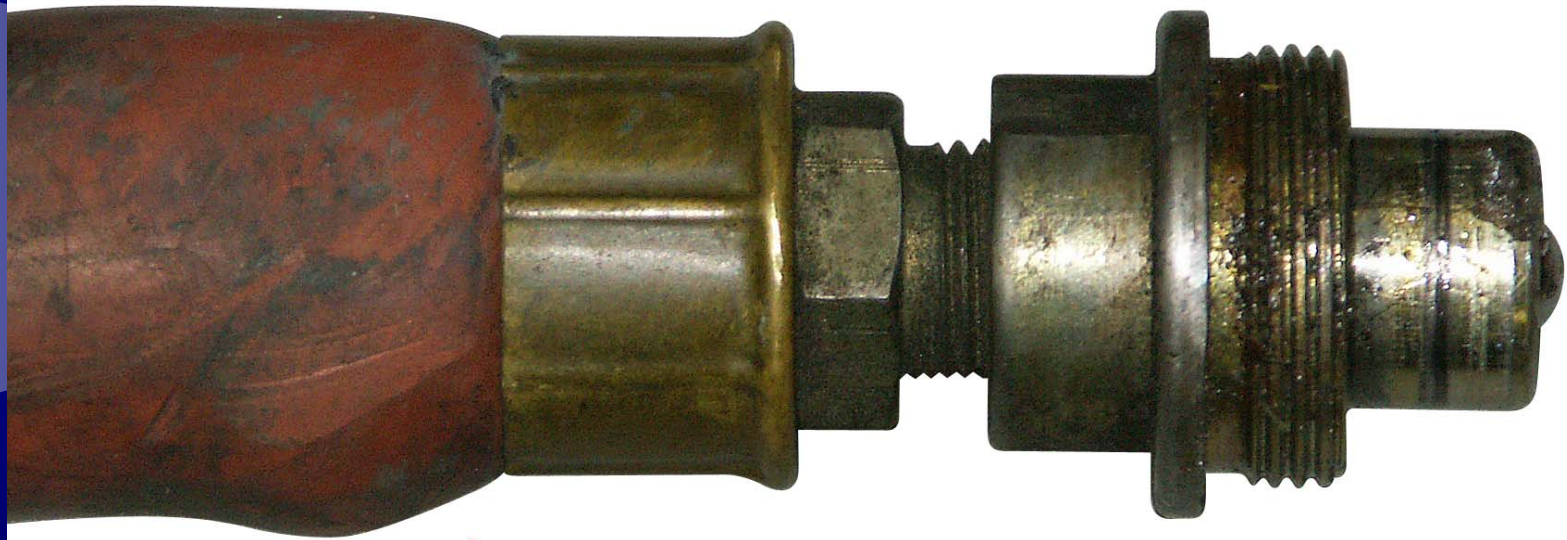


## Kinking of the Outer Jacket





## Bubbling Under Strain Relief



## Low Pressure Strain Relief Cracked







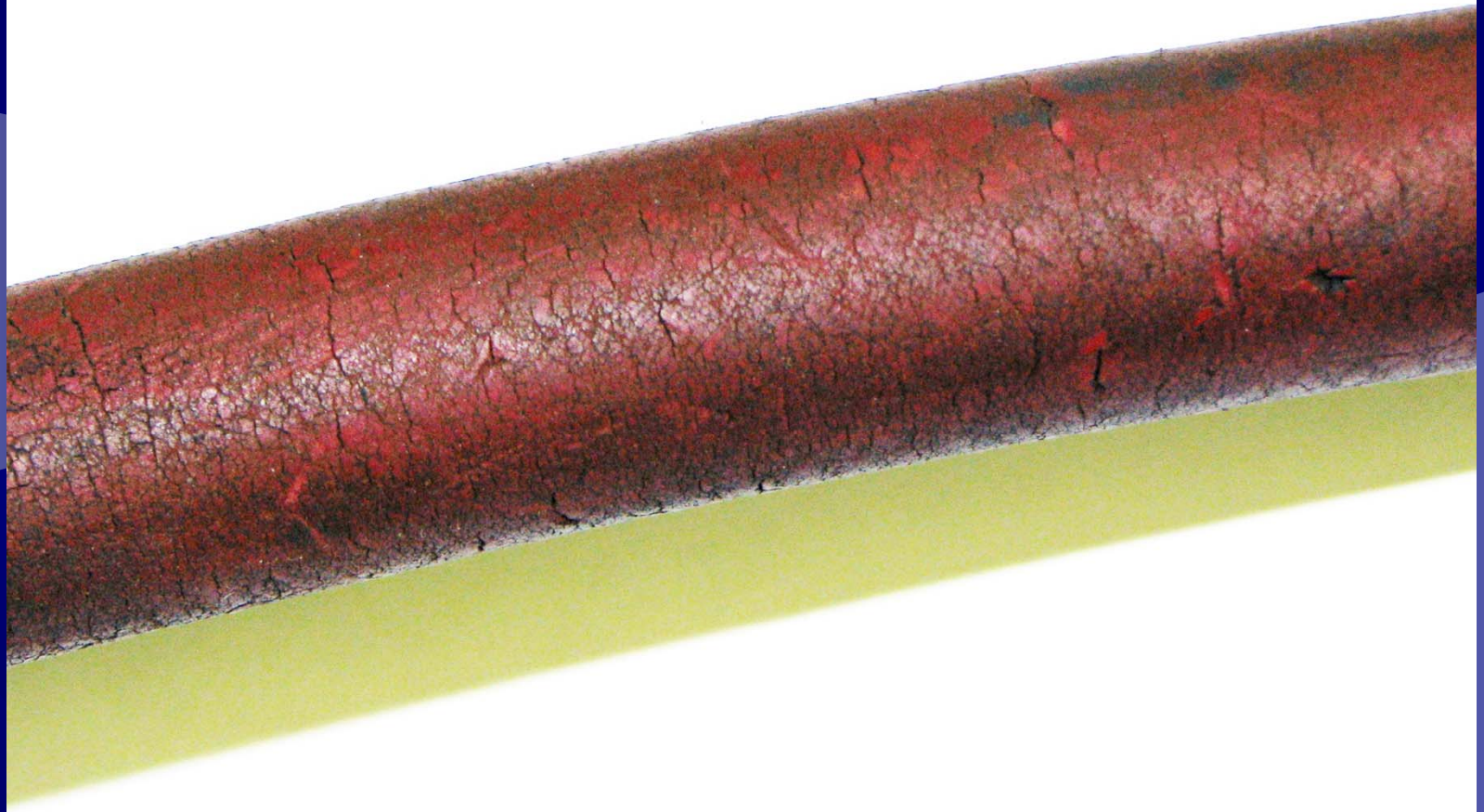
**Outer Jacket Tear or Cut**



## Discoloration and Cut in Outer Jacket



## Dry-Rot





## Dry-Rot - Hose Tear



## Dry-Rot - Splitting





## Cut/Tear – Inner Braid Exposed

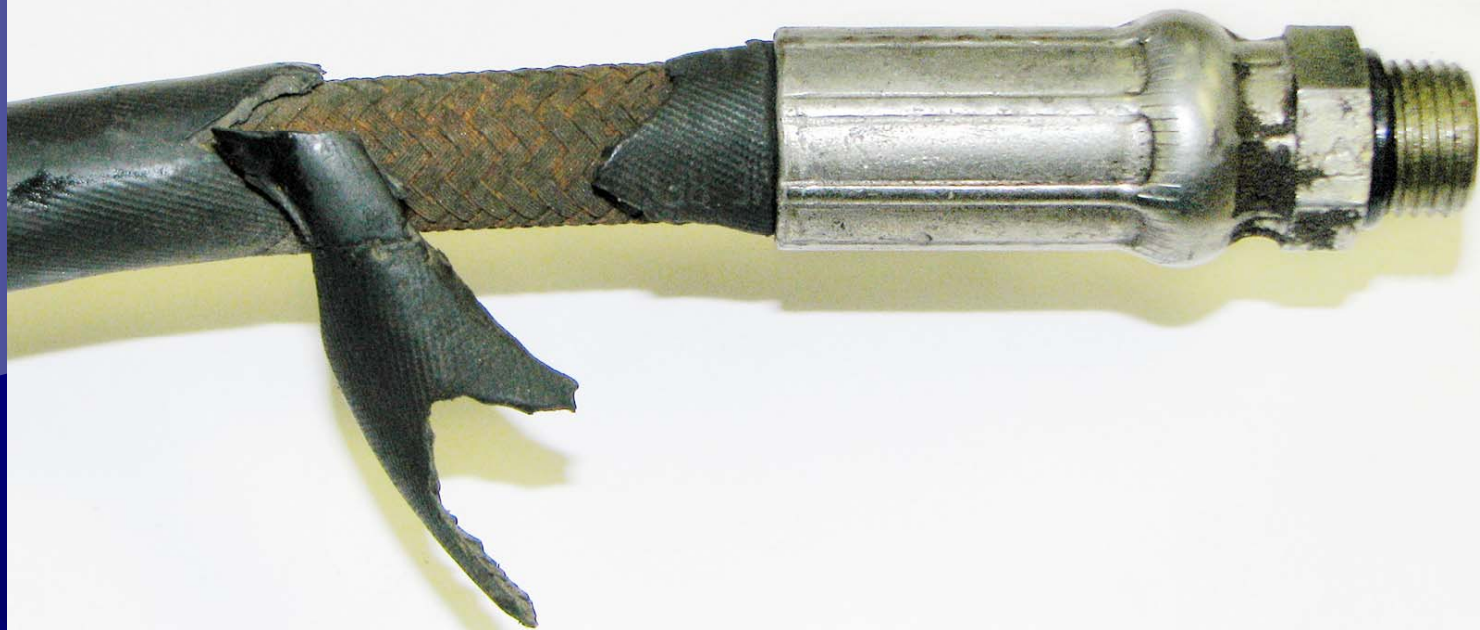


## Rubbing - Wear





**Outer Jacket Cracked**



**Inner Braid Exposed**



## Slit in Outer Jacket







# HYDRAULIC HOSE HANDLING & STORAGE



**Don't move system components by means of the hose.**



**Incorrect**



**Correct**

**Do not pull equipment with hose.**

**Do not attempt to repair  
or recouple the hose yourself!**



## Proper Storage:



**Incorrect**

Store hose coiled to avoid tangling and possible kinking. Avoid damage to hose by storing tools and other materials beside the hose rather than resting on top it.



**Correct**





**Presented by**

**RELIABLE EQUIPMENT & SERVICE CO., INC.**

**301 Ivyland Road -Warminster, PA 18974**

**Phone: 215-357-3500 – Fax: 215-357-9193**

**Visit us on the web at [www.reliable-equip.com](http://www.reliable-equip.com)**

